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DAVID JARDINE JARDINE

THE

CYCLOPÆDIA;

OR,

Universal Dictionary

OF

ARTS, SCIENCES, AND LITERATURE.

VOL. II.

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THE

CYCLOPÆDIA;

OR,

UNIVERSAL DICTIONARY

OF

Arts, Sciences, and Literature.

BY

ABRAHAM REES, D.D. F.R.S. F.L.S. *S. Amer. Soc.*

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CYCLOPÆDIA:

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UNIVERSAL DICTIONARY

OF

ARTS and SCIENCES.

(SECOND EDITION.)

AMARANTHUS.

AMARANTHUS, αμαραντος, formed from α, μαραινω and ανθος, or from α and μαραινω, and denoting *incorruptible*, becauſe the flower being cropped does not ſoon wither, in *Botany*, a genus of the *monoecia pentandria* claſs and order, of the *triandria trigynia* of Gmelin's Linnæus, of the *miſcellaneæ* of Linn. and *amaranthi* of Juſſ.; its characters are, that thoſe ſpecies which have male flowers on the ſame plants with the females have a *calyx*, which is a five or three leaved perianthium, upright, coloured, and permanent, the leaflets lanceolate and acute; no *corolla*; the *ſtamina* have five or three capillary filaments, from upright patulous, of the length of the calyx, the anthers oblong and verſatile: of thoſe which have female flowers in the ſame raceme with the males, the *calyx* is a perianthium the ſame with the former; no *corolla*; the *piſtillum* has an ovate germ, ſtyles three, ſhort and ſubulate; ſtigmas ſimple and permanent; the *pericarpium* is an ovate capſule, ſomewhat compreſſed, as is alſo the calyx on which it is placed, coloured, and of the ſame ſize, three-beaked, one-celled, cut open tranſverſely; the *ſeed* is ſingle, globular, compreſſed, and large. Martyn reckons 29, and Gmelin 22 ſpecies. Thoſe with *three ſtamens* comprehend, 1. A. *gracizans*, pellitory-leaved amaranth, "with glomerules axillary, and leaves lanceolate, repand and obtuſe." The ſtem is a ſpan high, ſmooth, grooved, and whitiſh, except at the baſe, where it is purpliſh; leaves ſmooth, green, and marked with lines; petiole very ſhort; the glomerules in pairs, green, four or five-flowered; and the calyx both of the male and female flowers is compoſed of three ſubulate, mucronate leaflets: a native of North America; cultivated in Chelſea-garden in 1723; flowers from July to September. 2. A. *albus*, white A. "with glomerules axillary, leaves roundiſh ovate, emarginate, and ſtem four-cornered and ſimple." The ſtem is a ſpan high, greeniſh white, decumbent and ſmooth; the leaves petioled, green, ſmooth, marked with lines, ending in an herbaceous, reflex, minute, whitiſh point; the petioles winged and channelled, and almoſt the length of the leaves; glomerules in pairs, ſeſſile, and few-flowered; leaflets of the calyx oblong-lanceolate and whitiſh, with a green nerve, and at the end a ſubulate, herbaceous point; nearly related to the firſt ſpecies; a native of Pennſylvania, whence it was brought to Italy, introduced here in 1778 by M. Thouin; flowers in July and Auguſt. 3. A. *deflexus*, "with ſpike very ſhort with few flowers, leaves rhomb-lanceolate, and capſules not gaping;" the ſtem weak, filiform, decumbent, divided at the baſe into a few branches, green, except at bottom, where it is browniſh, round, ſlightly ſtreaked and ſmooth; leaves green and ſmooth; petioles channelled and green; ſpike ſolitary, compoſed of only five or ſix flowers; no lateral glomerules, but a flower or two ſcattered in the axils of the leaves; the calyx five-leaved; leaflets diaphanous, white, oblong, and edged with green; diſtinguiſhed from the reſt by the capſules not opening tranſverſely, but being entire. Its native place is unknown. 4. A. *polygonoides*, ſpotted-leaved A. blitum of Brown, Jamaic. and chenopodium of Burm. Zeyl. "with three-leaved glomerules, female flowers funnel-ſhaped, and leaves rhomb-ovate, emarginate." The ſtem is red and ſmooth; the leaves ſmooth and green; the petioles green and channelled; the glomerules axillary, with from ſix to eight flowers in each; the calyx of the female flower one-leafed and ventricoſe; the five ſegments ſpreading much, and tranſparent white; the capſules falling with the calyx when the ſeed is ripe; the calyx of the male-flower three-leaved, membranaceous and tranſparent; the leaflets oblong and obtuſe, with a green nerve. This ſpecies varies in different ſituations, it reſembles the ſecond, but differs from it in having the ſtem round, and the calyx of the female flowers one-leafed and funnel-ſhaped: it is found wild by wayſides and among rubbiſh in the tropical countries of Aſia, Africa, and America, as in Jamaica, Guiana, Senegal, Gui-

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nea, Ceylon, &c. introduced here in 1778 by M. Thouin; and flowers in Auguſt. 5. A. *polygamus*, hermaphrodite A. "with glomerules two-ſtamened, ſubſpiked and ovate, flowers hermaphrodite and female; leaves lanceolate;" the ſtem 1½ foot high, green, ſtreaked and ſmooth, leaves petioled and naked; from the axils proceed a branch and a head, conſiſting of a many-flowered pedunele, with a branch on each ſide at the baſe converging into a green head; ſpike ſhort, ovate, and ſmall; the hermaphrodite flowers with two ſtamens and two ſtyles, the female with three ſtyles; a native of Guiana, China, Cochin, and Amboina: the leaves and ſtalks boiled are eaten with oil and pepper by the inhabitants, and much liked; it was introduced here by Sir Joſeph Banks in 1780; and flowers in July and Auguſt. 6. A. *mangoſtanus*, "with glomerules ſubſpiked, axillary and ſolitary, and leaves rhomb-roundiſh;" the ſtem is above a foot high, ſtreaked, green, ſmooth, and decumbent; the leaves ſmooth and green, with a ſmall briſtle, almoſt as broad as long; petioles as long as the leaves, ſmooth and channelled; the flowers in large, roundiſh glomerules, from the axils, on ſhort peduncles, and forming at the top a cloſe, nodding ſpike; the calyces five-leaved, the leaflets white-membranaceous, tranſparent, oblong, with a green nerve, terminating in a briſtle of the ſame colour: a native of the Eaſt Indies. 7. A. *inamœnus*, "with glomerules ſubſpiked, three-leaved, axillary, geminate, and leaves rhomb-lanceolate." This ſpecies very much reſembles the laſt, but differs in having a three-leaved calyx, the glomerules axillary and in pairs, the ſpike terminating, erect, and more ſlender, the leaves rhomb-lanceolate, and the petioles ſhorter than the leaves: ſuppoſed to be a native of Japan. 8. A. *melancholicus*, two-coloured A. "with glomerules axillary, peduncled, roundiſh, and leaves ovate-lanceolate and coloured." This ſpecies varies in the colour of the leaves; being in the open air of a dingy purple on their upper ſurface, and the younger ones green; in a ſtove the whole plant is purple-coloured; but it is eaſily diſtinguiſhed in all ſtates by its colour, leaves, and the lateneſs of its flowering after all the others are paſt: it is joined by La Marck with A. tricolor; a native of Guiana and the Eaſt Indies, and cultivated in 1731 by Miller. The obſcure purple and bright crimſon of the leaves are ſo blended as to ſet off each other, and, in the vigorous ſtate of the plants, to make a fine appearance. 9. A. *gangeticus*, oval-ſpiked A. "with glomerules in very ſhort ſpikes, ovate, and leaves ovate-lanceolate, emarginate." Mr. Martyn ſuggeſts, that this may be a variety of the preceding ſpecies, but differs from it in having a terminating ſpike, axillary, ſeſſile glomerules, leaves leſs waved or wrinkled, and alſo in its colour: its ſtem being dark red, leaves green above and red below, petioles red, and glomerules of a reddiſh green colour; it is a native of Bengal and the Society iſles; was introduced here in 1778 by M. Thouin, and flowers from July to September. 10. A. *oleraceus*, eatable A. "with glomerules axillary, branching, and leaves wrinkled, oblong, very obtuſe and emarginate." It reſembles the next ſpecies, but differs from it in the great bluntneſs of the leaves, deeply emarginate, in the edge of the leaf being neither red nor waved, in the glomerules being branched and ſolitary, and in the peduncles and pedicels not being flexuoſe: a native of Guiana, the Eaſt Indies, and Egypt. This, which deſerves no place in a garden on account of its beauty, and the next ſpecies, are in ſome parts of India uſed as eſculent herbs; they are gathered young, and dreſſed like ſpinach, but much inferior to it: cultivated in 1768, by Mr. Miller; flowers in July. 11. A. *viridis*, green A. "with glomerules axillary, germinate trifid male flowers, ovate, emarginate leaves, and erect ſtem." This ſort is diſtinct from all the reſt in having the bractes not ſurrounding the flowers, but ſcattered along the rachis of the glomerule: a native of Jamaica and Braſil; confounded by European botaniſts with a variety of A. blitum; cultivated in 1768 by Miller; flowers in Auguſt and September. 12. A. *tricolor*, three-coloured A. "with glomerules ſeſſile, roundiſh, ſtem-claſping, and leaves lanceolate-ovate, coloured." This has been long cultivated, being in the garden of Gerard in 1596, for the beauty of its variegated leaves, in which the colours are elegantly mixed; theſe, when the plants are vigorous, are large and cloſely ſet from the bottom to the top of the ſtalks, and the branches form a kind of pyramid, and therefore there is not a more handſome plant when in full luſtre; a native of Guiana, Perſia, Ceylon, China, Japan, the Society Iſles, &c. 13. A. *lividus*, livid A. "with glomerules ſubſpiked, rounded, leaves elliptic, retuſe, and upright ſtem." This ſpecies is a native of Virginia and Guiana; was cultivated in 1768 by Miller, and flowers from July to September. 14. A. *triſtis*, round-headed A. "with glomerules in looſe ſpikes, leaves ſubcordate-ovate, emarginate, ſhorter than the petioles." This ſpecies is nearly related to the laſt, but may be eaſily diſtinguiſhed by its upright ſtalk, more looſe and ſlender ſpike, rhomboidal leaves, and five-leaved calyx: it is a native of China, Cochin, Amboina and Braſil, and uſed as we do ſpinach; cultivated in 1759 by Miller, and flowers from June to Auguſt. 15. A. *Blitum*, leaſt A. or blite, "with glomerules ſubſpiked, three-leaved flowers, leaves ovate-retuſe, and diffuſed ſtem." There are three varieties, *viz.* blitum album majus, bl. majus rubrum, and bl. rubrum minus. This is a native of all Europe, except the very cold parts, Japan, &c. in cultivated grounds, on dunghills, banks, among rubbiſh, &c. 16. A. *ſcandens*, climbing A. "with ſpikes interrupted, compound, ſpikelets, bent in, leaves ovate, and ſtem weak." It reſembles the foregoing ſpecies, and is a native of America.

The ſpecies with *five ſtamens* are, 17. A. *hecticus*, "with flowers in ſimple ſpikes, axillary, and glomerate, and leaves ovate, acute." It is doubtful whether this be a diſtinct ſpecies, or merely hybridous; it connects, in point of outward form, the three-ſtamened and five-ſtamened amaranths, varies much, and its native place is not known. 18. A. *hybridus*, cluſtered A. "with racemes decompound, heaped, erect, and leaves ovate-lanceolate." Willdenow enumerates four varieties: 1. wholly green; 2. with a red ſtalk; 3. with the racemes reddiſh, the reſt green; 4. with red racemes. Theſe differ in appearance, but are produced by the ſame ſeed. This ſpecies is found wild in Virginia and Arabia Felix; was cultivated in 1656 by Mr. J. Tradeſcant, jun. and flowers from June to September. 19. A. *ſtrictus*, "with racemes compound, erect, ſtrict, and leaves ovate, concave." This differs from the five-ſtamened ſpecies in its upright racemes preſſed cloſe to the ſtalk, and the ſtiffneſs of the whole habit. Its native place is not known. 20. A. *lætus*, "with racemes compound, erect, and leaves ovate, obtuſe, and mucronate." It much reſembles A. hybridus, but is diſtinguiſhed from it by having the leaves blunt at the end, and being much ſmaller in ſtature, the ſtem never riſing more than a foot high. 21. A. *cruentus*, various-leaved A. "with racemes decompound, naked, patulous, and leaves lanceolate-ovate." This ſpecies varies, of a ſhining red colour, with a red ſtalk, with pale leaves, with a green ſtalk, with variegated leaves, &c. When firſt cultivated in England in 1728, the ſtem was wholly red and ſmooth, the petioles, ribs, and nerves of the leaves underneath purple; the ſpikes purple, much ſpreading, and a little nodding. They were very beautiful for the firſt two years, but the ſeeds degenerated, and the plants had little beauty. It is a native of the Eaſt Indies and of China, and flowers from June to Auguſt. 22. A. *hypochondriacus*,

driacus, prince's feather A. "with racemes compound, crowded, erect, and leaves oblong-lanceolate, and mucronate." This approaches very nearly in ſtructure and variableneſs of colour to A. hybridus, and is diſtinguiſhed from it, but not without difficulty, by the greater redneſs of the racemes, and ſharpneſs of the leaves at the end, and by the baſe of the leaves running far down along the petiole; upon the whole, ſays Mr. Martyn, it ſeems to be only a variety of that. It is a native of Virginia, and flowers from July to September; was cultivated by Miller in 1739, but is now become a common weed, frequently growing upon dunghills, and abundantly ſcattering its ſeeds. 23. A. *ſanguineus*, ſpreading or bloody A. "with racemes compound, erect, branches ſpreading and ſmooth, and leaves oblong and acute." The ſeeds were ſent to Mr. Miller from the Bahama iſland before 1755, as an eſculent plant, bearing fine flowers; and he deſcribes it as growing three feet high, with purple ſtalks and leaves, the ſpikes ſhort and ſwelling out in the middle, and at the extremity of the ſtalk ariſes a large cluſter of ſpikes tranſverſely, with one upright ſtalk in the middle; and theſe are of a bright purple colour at firſt, but become darker as the ſeeds ripen; it flowers from the middle of June to September. 24. A. *paniculatus*, "with racemes compound, branches ſpreading, pubeſcent, and leaves ovate-lanceolate." This differs from A. ſanguineus in its pubeſcent branches, pointed calyxes, cloſer glomerules, and the whole habit: it is a native of America. 25. A. *retroflexus*, hairy A. "with racemes ſuper-decompound, erect, branches pubeſcent, and leaves ovate, waved." It approaches to the laſt ſpecies in the pubeſcence of the racemes, but differs in having green ſpikes, ſetaceous-ſubulate bractes, and leaves waved about the edge: it is a native of Pennſylvania, flowers from July to September, was cultivated by Miller in 1759, and is now become a common weed in many gardens near London. 26. A. *chloroſtachys*, "with racemes compound, nodding, and lanceolate leaves." It reſembles A. retroflexus, but differs from it in its ſmooth ſtalk, lanceolate, flat leaves, glomerules in more diſtant racemes, and in being much more ſlender: its native place is not known. 27. A. *flavus*, pale A. "with racemes compound, nodding, and leaves ovate-lanceolate." It differs from the laſt in the form and waving of the leaves, in the red lines on the ſtalk, in the red rachis of the flowers, and in the greater cloſeneſs of the racemes; and from A. retroflexus, in having the leaves leſs waved, ovate-lanceolate, and much leſs obtuſe, the ſtem at bottom and the petioles ſmooth, and the colour in the ſtem, rachis, and veins of the leaves red. The flowers, notwithſtanding the epithet *flavus*, are always green, and only turn yellow as the ſeed ripens: it is a native of the Eaſt Indies, and cultivated by Miller in 1768. 28. A. *caudatus*, pendulous A. or love-lies-bleeding; there is a variety, which is A. *maximus*, or tree A. the blitum maximum of many authors. This laſt is made by Mr. Miller a diſtinct ſpecies; it riſes to the height of ſeven or eight feet; the ſpikes are ſeldom half as long as the other, which are $2\frac{1}{2}$ feet, but much thicker. This degenerates gradually into the ſmaller; and the ſeeds, which are at firſt white, become red. It flowers in Auguſt and September, and was cultivated in 1683 by Mr. James Sutherland: it is a native of Perſia, Ceylon, Guiana, Peru, &c. 29. A. *ſpinoſus*, prickly A. "with racemes terminating, compound, and axils thorny." This varies, with the ſpikes and ſtem reddiſh: a native of the Eaſt and Weſt Indies, Guiana, Guinea, &c.; in the former it is eaten as a green boiled with baſella cordifolia; it was cultivated in 1683 by Mr. J. Sutherland, and flowers from July to September.

The amaranths are annual, herbaceous plants, and moſt of the ſpecies are uſed as culinary plants in hot countries.

Culture of Amaranths. Thoſe moſt worthy of a place in the pleaſure-garden are the 8th and 14th; but they are tender and require attention. They are uſually diſpoſed in pots, with cocks-combs and other ſhowy plants for adorning court-yards, and the environs of the houſe. Next to theſe are the 23d and 28th ſorts, for the ornaments of the principal borders in the pleaſure garden or parterres. The ſeeds of theſe ſhould be ſown in a moderate hot-bed, about the end of March; and when the plants come up, they ſhould have much air in mild weather. When they are fit for tranſplanting, they ſhould be removed to another moderate hot-bed, and placed at ſix inches diſtance, watering and ſhading them till they have taken new root; afterwards they ſhould have free air, and frequent but gentle waterings. In the beginning of June they ſhould be taken up with large balls of earth to their roots, and planted either in pots or the borders of the pleaſure-garden, ſhaded till they have taken root, and afterwards frequently watered in dry weather. The tree Amaranth muſt be planted in a rich light ſoil, and if it be allowed room, and well watered in dry weather, it will grow to a large ſize, and make a fine appearance. The 21ſt is a tender plant, and ſhould be treated like the 23d and 28th. The other ſorts are ſufficiently hardy to bear the open air, and may be ſown on a bed of light earth, in the Spring, and when the plants are fit to remove, tranſplanted into any part of the garden, where they will thrive and produce plenty of ſeeds. The 23d and 28th ſorts muſt be ſown on a good hot-bed in February, or at the furtheſt in the beginning of March; and they will riſe in about a fortnight; ſoon after which another hot bed muſt be covered with good, rich, light earth, about four inches deep; and the plants carefully raiſed and pricked out into this bed, at the diſtance of four inches every way, and gently watered. In the middle of the day let them be ſecured with mats from the heat of the ſun, and raiſe the glaſſes to give them air; the glaſſes ſhould be kept dry, for the moiſture exhaled by the fermenting dung and perſpiring plants is very injurious. When the plants are firmly rooted give them air every day, more or leſs, as the weather is cold or hot. In about three weeks or a month theſe plants will have grown ſo as to meet, and muſt be removed into another hot-bed, with the ſame rich earth, about ſix inches thick; obſerving to take as much earth about their roots as poſſible, and to plant them at the diſtance of ſix or ſeven inches every way, watering them, ſo as to ſettle the earth about their roots. In the heat of the day let them be ſhaded; refreſh them often with gentle watering; and give them air according to the heat of the weather, and cover the glaſſes every night with mats. In three weeks more, the plants will have acquired a conſiderable ſize and ſtrength, and ſhould be expoſed more and more to the open air, when the weather will permit, and thus they will become ſufficiently hardened to bear being removed into the places where they are to continue the whole ſeaſon; but they ſhould not be placed in the open air till after the firſt week in July, and this ſhould be done, when the air is perfectly ſoft, and, if poſſible, in a gentle ſhower of rain. Theſe plants, when grown to a good ſtature, perſpire very freely, and ſhould, therefore, be every day refreſhed with water, if the weather be hot and dry. By this management fine amaranths may be obtained; and theſe plants, when properly reared, are the greateſt ornament to a good garden, for upwards of two months in the latter part of the ſummer.

Amaranths are very prolific. Willdenow ſays, that he ſaved eight ounces of ſeed from one plant of A. *caudatus*. The ſeeds retain their germinating quality for ſeveral years, but continue longer in the ground than freſh ſeeds, which

germinate in eight days. Gmelin's Linn. Martyn's Miller. Willdenow.

AMARANTHUS. See ACHYRANTHES, CELOSIA. ILLECEBRUM, IRESINE, and RIVINA.

AMARANTHUS *luteus*. See GNAPHALIUM.

AMARANTHUS *marinus*, *Valent. ind.* 3. *t.* 52. *f. C. C.* This is alſo the fungus lapideus undulatus of Sloane, Catal. p. 2. Jam. i. p. 59: the myceedium cavatum undulatum of Hill. plant. p. 3, and cerebrites of Knorr. delic. tom. A. xi. f. 1. 2.—Linnæus deſcribes it under the ſpecific name of arcola, as a madrepore. See AREOLA.

AMARDUS, in *Ancient Geography*, a river of Media, which diſcharged itſelf into the Caſpian ſea.

AMARELLA, in *Botany*. See GENTIANA.

AMARGURA, in *Geography*, an iſland in the Southern Pacific Ocean, lying in S. lat. 17° 57'. W. long. 175° 16' 54". This was the firſt iſland diſcovered by Maurelle, in approaching the Friendly iſlands in 1781; he called it Amargura, *i. e.* bitterneſs, on account of his ſevere diſappointment of obtaining refreſhments from it; no landing place being found even for boats, and the iſland itſelf having a ſingular appearance of barrenneſs. In 1791, Captain Edwards coaſted the north-weſt ſide of this iſland, obſerved much ſmoke upon it, and called it Gardner's iſland.

AMARIACÆ, in *Ancient Geography*, a people of Aſia, in the interior part of Media, near the Mardi, according to Ptolemy.

AMARISCOGGIN River, in *Geography*. See ANDROSCOGGIN.

AMARISPII, in *Ancient Geography*, a people of Aſia, in Bactriana, according to Ptolemy.

AMARNA, or AMARUSA, a town placed by Ptolemy in Hyrcania.

AMARULA, in *Conchology*, a ſpecies of HELIX, that inhabits the rivers and freſh waters in India: ſhell imperforate, or without *umbilicus*, oblong; whorls beſet with ſpinous teeth. Linnæus adds to this conciſe deſcription, that the ſhell is black, without ſpots, the ſpiral ſtriæ ſub-convex, and the number of whorls either five or ſix, each armed along the upper edge with ten ſharp ſpines: the aperture or mouth widely gaping and white, the exterior lip acute, the interior one thick. This ſhell is likewiſe defined by another author, buccinum teſta ſubovata nigra; anfractibus ſurſum muricatis; Mull. Hiſt. Verm. ii. p. 137, n. 330, and is ſuppoſed to be the voluta fluviatilis of Rumpf. Muſ. tom. xxxiii. f. F. F.—Length from nine to 19 lines.

AMARUMAYE, in *Geography*, a river of America, which riſes in the Cordelier mountains, and after a courſe of 400 leagues, joins the river of the Amazons, in S. lat. 5°.

AMARUS, in *Ichthyology*, a ſpecies of the CYPRINUS, that inhabits the clear ſtreams of Germany. Its ſpecific character is taken from the number of bony rays in the pectoral and ventral fins, of which there are ſeven in each: as a ſecondary character the dorſal fin is ſaid to contain ten rays, the anal eleven, and the caudal twenty rays. The head is ſmall and cuneate or wedge-ſhaped, the eyes minute, with the iris red and yellow; the jaws equal, gill covers yellow. The body is pellucid, ſilvery and finely ſpeckled with black; above the lateral line yellow, back greeniſh, chalybeate-black near the tail. Upper fins reddiſh, lower fins greeniſh.

AMARYLLIS, derived either from the name of a ſhepherdeſs, mentioned by Theocritus and Virgil, or from αμαρυγμα or αμαρυγη, *ſplendor*, *lilio-narciſſus* of Tournefort, in *Botany*, a genus of the *hexandria monogynia* claſs and order, of the natural order of *lilia* or *liliaceæ*, the *ſpathaceæ* of Linn. and *narciſſi* of Juſſ.; its characters are, that the *calyx* is a ſpathe, oblong, obtuſe, compreſſed, emarginate, gaping on the flat ſide and withering; the *corolla* has ſix petals, lanceolate, the nectary has ſix very ſhort ſcales without the baſe of the filaments; the *ſtamina* have ſix awl-ſhaped filaments, with oblong, incumbent, riſing anthers; the *piſtillum* has a roundiſh, furrowed inferior germ, the ſtyle filiform, almoſt of the length and in the ſituation of the ſtamens, the ſtigma trifid and ſlender; the *pericarpium* is a ſubovate, three-celled, three-valved capſule; and the *ſeeds* are ſeveral. The inflection of the petals, ſtamens, and piſtil is very various in the different ſpecies of this genus; and the corolla in moſt of the ſpecies is rather hexapetaloid than ſix-petalled. Gmelin reckons 27, Mr. Martyn 29, and Willdenow 38 ſpecies.

Thoſe with a *one-flowered ſpathe* are as follow: 1. A. *lutea*, yellow A. or autumnal narciſſus, colchicum luteum-majus of Bauhin, "with an undivided obtuſe ſpathe, ſeſſile flower, bell-ſhaped corolla erect, ſhortly tubular at the baſe, and erect ſtamens, alternately ſhorter;" the flowers ſeldom riſe above three or four inches high; the green leaves come up at the ſame time, and when the flowers are paſt, the leaves increaſe through the winter. This ſpecies recedes a little from the genus. It is a native of the ſouth of France, Spain, Italy, and Thrace, was cultivated by Gerard in 1596, and flowers in September. 2. A. *Pumilio*, dwarf A. "with two-leaved, one-flowered ſpathe, corolla funnel-ſhaped, equal, ſegments revolute, and ſtamens bent in and alternately ſhorter." This is a native of the Cape of Good Hope, was introduced here in 1774, and flowers in November. 3. A. *Atamaſco*, atamaſco lily, "with ſpathe biſid, acute, flower pedicelled, corolla bell-ſhaped, nearly equal, erect, ſhortly tubular at the baſe, ſtamens bent down and equal." The flowers are at firſt of a fine carnation colour on the outſide, but fade till they are almoſt white; they appear at the end of May or beginning of June, and ſometimes in Auguſt. This is a native of Virginia and Carolina, where it grows plentifully in the fields and woods, and was cultivated here by Mr. Charles Hatton in 1680. 4. A. *formoſiſſima*, jacobea lily, ſo called, becauſe ſome imagined that they diſcovered in it a likeneſs to the badge of the order of the knights of the order of St. James, in Spain, the lilio-narciſſus and narciſſus of others, "with a ſpathe undivided, flower pedicelled, corolla two lipped, nodding, deeply ſix-parted, ſtamens and piſtil bent down." The flowers are produced from the ſides of the bulbs, are large, of a deep red, and make a beautiful appearance; it is a native of America, firſt known in Europe in 1593, ſome roots of it having been found on board a ſhip, which had returned from South America, by Simon de Tovar, a phyſician at Seville; he ſent a deſcription of the flowers to Cluſius, who publiſhed a drawing of it in 1601, called by Parkinſon, by whom it was figured in 1629, the Indian daffodil, with a red flower; cultivated in the Oxford garden in 1658. 5. A. *tubiſpatha*, "with ſpathe one-leaved, tubular, biſid and one-flowered, and peduncle twice as long as the ſpathe;" found at Buenos Ayres, by Commerſon. 6. A. *tubiflora*, "with ſpathe one-flowered, two-leaved, corolla funnel-ſhaped, with a very long tube;" found in the ſandy lands of Lima. 7. A. *maculata*, "with ſpathe one-flowered, two-leaved, linear, flower peduncled, ſtamens and ſtyle bent down;" found in Chili by Dombey. 8. A. *chilenſis*, "with ſpathe one or two-flowered, one or two-leaved, lanceolate, flowers peduncled, and leaves linear." The flowers, which are thoſe of A. belladonna or reginæ, are of a purple colour; found in Chili by Dombey. 9 A. *clavata*, "with ſpathe one-flowered, two-leaved, ſubulate, and corolla club-ſhaped:" native of the ſouthern part of Africa.

The ſpecies with a *two-flowered ſpathe* are, 10. A. *reginæ*, Mexican lily, "with ſpathe, having about two flowers, pedicels divaricating, corollas bell-ſhaped, ſhortly tubular, nodding, throat of the tube hirſute, and leaves lanceolate, patulous;"

patulous;" the bulb is green, corolla ſcarlet, and at the bottom whitiſh green, the ſtyle red, the flowers large, of a bright copper colour, inclining to red: it flowered in Fairchild's garden, at Hoxton, in 1728; and Dr. Douglas wrote a folio pamphlet upon it, giving it the title of *lilium reginæ*, becauſe it was in full beauty on the 1ſt of March, the queen's birth-day: the roots were brought from Mexico, and therefore Mr. Fairchild called it Mexican lily, the name which it has retained: it flowers in the ſpring in a very warm ſtove; is in beauty in February, and in a moderate temperature of air, will flower in March or April. 11. A. *purpurea*, purple flowered A crinum ſpecioſum of Linn. Suppl. "with ſpathe, having about two flowers, corollas ſomewhat erect, tubular at the baſe, throat of the tube ſmooth, and leaves linear-lanceolate:" nearly allied to the laſt: the corolla large, and of a blood-red purple colour; a native of the Cape of Good Hope, and introduced here in 1774. 12. A. *linearis*, crinum lineare of Linn. Suppl. "with linear leaves, bell-ſhaped corollas, two and narrower ſegments;" the flowers are large and white; found at the Cape of Good Hope. 13. A. *equeſtris*, Barbadoes lily, A. dubia of Linn. Amœn. Acad. "with ſpathe having about two flowers, pedicels erect, ſhorter than the ſpathe, tube filiform and horizontal, border ſpreading, open obliquely and curved upwards, and throat hairy;" a native of the Weſt Indies; introduced by Dr. W. Pitcairn in 1778. 14. A. *reticulata*, flat-ſtalked A. "with ſpathe having about two flowers, corollas tubular at the baſe, and nodding, throat of the tube ſmooth, ſcape compreſſed, leaves oblong and attenuated at the baſe;" diſtinguiſhed by the tranſverſe veins of the petals and ſmoothneſs of the throat; a native of Braſil; and introduced by Dr. E. W. Gray in 1777. 15. A. *tatarica*, "with ſpathe having about two flowers, corolla ſub-campanulated, and deeply ſix-parted, ſegments ſuperior, very narrow, inferior obovate acuminate, and leaves linear, longer than the ſcape." found in Siberia.

The ſpecies with a *many flowered ſpathe* are, 16. A. *Belladonna*, Belladonna lily, "with corollas ſomewhat erect, ſix-petalled, petals flat, ſcape compreſſed, leaves ſharply channelled, bluntly keeled, and very ſmooth." This ſpecies differs from the A. *reginæ*, by having the the edges of the petals waved, and not reverſed at the tip: was firſt brought to England about 1712, from Portugal, abounds about Florence, and ſold under the name of Narciſſus Belladonna; uſually flowers in England about the end of September or beginning of October, and the ſtem riſes upwards of two feet in height; in a favourable ſeaſon, and, when ſcreened from froſts, high winds, and heavy rains, will continue in beauty a month or longer, and is an ornamental plant, when other flowers are ſcarce; a native of the Weſt Indies, on ſhady hills, by the ſide of ſtreams. 17. A. *vittata*, ſuperb or ribband A. "with flowers pedicelled, corollas wedge-funnel ſhaped, the rachis of the outer faſtened to the edge of the inner petals, ſcape round, and ſtigmas grooved." It is ſtriped with red on a white ground, whence its name vittata or ribband A.; in perfect bloſſom, it deſerves the name of ſuperb, given to it by Aiton, its ſtem riſing to the height of three or more feet, and producing from two to five beautiful flowers; uſually bloſſoms in April or May; is probably a native of the Cape: and introduced into England by Mr. W. Malcolm, in 1769. 18. A. *falcata*, ſickle-leaved A. or crinum, "with corollas peduncled, erect, ſix-petalled, ſcape compreſſed, of the length of the umbel, leaves flat, preſſed to the ground, about the edge ſickle-ſhaped, white, cartilaginous and crenate." It is a native of the Cape, and introduced here in 1774, by Mr. F. Maſſon. 19. A. *ornata*, cape coaſt lily or A. "with flowers ſeſſile, corollas tubular at the baſe, tubes longer than the ſpathes, and border, curved, ſegments of the border oblong, awned, loweſt ſegment divaricate and concave." It is a native of Guinea, probably cultivated by Lord Petre, in 1740, and flowers with us in June and July. 20. A. *longifolia*, long-leaved A. "with flowers pedicelled, 12—20 in a ſpathe, corollas tubular at the baſe, tube curved, ſhort, ſegments of the borders lanceolate, obtuſe, leaves broad ſubulate, channelled, and flaccid at the tip." It is a native of the Cape of Good Hope, introduced in 1773, by Mr. F. Maſſon, and flowers in July. 21. A. *montana*, "with many-flowered ſpathe, leaves linear-ſubulate, petals alternate, mucronate, ſtamens and ſtyle erect;" or, according to Willdenow, "with bell-ſhaped equal corollas, ſegments alternate, awned, ſtamens and ſtyle ſtraight, and twice ſhorter than the corolla, ſolioſe ſcape and linear leaves." This is a native of the higher parts of Mount Lebanon. 22. A. *zeylanica*, Ceylon lily, Javan tulip of Rumphius, "with many-flowered ſpathe, corollas reclining, tube filiform, very long, and ſegment uncinate." This is a native of the Eaſt Indies. 23. A. *revoluta*, revolute A. "with flowers pedicelled, corollas tubular, at the baſe, tube filiform, ſhort, curved, leaves linear, narrow, channelled, long, flaccid from their origin." It is a native of the Cape of Good Hope, introduced here in 1774, and flowers in September. 24. A. *latifolia*, crinum latifolium of Linn. Miller, and Rheed, "with many-flowered ſpathe, flowers pedicelled, ſomewhat reclining, tubular at the baſe; and leaves oblong-lanceolate." It is found in the ſandy ſoil of the Eaſt Indies. 25. A. *aurea*, golden A. "with flowers pedicelled, ſomewhat erect, corollas funnel-form club-ſhaped, almoſt ſix-petalled, ſegments linear, lanceolate, ſtamens and ſtyle ſtraight, leaves linear, erect, channelled, with a reflex, ſmooth margin." It is a native of China, introduced in 1777, by Dr. Fothergill, and flowers in Auguſt and September. 26. A. *orientalis*, broad-leaved African A. "with many-flowered ſpathe, flowers pedicelled, ſix-parted, conſiderably ſhorter than the peduncles, irregular, germs wedge-ſhaped and angular." It is a native of the Cape of Good Hope, whence Mr. Miller received the roots which ſucceeded in the Chelſea garden; in the Kew catalogue, ſaid to be introduced in 1767, by Mr. W. Malcolm. 27. A. *farnienſis*, lilium farnienſe of Douglas, who publiſhed a deſcription of it in 1725, Narciſſus of others, Guernſey lily, ſo called by Mr. Ray in 1665, "with petals linear, flat, ſtamens and piſtil ſtraightiſh, longer than the corolla, ſtigmas parted and revolute." The bulb is an oblong ſpheroid; the leaves are dark willow green; the number of flowers is commonly from eight to twelve, and circumference of each about ſeven inches; the corolla, in its prime, has the colour of a fine gold tiſſue wrought on a roſe-coloured ground, and when it begins to fade, it is a pink; in full ſunſhine, it ſeems to be ſtudded with diamonds, but by candle-light the ſpecks or ſpangles appear more like fine gold duſt; when the petals begin to wither, they aſſume a deep crimſon colour. The flowers begin to come out at the end of Auguſt, and the head is uſually three weeks in gradually expanding. This beautiful plant is a native of Japan, and has been long naturalized in Guernſey. It is ſaid to have been brought from Japan to Paris, and cultivated in Morin's garden before 1634. It was cultivated at Wimbledon, in England, by general Lambert, in 1659, and in 1664 became more common: it does not ſeem to have been in Holland before 1695. The plants are reputed to owe their origin in Guernſey to the ſhipwreck of a veſſel returning from Japan, probably before the middle of the 17th century. The bulbs, it is ſaid, being caſt on ſhore, took root in that ſandy ſoil, and produced beautiful flowers, which engaged the attention of Mr. Hatton, the governor's ſon, who ſent roots to ſeveral of his friends. A variety of this

found at the Cape of Good Hope is described by Jacquin, "with a many-flowered spathe, corollas very patent, and reflex at the apex, stamens and pistil somewhat straight, longer than the corolla, and leaves ensiform-linear." 28. A. *marginata*, "with oblong revolute petals, stamens and pistil somewhat straight, longer than the corolla, lingulated leaves pressed to the ground, cartilaginous-marginate;" or, according to Jacquin's description, "with a many-flowered spathe, corollas very broad, and reflex at the apex, erect pedicles, sublinguæform and prostrate leaves, terminated with a margin coloured, and undulated towards the apex." This is a native of the Cape of Good Hope. 29. A. *curvifolia*, "with oblong, waved, revolute petals, stamens and pistil somewhat straight, and longer than the corolla, with leaves stiff, linear-ensiform and canaliculated;" or, according to Jacquin, "with many-flowered spathe, revolute, undulated corollas, erect pedicles, and leaves sublinear, widely channelled, and subfoliated." This is a native of the Cape of Good Hope. 30. A. *undulata*, waved flower African A. "with linear channelled, waved petals, stamens and pistil bent down, shorter than the corolla, and obsolete stigma." The flowers have no scent, and expand from November to the beginning of January: a native of the Cape of Good Hope, introduced about 1767, by John Blackburne, esq. and flowers here from April to June. 31. A. *radiata*, snow-drop leaved A. "with lanceolate, waved petals, stamens and pistil bent down, diverging, twice as long as the corolla, and obsolete stigma." The native place of this species is unknown, cultivated by Miller in 1758, and flowers in June. 32. A. *humilis*, "with three or four-flowered spathe, lanceolate, subringent-patent petals, waved-reflex at the apex, with the lowest divaricated, the stamens and pistil ascending, shorter than the petals, and leaves linear, obtuse, smooth, naked and flat;" or, according to Jacquin, "with few-flowered scapes, patent petals, the lowest divaricated, and leaves linear, obtuse, and flat." It much resembles the next species, but the scape and leaves are twice less; a native of the Cape of Good Hope. 33. A. *flexuosa*, "with many-flowered spathe, petals lanceolate, subringent-patent, waved-reflex at the apex, the lowest divaricated, the stamens and pistil ascending, shorter than the petals, and leaves linear, somewhat obtuse, concave, and pustulate dotted:" or, according to Jacquin, "with many-flowered spathe, patent petals, the lowest divaricated, and linear, pointed leaves." The younger leaves are marked with white pustules; the more adult pointed, and when dry the points vanish; a native of the Cape of Good Hope. 34. A. *radula*, "with many-flowered spathe, petals lanceolated, subringent-patent, flat, the lowest divaricated, the stamens and pistil ascending, of the length of the petals, with leaves elliptic, pressed to the ground, and roughly pustuled:" a native of the Cape of Good Hope. 35. A. *striata*, "with many-flowered spathe, corollas bell-shaped, shortly tubulous, segments flat, reflex at the apex, stamens and pistil ascending, and the leaves elliptic-ovate, erect, and marginated;" or, according to Jacquin, "with many-flowered spathe, corollas bell-shaped, equal, and reflex at the apex, sub ovated leaves, and striated on the back:" a native of the Cape of Good Hope. 36. A. *crispa*, "with few-flowered spathe, petals very patent, oblong, obtuse, and waved, stamens divaricated and shorter than the corolla, straight style, and leaves linear-filiform, and lax;" or, according to Jacquin, "with few-flowered spathe, petals very patent and crisp, and leaves linear and very narrow." The flowers are very small: a native of the Cape of Good hope. 37. A. *stellaris*, with many-flowered spathe, corollas patent and flat, a very short tube, stamens unequal, divaricated, shorter than the corolla, straight style, and leaves linear and erect;" or, according to Jacquin, "with many-flowered spathe, very patent petals three, alternate, and barbated below the middle;" a native of the Cape of Good Hope. 38. A. *caspia*, crinum caspium of Pallas, "with many-flowered spathe, bell-shaped corollas, very short tube, filaments erect, longer than the corolla, and leaves lanceolated and waved;" found near the Caspian Sea, in the beginning of Spring. 39. A. *spiralis*, "with spathe two-leaved, few-flowered, peduncles filiform, very long, and leaves subulate." L'Heritier. This species was discovered by Bruguiere in sandy grounds near the Cape of Good Hope. 40. A. *cinnamomea*, "with many-flowered spathe, corollas sub-hexapetalous, lanceolate, waved, stamens and pistil erect, shorter than the corolla." L'Heritier. This species is allied to Hæmanthus: was found by Bruguiere at the Cape of Good Hope. 41. A. *alba*, "with flowers declining, and leaves linear-lanceolated." Forsk. Fl. Æg. Arab. p. 209. Martyn. Gmelin's Linnæus. Willdenow.

Culture and Propagation. Most of these species have very beautiful flowers, and merit the attention of the botanist and florist. The first, or yellow autumnal A. is very hardy, and increases by offsets. The season for transplanting these roots is from May to the end of July, when the leaves are decayed. They will grow in any soil or situation; but they will thrive best in a fresh, light, dry soil, and open situation, and will keep flowering from the beginning of September to the middle of November, provided that they escape severe frosts; and a succession of flowers will spring from the same root. The third, or Atamasco lily, may be propagated by offsets from the bulbs, and will thrive in the open air on a dry soil, and in a warm situation. The 4th, or Jacobæa lily, is propagated by offsets, which are taken off every year; and the best time for shifting and parting the roots is August. They should be planted in middle-sized pots, and they will produce flowers two or three times in a year, and from March to September, when the roots are vigorous. The 10th, or Mexican lily, is less hardy, and must be placed in a warm stove, or the pots should be plunged into a hot-bed of tanner's bark, and may be increased by offsets. It flowers usually in the beginning of Spring and makes a fine appearance in the stove. The 16th, or Belladonna lily, is cultivated by preparing a border near a wall, with a south-west aspect, about six feet wide; and for this purpose the earth should be removed to the depth of three feet, six inches of rotten dung laid at the bottom, and covered to the depth of about twenty inches, with light garden mould: the roots should then be placed at the distance of six inches every way, and covered over with light sandy earth, so as to bury the upper part of the roots about five or six inches; and in the Winter the border is to be covered with rotten tanners' bark to the depth of three inches, in order to guard against the frosts: and in severe frosts mats or straw should be laid over the leaves, to prevent their being killed. Thus managed, the roots will greatly increase, and produce flowers every year, which make a fine appearance during the month of October. The green leaves will abide till June, and then decay, after which the roots should be transplanted. The 17th species may be easily propagated by seeds. The 20th may be treated in the same manner as the Jacobæa lily; will increase by offsets; and usually flowers in Winter, when the pots are placed in a moderate stove; and as there are few flowers in Winter in the open air, it is on this account the more valued. The 26th must be placed during Winter in a stove of moderate warmth, and less watered than the Jacobæa lily. The 27th, or Guernsey lily, has been cultivated for many years in the gardens of Guernsey and Jersey, whence the roots are sent to most parts of Europe. The bulbs are commonly brought over in June and July, and they should then be planted in pots filled with fresh, light, sandy earth, mixed with a small quantity of very rotten dung, placed in a warm

a warm ſituation, and occaſionally refreſhed with water. About the middle of September the ſtronger roots will ſhew their red-coloured flower-ſtem; and then the pots ſhould be removed into a ſituation where they may have the full benefit of the ſun, and be ſheltered from ſtrong winds; but not placed under glaſſes, or too near a wall, which would draw them up, and render them leſs beautiful. When the flowers begin to open, the pots ſhould be put under ſhelter, ſo as to be ſecure from too much wet, but not kept too cloſe or too warm. The flowers will continue in beauty for a month; and though without ſcent, their rich colour entitles them to the firſt rank in the flowery tribe. After the flowers are decayed, the leaves will grow through the Winter, and they will be beſt ſheltered in a common hot-bed frame. The roots ſhould be tranſplanted every fourth or fifth year, toward the latter end of June, and planted into freſh earth. The offſets, planted in ſeparate pots, will in three years time produce flowers; theſe roots will furniſh a ſtock, which will ſupply blowing roots without the trouble and expence of obtaining them from Guernſey; and the roots preſerved here will flower more ſtrongly than thoſe that are uſually brought from thence. In order to preſerve a large number of theſe roots without pots, a bed may be prepared in a well-ſheltered part of the garden, by mixing a third part of freſh virgin-earth from a paſture ground with equal parts of ſand, of rotten dung, and ſifted lime rubbiſh. Of this, when it has been well incorporated, there ſhould be made a bed about two feet thick, raiſed in dry ground four or five inches above the ſurface, and if the ground be moiſt eight or nine inches higher. In this bed the roots ſhould be planted, about the beginning of July, about ſix or eight inches aſunder each way; and in the Winter, when the froſt ſets in, covered with mats and ſtraw; but in the Spring the covering may be removed, and during the Summer kept clear from weeds, and the earth occaſionally ſtirred; and every year, when the leaves are decayed, a little freſh earth ſhould be ſifted over the beds, in order to encourage the roots. Here the roots may remain till they are ſtrong enough to produce flowers, and then removed to pots, or ſuffered to remain in the ſame bed to flower. The roots of theſe plants often flower twice in the compaſs of three years; after which the ſame root will not flower again in ſeveral years, but only the offſets from it. The 22d, or Ceylon lily, is tender, and muſt be treated like the Mexican lily. It flowers uſually in June and July, and ſometimes the ſame root will flower again in Autumn; and if the pots are plunged into a bed of tanners' bark, the roots generally flower twice every year; but the flowers are not of long duration. The 24th may be increaſed by offſets from the roots, or by the bulbs which ſucceed the flowers; and it muſt be treated like the *Crinums*. The beſt time for tranſplanting the roots is about the beginning of Auguſt, when the leaves are quite decayed. Martyn's Miller.

AMARYLLIS *Capenſis*. See HYPOXIS *Stellata*.

AMARYLLIS *Ciliaris*. See HÆMANTHUS *Ciliaris*.

AMARYLLIS *diſticha*. See HÆMANTHUS *toxicarius*.

AMARYLLIS *umbrella*. See CYRTANTHUS *obliquus*.

AMARYNTHUS, in *Ancient Geography*, a ſmall iſland of Eubœa, according to Steph. Byz.; but, according to Strabo and Pauſanias, a ſmall place in the iſland, famous for a temple of Diana, where ſhe was worſhipped, and hence called *Amarynthia*.

AMAS, a mountain of Peloponneſus in Laconia, according to Pauſanias, near Las and Gythium.

AMASENUS, *la Toppia*, a river of Italy. Alſo another river of Italy, which ran into the Liris.

AMASIUS, ROMULUS, in *Biography*, a profeſſor of Greek and Latin at Bologna, and ſecretary to the ſenate, was born at Udine, in Friuli, in 1489. Paul III. invited him to Rome, made him preceptor to his grandſon Alexander Farneſe, and employed him on ſeveral embaſſies to the emperor, the princes of the empire, and the king of Poland. He taught rhetoric at Bologna with an annual ſalary of 300 crowns, and at Rome, where he was much eſteemed for his learning, and had a penſion of 600 crowns a year. He tranſlated Pauſanias, which tranſlation was corrected by Sylburgius, and Xenophon's Expedition of Cyrus the Younger. He alſo wrote a volume of "Orations," and "Scholas duas de Ratione Inſtituendi." Two books, in which he ſhews that the Latin tongue is preferable to the Italian, were never printed. Huetius, "de claris Interpret." repreſents him as a great admirer of perſpicuity and politeneſs of ſtyle, and ſays of him that he enlarged what was too conciſe, abridged what was too prolix, and elucidated obſcure paſſages. He died about the year 1552, and left one ſon, named Pompilius, who taught Greek at Bologna, and tranſlated two fragments of the 6th book of Polybius. Gen. Dict.

AMASIA, in *Entomology*, a ſpecies of PAPILIO in the *nymphales* ſection. Wings indented, of a green colour, with a row of black ſpots along the margin of the poſterior pair: underſide marked with ocellated ſpots. Found in Surinam. Fabricius.

AMASIA, a ſpecies of PHALÆNA, of the *noctua* family. Wings varied with cinereous, and whitiſh, with a fulvous ſtreak: lower-ones yellow, with two black bands, the outer one interrupted. Abbot Inſ. Georgia, by *Dr. Smith*.

AMASIA, in *Ancient Geography*, a diſtrict or diviſion of Anatolia Natolia, or Aſia Minor, in Aſiatic Turkey, bounded on the north by the Euxine Sea, on the eaſt by Armenia, on the weſt by Anatolia Proper, and on the ſouth by Caramania and Aladulia. The capital of this country is Amaſia, called by the Turks Amnoſan and Amaſieh, which is an ancient town, ſituate among mountains, three miles diſtant from the river Iris, or Caſſalmack, and the reſidence of the governor of Cagherbag. It has been cuſtomary for the eldeſt ſon of the Grand Signior to reſide here till he is called to the throne. The city was formerly the ſeat of the kings of Cappadocia, and ſome remains of its ancient magnificence are ſtill exiſting. It gave birth to the famous geographer Strabo, and in Chriſtian times it has been the ſee of an archbiſhop. Its wine and fruits are excellent. It is 12 leagues ſouth of the Euxine Sea, and 200 miles eaſt of Conſtantinople. N. lat. 40° 31'. E. long. 36°.

AMASIA, or AMISIA, in *Ancient Geography*, a town of Germany, ſuppoſed by ſome to be the preſent Embden, and by others Marpurg. It was near this town that Druſus vanquiſhed the Bructeri.

AMASIS, in *Biography* and *Hiſtory*, king of Egypt, was of plebeian extraction, and by his meritorious ſervices obtained the confidence of Apries, his ſovereign, whom he ſucceeded in the throne, B. C. 569, and ſoon after put to death. Upon his acceſſion he was aſſiduous in the exerciſe of his pubic duties, devoting his mornings to buſineſs, and his evenings to ſocial amuſement. Under his reign Egypt was ſingularly proſperous and happy, and is ſaid to have contained 20,000 populous cities. For the preſervation of order and the encouragement of induſtry, he enacted a law which required every perſon to inform the governor of the province once a year how he earned his living, and thoſe who were not able to give a ſatisfactory account of themſelves were puniſhed with death. To the Greeks he was a great friend, inviting them into Egypt, and granting them places where they might erect altars and temples to their

own

own deities; and it is ſaid that he was viſited by Solon; he alſo married a Greek woman. Such was the liberality of his diſpoſition, that he contributed a thouſand talents of alum to the Delphians for their relief when their temple was burnt, and he granted to the Greeks ſeveral valuable donations. In his own country he erected ſeveral magnificent buildings, and at a very great expence enriched the principal temples with gifts and ornaments. Amaſis was the firſt perſon who ſubdued Cyprus, and extorted tribute from its inhabitants. The cloſe of his reign, however, was very different from its commencement and progreſs. Having by ſome means or other, probably by refuſing to pay the ſame homage and tribute to Cambyſes which he had been accuſtomed to render to Cyrus, incurred the diſpleaſure of the Perſian ſovereign, Cambyſes prepared to invade Egypt, and derived effectual aſſiſtance from Phanes of Halicarnaſſus, who commanded the Greek auxiliaries in the pay of Amaſis, and who, leaving Egypt in diſguſt, embarked for Perſia. Amaſis was alſo deſerted by Polycrates of Samos, who, after having been his ally and friend, joined Cambyſes againſt him. Thus deſerted by a prudent and valiant general, and by a powerful ally, and apprehending the formidable invaſion of Cambyſes, Amaſis was reſcued from the evils that threatened him, and that beclouded the cloſing ſcenes of his life, by death, B. C. 525, after a reign of 44 years. His dead body was embalmed, and depoſited in a ſepulchre which he had built for himſelf in the temple at Sais. The reign of his ſon and ſucceſſor, Pſammenitus, was ſhort and calamitous; and the victorious Perſians, after his defeat, capture, and death, took the body of his father Amaſis from the tomb, mangled it in a ſhocking manner, and then burnt it. Thus terminated the ancient ſplendour and liberty of Egypt. Herodotus. Diodorus Siculus. Un. Hiſt. vol. i. p. 314—323. Rollin's Anc. Hiſt. vol. i. p. 99—101.

Amasis, in *Entomology*, a ſpecies of Phalæna, of the *Bombyx* family. Wings deflected; anterior pair whitiſh, ſtreaked with black, poſterior pair yellow, with black ſpots. Abdomen black, belted with red. It is further deſcribed as having the head and thorax whitiſh, with black ſpots. The red or ſanguineous marks that encircle the abdomen are five in number, and the three black ſtreaks on the anterior wings are angulated. A native of Surinam. Fabr. Ent. Syſt.

AMASIUS, in *Ancient Geography*, a river of Germany, the preſent *Ems*.

AMASONIA, ſo called from *Amaſon*, a traveller into America, in *Botany*, a genus of the *didynamia angioſpermia* claſs and order. Its characters are, that the *calyx* is a perianthium, one-leafed, bell-ſhaped, ſemi-quinquefid, acute, equal, and permanent: the *corolla* is one-petalled, tubulous, longer than the calyx; border quinquefid, ſub-equal, ſpreading, and ſmall; the *ſtamina* have four filaments at the upper ſide of the corolla, and longer than it, bending in at the end, two of them ſhorter, the anthers oval and incumbent: the *piſtillum* has an ovate germ, ſtyle in the ſituation and form of the ſtamens, ſtigmas two and ſharp, no *pericarpium*. The *ſeeds* are an ovate, one-celled nut, of the ſame length with the calyx. This agrees with the *Taligalea* of Aublet in every thing except the fruit, which, according to him, is a drupe, longer than the calyx, one-celled, and containing two ſmall hemiſpherical one-celled nuts. There is one ſpecies, *viz.* A. *erecta*. It is a native of Surinam, with an herbaceous ſtem, three feet high, round and ſimple: the leaves are alternate, petiolate, remote, elliptic-lanceolate, ſubſerrate, and ſcabrous; the flowers in a ſimple terminal raceme, a foot long, with about three flowers on a pedicle: the bractes ovate, ſeſſile, a little longer than the flowers, which are yellow, nodding, and grow all on one ſide of the ſtalk. Martyn.

AMASSEA, in *Ancient Geography*, a town of Peloponneſus, in Achaia.

AMASSI, a people of the Aſiatic Sarmatia.

AMASTRA, a town of Sicily, the ſame with Ameſtratus.

AMASTRIS, now *Amaſtro*, a town of Aſia Minor, in Paphlagonia, upon a ſmall iſthmus which joined the peninſula Seſamus to the continent. It was built by Amaſtris, the wife of Lyſimachus, who gave it to his wife Arſinoe, and by her the government of it was entruſted with Hercules. Soon after it became very conſiderable, and put itſelf under the protection of Ariobarzanus, the ſon of Mithridates. When the Romans carried their arms into Aſia, Amaſtris was taken by Triarius, the lieutenant of Cotta. From the Romans it paſſed to the Greek emperors; it was afterwards taken by the Venetians: from them it became the poſſeſſion of the Turks; and, having loſt its commerce, it is now almoſt annihilated.

AMATA, in *Entomology*, a ſpecies of Papilio, in the ſection *Danai Candidi*, with rotund fulvous coloured wings, bordered with black on the upper ſide; beneath greeniſh; is found in India. Linn. Syſt. Nat.

AMATARIA, a ſpecies of the Phalæna, of the *Geometra* family, that inhabits Europe. The wings are angulated, of a pale brown, ſlightly ſpeckled, with an obſolete darker-waved ſtreak, and a ſtraight purple line acroſs the middle. It is produced from a green larva, with yellow rings, that feeds on the leaves of oaks. Linnæus. Don. Brit. Inſects, tab. 33. fig. 2.

AMATEUR, in the *Arts*, is a foreign term introduced and now paſſing current amongſt us, to denote a perſon underſtanding, and loving, or practiſing, the polite arts of painting, ſculpture, or architecture, without any regard to pecuniary advantage. Such have been found in the revivals of painting, &c. in moſt countries. Amateurs who practiſe were never perhaps in greater number or of ſuperior excellence than at preſent, and thoſe who delight in and encourage the arts have been the means of raiſing them in this country to that eminence to which they are arrived. It is to be regretted, however, that the great works of former ages, collected by amateurs in this kingdom, are not ſo acceſſible to our profeſſors as they are in foreign countries, which would tend to accelerate the progreſs of the arts, and that the encouragement given by theſe amateurs is in general upon too limited a ſcale.

It may occaſion ſome ſurpriſe to the next generation, that *Royal Patronage* has not roufed to emulation in this particular more of the noble amateurs who ſurround the throne, and induced them to encourage the greater works, as they do ſuch as are of an inferior nature; for thus our reputation in hiſtoric art would be elevated ſo as to be equal, if not ſuperior, to that of any of the neighbouring nations, and even to rival the juſtly celebrated pictures produced in the 14th and 15th centuries, and our ſculptors might be equally eſteemed with thoſe of ancient Greece or Rome.

Amateur, in *Muſic*, is equal, in French, to the term *Dilettante*, Ital. implying a lover and cultivator of muſic, not profeſſionally, but for his amuſement—a gentleman performer. In the *Encyclopedie Methodique* we have a long article on the ſubject, by M. Guinguerié, in which he divides *les Amateurs* into three claſſes, which he deſcribes in the following candid and fair manner. "The firſt is compoſed of ſuch as are born with delicate organs and much ſenſibility to the beau-

ties

ties of muſic, and who, not having had leiſure, inclination, or the means of cultivating their natural propenſity, continue through life to cheriſh their paſſion for the art; eagerly attending all concerts and muſical dramas; and, finally, by frequent and impartial parallels, dictated by nice and accurate diſcrimination, becoming, ſometimes, better judges of compoſition and performance than trained profeſſors, poſſeſſed neither of taſte nor impartiality.

"The ſecond claſs comprehends thoſe who have had the means of developing, and confirming by ſtudy, the gifts of nature, and who have ſublimed their diſpoſitions into talents. Of theſe the number is at preſent conſiderable. Muſic is become ſo intereſting a part of a good education, and vocal and inſtrumental muſic have made ſo great a progreſs, and are ſo generally cultivated, that there are few private concerts in which more talents are not diſplayed by amateurs of both ſexes than the moſt celebrated profeſſors poſſeſſed in France 20 years ago. Concerts entirely compoſed of gentlemen and lady performers are not uncommon; but perſons at all difficult are much diſſatisfied if the principal parts at leaſt are not guided by able profeſſors.

"The third claſs is the moſt numerous and the moſt diſtinguiſhed, though they are leſs ambitious of ſhining than the ſecond: it is compoſed of *amateurs*, who, not content with learning to read and execute muſic, have tried to penetrate into the ſecrets of the art, and enable themſelves to account for the pleaſure they receive, by analyſing their ſenſations and ſtudying the theory of muſic, to enable themſelves to judge more accurately of the practice, and to unite intellectual pleaſure with that of ſenſe and the heart. Maſters are fortunate who have ſuch for judges, where their knowledge is incorporated with natural ſenſibility and candour; and ſtill more happy, a thouſand times, the true *amateur*, who has neither the rage of deciſion, of diſputation, nor the arrogant pretenſions of ſettling ranks; who, knowing the arcana and refinements of the art, diſcovers and taſtes beauties unknown to vulgar hearers; who, preſerving his primitive ſenſibility, enlightens it by meditation and ſtudy: and who finds himſelf impelled, both by judgment and feeling, to treat with regard the artiſt to whom he owes his pleaſure, without diſtinction of nation or party.

AMATH, in *Ancient Geography*, a town of Syria, called by the Greeks *Emeſa*.—Alſo, a borough of Paleſtine, near Gadara, the ſame with *Amatha*.—Alſo, a town of Cœloſyria, called by the Greeks *Epiphania*.

AMATHA, a country of Arabia.—Alſo, a town of Phœnicia, probably the ſame that was founded by the 11th ſon of Canaan, called *Chamati* in the Book of Geneſis, and by the Septuagint *Amathi*. According to Joſephus, it was the capital of the Amathæans, and ſome have ſuppoſed it to be the ſame with *Emeſa*.—Alſo, a place of Judea, in that part of it that was allotted to the half-tribe of Manaſſeh, on the eaſt of Jordan.

AMATHÆI, a people of Arabia Felix, according to Pliny.—Alſo, a people who inhabited the Land of Promiſe before the Iſraelites, and who occupied part of the tribe of Nephtali, towards Mount Libanus. Theſe people were vanquiſhed by the Iſraelites, and retired into Phœnicia, where they built Amath, or Emath, on the banks of the river Orontes. According to Joſephus, they ſent forth a colony, who built the town of Amath, near the Lake of Genneſareth.

AMATHEA, in *Entomology*, a ſpecies of Papilio, in the *Nymphales* ſection, that inhabits South America. The wings are angulated, brown, with white ſpots; a red band, and undulated black line. Linn. Syſt. Nat.

AMATHO. See Amato.

AMATHUS, or Amathonte, in *Ancient Geography*, a town of the ſouthern part of the iſland of Cyprus, near Lycus, between Curtum to the weſt and Citium to the eaſt. It was founded by the Phœnicians, and owed its celebrity partly to the fertility of the adjacent country, and partly to the temple and worſhip of Venus in this place. Strangers, it is ſaid, were ſacrificed on her altars. The goddeſs was diſpleaſed, and puniſhed the inhabitants by changing the men into bulls, and by deſpoiling the women of their modeſty, ſo that they proſtituted themſelves without ſhame. Agreeably to this opinion, Ovid reports that the firſt courteſans appeared in this town. The ſtatue of Venus in this place was that of an hermaphrodite. The ſtatue was allegorical; and probably the men ſacrificed to her in female habits, and the women in thoſe of males. There was another temple in this place, as we are informed by Pauſanias, conſecrated to Venus and Adonis. Amathus was afterwards called Limaſſol; but it is now utterly deſtroyed.

Amathus was alſo a town of Peloponneſus, in Laconia, according to Strabo.—Alſo, a river of Peloponneſus, in Meſſenia, called *Pamiſus*.—Alſo, a town of Paleſtine, beyond Jordan, north-eaſt of Mount Abarim, ruined by Alexander Jannæus.

AMATHUSA, one of the epithets of the iſle of Cyprus, and the inhabitants were called *Amathuſii*, from Amathus above mentioned.

AMATI, Anton and Hieronimo, in *Biography*, two brothers, celebrated inſtrument makers in Cremona, flouriſhed in 1662. Nicolo Amati, the ſon of Geronimo, was living in 1682. All theſe were ſuch admirable fabricators of violins, as to render valuable every inſtrument that was ſuppoſed to come from Cremona. See Straduarius and Steiner.

AMATILLAN, in *Geography*, a town of Mexico, in the province of Guatimala; 10 miles S. E. of Guatimala. N. lat. 14° 20′. W. long. 92° 26′.

AMATIQUES, a ſea-port town, at the mouth of Guanacos river, which diſcharges itſelf into the Amatique gulf, or gulf of Honduras, in the province of Vera Paz, in Mexico. The inhabitants are chiefly logwood-cutters, and on the ſouth of the gulf is a tract of land, called Amatique land. The gulf is formed by the peninſula of Cape Three Points, and that which lies between it and Dolce gulf, and between theſe it runs far into the land. N. lat. 15° 23′. W. long. 89°.

AMATISSA, Amesse, in *Ancient Geography*, a ſmall river of Gaul, which runs from the S. E. to the N. E. eaſtward of Ambacia, and diſcharges itſelf into the Loire.

AMATITUE, in *Geography*, a river of North America, in New Spain, which diſcharges itſelf into the Pacific Ocean, upon the confines of the province of Guaxaca.

AMATKINAK Island is, with Ulak, the largeſt of the third group of iſlands between Aſia and America.

AMATO, a town of Naples, in the province of Calabria Citra, on a river of the ſame name, 7 miles S. E. of Nicaſtro.

Amato, or Amatho, anciently Lametus, a river of Naples, which ſpreads itſelf over a large flat, in 50 different channels, and would overflow a great extent of country if its devaſtations were not reſtrained by high cliffs on each ſide of its bed. Its waters are of a muddy white colour. It diſcharges itſelf into the ſea, three miles ſouth of St. Eufemia, on the weſt coaſt of Calabria Ultra.

AMATORII, Musculi, in *Anatomy*, an appellation given to thoſe muſcles of the eye, which give them a caſt ſideways, and aſſiſt in that particular look, by ſome called ogling. When the abductor and humilis act together, they give to the eye this oblique motion.

AMATORIUS, in *Ornithology*, a ſpecies of the Parus genus, of a deep blue ſlate colour, with a longitudinal ſpot in the

the middle of the wings, half rufous, half yellow.—It is the *meſange amoureuſe* of Buffon, and *amorous titmouſe* (parus amorofus) of Latham. The length is five inches and a quarter, bill two thirds of an inch, black at the baſe, tip orange.

This bird inhabits the northern parts of Aſia, and is remarkable for the affection each ſex ſhews the other. When paired in cages its careſſes are ſcarcely interrupted; a circumſtance that has impoſed the emphatic names of *amatorius*, *amaroſus*, and *amorous* upon this ſpecies, to diſtinguiſh it from others of the parus genus.

AMATRICE, in *Geography*, a ſmall town of Naples, in Abruzzo, with the title of a principality.

AMATTA DO BRASIL, a town of South America, in the country of Braſil, and government of Fernambuco.

AMATTA FOA, or TOOFOA-AMA, or KAMA, ISLAND, an iſland in the Southern Pacific Ocean, diſcovered by Captain Cook, in 1774, about 11 or 12 leagues diſtant from ANAMOOKA, N.N.W. ½ weſt. It is about five leagues in circuit, conſiderably elevated, and probably has a volcano; it is inhabited, but not very fertile. Betwixt this and another iſland, called Oghao, is a ſafe channel, about two miles broad, without any ſoundings.

AMAUROSIS, in *Surgery*, a privation or obſcurity of ſight, from αμαυροω, more commonly named GUTTA SERENA. This diſorder is either complete, when total blindneſs exiſts, or incomplete, when viſion is not perfectly deſtroyed. It is diſtinguiſhed from the GLAUCOMA or CATARACT, in as much as the latter is a diſeaſe of the cryſtalline lens, whereas the former is generally ſeated in the optic nerve. *Amauroſis* may be produced by various cauſes, and admits of different modes of treatment; but the conſideration of theſe particulars is referred to the article gutta ſerena. See AMBLYOPIA and DYSOPIA.

AMAXIA, in *Ancient Geography*, a town of Aſia Minor, in Cilicia Trachæa or Cilicia Montana.

AMAXITUS, a borough of Aſia Minor, in the Troas, and territory of the Alexandrians. In this place there was a temple of Apollo, in which the prieſt Chryſes, mentioned by Homer, is ſuppoſed to have ſacrificed.

AMAXOBII, a people who, according to Ptolemy, inhabited the interior parts of Scythia, in Europe. Their name, derived from Αμαξα, a chariot, refers to the practice which prevailed amongſt theſe people and other Tartarian nations, of placing their tents on carriages for their more eaſy removal from one place to another. See HAMAXOBII.

AMAYA, in *Geography*, a town of Spain, at the foot of a rocky mountain, in the county of Leon, four leagues from Aquilar del Campo.

AMAZIAH, in *Scripture Hiſtory*, the eighth king of Judah, was the ſon of Joaſh, and ſucceeded his father in his 25th year, A.M. 3165, B.C. 839. He adhered to the worſhip of the true God, but not without a mixture of idolatry; and therefore, he is ſaid (2 Chron. xxv. 2.) to have done "that which was right in the ſight of the Lord, but not with a perfect heart." We are further informed (Ch. xxv. 3, 4.) that, after his acceſſion to the throne, he put to death the murderers of his father, and in conformity to the humane reſtriction of the Moſaic law, (Deut. xxiv. 16.) he preſerved their children alive. With a large army, formed of his own ſubjects, and other hired troops from Iſrael, he marched againſt the Edomites, who had revolted from Judah, in the reign of Joram, about 54 years before; but having diſmiſſed the Iſraelite auxiliaries, he led forth his own people to battle, and defeated the enemy in the valley of Salt, with great ſlaughter. The auxiliaries on their return ravaged the country, killed 3000 men, and carried off a great booty, as a compenſation for the advantage which they expected to have derived from their expedition againſt Edom. Amaziah, after his victory, took home the gods of the children of Seir, and paid them divine honours. Preſuming on his ſucceſs, and imagining himſelf to be invincible, he ſent a hoſtile challenge to Joaſh, king of Iſrael, expreſſed by the words (2 Chron. xxv. 17.) "come, let us look one another in the face." Joaſh, by the fable of the cedar and thiſtle, endeavoured to diſſuade him from his hoſtile purpoſe; but he perſiſted, and the adverſe armies met at Bethſhemeſh, where that of Amaziah was routed, and he himſelf taken priſoner. Joaſh led the captive king with him to Jeruſalem; and having made a breach in the wall, he entered the city, plundered the temple and royal palace, and then returned to Samaria. After this diſaſtrous event, the reign of Amaziah was prolonged 15 or 16 years; but a conſpiracy having been formed againſt him at Jeruſalem, he fled to Lachiſh, where his enemies overtook and aſſaſſinated him, A.M. 3194. B.C. 810. 2 Kings, ch. xiv. 2 Chron. ch. xxv.

AMAZON, in a *General Senſe*, denotes a bold, courageous woman, capable of daring and hardy achievements. See AMAZONS *infra*.

AMAZON, or the river of the AMAZONS, called alſo *Maragnon*, in *Geography*, a river of South America, is one of the largeſt rivers in the world. Its ſource is in Peru, in a lake near Guanuco, about 30 leagues from Lima, where the Maragnon riſes, and at the head of the river Napo, near Quito; its firſt direction in Peru is from ſouth to north; it afterwards runs a courſe from weſt to eaſt, of about 3000 miles, acroſs South America, and receives near 200 other rivers, many of which have a courſe of 5 or 600 leagues, and ſome of them not inferior to the Danube or the Nile. Theſe rivers ruſh down with amazing impetuoſity from the eaſtern declivity of the Andes, and uniting in a ſpacious plain, form this immenſe river. The chief of theſe, from the ſouth and ſouth-weſt, proceeding from the mouth weſtward, are Araguaya, Paratinaa, Madeira, Eurus, Yulay, Yulacina and Ucagai rivers. From the north and north-weſt, advancing from its mouth, are Parma, Negro, Yupura, Iſſa and Napo, which laſt riſes near the town of Archidano, about 150 miles eaſtward of Quito. The Amazon is interſperſed with a great number of iſlands, which are too often overflowed to admit of culture. It falls into the Atlantic Ocean, almoſt under the equator, by ſeveral channels, and its breadth at its mouth is 150 miles, and at the diſtance of 1500 miles from hence it is 30 or 40 fathoms deep. In the rainy ſeaſon it overflows its banks, watering and fertilizing the adjacent country. M. de la Condamine, who made a voyage down this river in 1743, found its deſcent in a ſtraight courſe of about 1860 miles, to be about 1020 Engliſh feet, or 6½ inches in a mile. The tides are perceptible at 600 miles from its mouth, but at an elevation only of 90 feet. Phil. Tranſ. vol. lxxi. p. 93. 109.

Beſides Orellana, who made this voyage from motives of ambition, and de la Condamine, who was prompted to it from a love of ſcience, Madame Godin des Odonais, undertook it in 1769, from conjugal affection. The narrative of the hardſhips which ſhe ſuffered, of the dangers to which ſhe was expoſed, and of the diſaſters which befel her, is one of the moſt ſingular and affecting ſtories in any language, and exhibits in her conduct a ſtriking picture of the fortitude which diſtinguiſhes the one ſex, blended with the ſenſibility and tenderneſs peculiar to the other. Lettre de M. Godin à M. de la Condamine.

AMAZONA, in *Ornithology*, a ſpecies of ALCEDO, firſt deſcribed by Dr. Latham, in his Syn. Av. Sup. p. 116, under the name of AMAZONIAN KINGSFISHER. It inhabits Cayenne, and is about thirteen inches in length. The colour above is gloſſy green, beneath white, paſſing backwards in a ring

a ring to the nape; the ſides are variegated with green: the wings and tail ſpotted with white. Theſe particulars conſtitute the ſpecific character: it may be further added, that the bill is three inches long, narrow, ſtraight, and black; the under mandible yellow at the baſe; the thighs mottled with green, and the breaſt clouded with the ſame; tail feathers green, ſpotted on each ſide of the web with white, except the two middle feathers which are paler than the reſt; legs black.

AMAZONA, a ſpecies of EMBERIZA, deſcribed by Linnæus and Gmelin. The general colour is brown, crown of the head fulvous, vent whitiſh. It inhabits Surinam, and is about the ſize of the titmouſe. The underſide of the wings white at the baſe.—Buffon calls this L'Amazone, tom. iv. p. 364, and Latham gives it the Engliſh name of AMAZON'S BUNTING.

AMAZONE, in *Sculpture*, a very fine antique ſtatue, in Parian marble. It was about two hundred years at the *Villa Mattei*, upon Mount Coelius, at Rome; from whence it was removed to the muſeum of the Vatican, by pope Clement XIV.; and is now in the gallery of antiques at Paris. There is alſo a beautiful ſtatue of a queen of the Amazons at Wilton; repreſented in a warlike action; being on one knee; as under a horſe, defending herſelf in battle. Her ſhield is in the form of a half moon; behind the lower part of which, the ſculptor has executed a horſe's foot; in order to illuſtrate the attitude. This ſtatue was executed by the celebrated Cleomenes.

AMAZONIA, in *Geography*, a large country of South America, 1400 miles long, and 900 miles broad, is ſituated between the equator and 20° S. lat., and bounded on the north by Terra Firma and Guiana, on the eaſt by the Atlantic Ocean and Braſil, on the ſouth by Paraguay, and on the weſt by Peru. This country was firſt diſcovered by Franciſco Orellana, about the year 1541, who, in a bark, manned with 50 ſoldiers, was borne down by the ſtream of the river Napo into the channel of the Maragnon; and who, after making frequent deſcents on both ſides of the river, ſometimes ſeizing by force of arms the proviſions of the fierce ſavages, ſeated on its banks, and ſometimes procuring a ſupply of food by a friendly intercourſe with more gentle tribes, reached the ocean. This bold and magnanimous adventurer pretended to have diſcovered along the banks of this river, nations ſo rich, that the roofs of their temples were covered with plates of gold; and he deſcribed a republic of women ſo warlike and powerful, as to have extended their dominions over a conſiderable tract of the fertile plains which he had viſited. From this community of warlike women, who, with arms in their hands, oppoſed his paſſage, he called the country Amazonia, or the land of the Amazons, and he gave the name of Amazon to the river, which had formerly been denominated Maragnon.

The Spaniards have made ſeveral attempts to plant this country, but always met with ſo many difficulties and diſaſters, as to render their deſigns abortive. The Portugueſe have ſome ſmall ſettlements on that part of the coaſt which lies betwixt Cape North and the mouth of the river Amazon; but theſe excepted, the natives are in the ſole poſſeſſion of the whole country. The air in this country is cooler than might be expected, conſidering its ſituation in the middle of the torrid zone; which is owing partly to the heavy rains, which cauſe the inundations of the rivers for one half of the year, and partly to the cloudineſs of the weather, ſo that the ſun is obſcured, during the greateſt part of his ſtay above the horizon. The fair ſeaſon is about the time of the ſolſtices, and the wet or rainy ſeaſon is about the equinoxes. The ſoil of Amazonia is very fertile, and produces corn, grain, and all kinds of tropical fruits; beſides a variety of timber, as cedar, braſil-wood, oak, ebony, iron-wood, log-wood, and other dying woods; and alſo cocoa, tobacco, ſugar canes, cotton, caſſava root, potatoes, yams, ſarſaparilla, gums, raiſins, balſams of various ſorts, pine apples, guavas, bananas, &c. The foreſts abound with wild honey, and alſo with tigers, wild boars, buffaloes, deer, parrots, and game of various kinds. The rivers and lakes afford an ample ſupply of fiſh, ſea-cows, and turtles; but the alligators and water-ſerpents render fiſhing a dangerous employment. The trees, fields, and plants, are verdant throughout the year. The natives are of good ſtature, with agreeable features, long black hair and a copper-coloured complexion, and are very different from the natives of Africa, in the ſame latitude, on the oppoſite ſide of the Atlantic. Condamine ſays, that they have a taſte for the imitative arts, eſpecially ſculpture and painting, and that they frequently excel in mechanical profeſſions. They ſpin and weave cotton cloth. Their houſes are built with wood and clay, and thatched with reeds. Their arms, in general, are darts and javelins, bows and arrows, with targets of cane or fiſh ſkins. The ſeveral nations, on both ſides of the river Amazon, which are very numerous, are governed by chiefs or caziques; for it is obſervable, that the monarchical form of government has prevailed almoſt univerſally, in both ancient and modern times, in a rude and unrefined ſtate of ſociety. The regalia, by which the chiefs are diſtinguiſhed, are a crown of parrot's feathers, a chain of tiger's teeth or claws, which hang round the waiſt, and a wooden ſword. They are all idolaters, and worſhip the images of their ancient heroes; and in their various expeditions they carry their gods along with them.

As to the Amazonian race, if it ever exiſted otherwiſe than in the imagination of the original adventurer Orellana, or in the exaggerated reports of travellers and voyagers, it is now wholly extinct; and probably the notion was at firſt ſuggeſted by the activity and courage which the females of this country exerted, in the defence of their privileges, againſt the encroachment of foreigners.

AMAZONS, in *Geography* and *Hiſtory*, denote an ancient nation of warlike women, who founded an empire in Aſia Minor, upon the river Thermodon, along the coaſts of the Black Sea; and who are ſaid to have formed a ſtate out of which men were excluded. What commerce they had with that ſex, was only with ſtrangers, whom, after occaſional intercourſe at ſtated times, they put to death; hence, as Herodotus informs us, they have been called Æorpata, or murderers of their huſbands. They alſo killed all their male children, or, as ſome authors ſay, broke their legs, or diſjointed their knees, and thus rendered them incurably lame, by luxations, as Diodorus Siculus, Hippocrates, and Galen aſſert, that they might be the more eaſily reduced to a ſtate of dependence and ſlavery. Moreover, they nurſed their females, and trained them up to war; and that they might uſe their arms more readily, and be more fit for the combat, they cut off, or ſeared with a plate of hot braſs, their right breaſts, apprehending that there would be otherwiſe ſome impediment in the uſe of the bow. Hippocrates and Galen allow that this fact was reported; but they allege, that this operation was performed, not on account of any impediment in the uſe of the bow, but to render the right arms ſtronger by an addition of aliment, as that which would have gone to the breaſt would be thus reſtricted to the arm. In reference to the exciſion of their breaſts, Penthefilea, one

of their queens, is repreſented by Virgil, Æn. lib. i. v. 492.

"Aurea ſubnectens exſertæ cingula mammæ."

From this laſt circumſtance it is, that they are ſuppoſed to take their name, *viz.* from the privative α and μαζὸς, *mamma, breaſt.*

Others have ſuggeſted, that the amputation performed on the breaſts of the females was invented by the Greek etymologiſts, in order to explain the name of the nation. Others again have conjectured, that the name was derived from the Circaſſian word *mazai*, the *moon*, which is ſaid to have been a favourite deity among the mountaineers of Caucaſus, in the vicinity of which the Amazons were ſettled. Dr. Bryant (*ubi infra*) traces the etymology of the appellation to *zon*, the *ſun*, which was the national object of worſhip. Some have maintained, that the deſcription of the Amazons, given by the ancient writers, is purely allegorical; the amputation of one of the breaſts ſignifying, that the female only was nouriſhed by the mothers; and the killing of the boys denoting, that they were committed to the care of ſtrangers.

It is, however, a point that has been controverted, even among the ancient writers, as well as the moderns, whether ſuch a nation as the Amazons are deſcribed to be, have ever exiſted. Strabo, Palæphatus, and others, abſolutely deny it; whilſt, on the contrary, Herodotus, Pauſanias, Diodorus Siculus, Trogus Pompeius, Juſtin, Pliny, Mela, Plutarch, &c. expreſsly aſſert it.

Herodotus, in his hiſtory of the Scythians (lib. iv. c. 110. p. 330—332. ed. Weſſeling.), informs us, that the Greeks, who had obtained a ſignal victory over the Amazons, near the river Thermodon, were carrying off the reſidue that had eſcaped the ſlaughter in ſhips into their own country. While they were at ſea the Amazons conſpired againſt them, and killed all the men whom they had on board; but being unacquainted with the art of navigation, even with the uſe of the rudder, ſails, and oars, they were driven by the wind and tide to the precipices of the Palus Mæotis, in the territories of the free Scythians. Here they went aſhore, and marching up into the country, they ſeized the firſt horſes they found, and began to plunder the inhabitants. The Scythians unacquainted with their language, ſex, and dreſs, took them at firſt to be youths; but after a ſkirmiſh or two, in which ſome of them were taken priſoners, they found that they were women. Accordingly all hoſtilities ceaſed, and they formed connections with them as their wives. But when the Scythians invited theſe women to accompany them to their own country, they declined accepting the invitation; alleging, that they had been always uſed to draw the bow, dart a javelin, mount a horſe, and ſuch warlike exerciſes, to which they ſuppoſed the Scythian women were altogether unaccuſtomed, and that they could not conſent to exchange their military mode of living for a life of eaſe and indolence. They therefore exhorted their huſbands, if they ſtill retained the ſame conjugal affection for them, to viſit their parents and friends, and to return with the ſeveral portions aſſigned them. They complied with the advice; and upon their return, were informed by their wives, that ſince they had deprived them of their parents, and committed ſeveral depredations in that country, they thought it much ſafer to fix their habitation on the other ſide of the Tanais. This ſcheme was approved and executed. After three days march to the eaſt of that river, and three more northward from the lake Mæotis, they arrived and ſettled in the country of Sarmatia, where they continued, ſays Herodotus, to his time. Hence, continues the hiſtorian, the wives of the Sarmatians purſue their ancient mode of life, hunting on horſeback either alone, or in the company of their huſbands, marching with their armies, and wearing the ſame dreſs with the men. The Sarmatians uſed the Scythian language, corrupted by the Amazons, who had never learned to ſpeak it correctly. Their marriages were attended with this peculiar circumſtance, that no virgin was allowed to marry till ſhe had killed an enemy in the field, and therefore ſome of them were old before they married, according to the requiſition of the law.

From Diodorus Siculus (lib. ii. c. 45. p. 156—158. ed. Weſſeling.), we learn, that there was formerly a nation who dwelt near the river Thermodon, in which women governed and conducted all their military expeditions. Among theſe, one excelled all the reſt in ſtrength and valour. By her an army was aſſembled, and trained up in military diſcipline, ſo as to ſubdue ſome of the neighbouring nations. Her fame increaſing with her ſucceſs, ſhe ſtyled herſelf the daughter of Mars, and ordered the men to ſpin wool, and to perform the domeſtic ſervices of the women. She promulgated laws, which required the women to engage in warlike exerciſes, and the men to remain at home in an abject condition, and to be employed in the moſt ſervile offices. The male children that were born were debilitated in their legs and arms, ſo as to be unfit for war; and the females had their right breaſts ſeared, ſo that they might be no impediment to them in fighting; and hence, ſays the hiſtorian, this nation obtained the name of Amazons. The queen, diſtinguiſhed by her military ſkill, built at the mouth of the Thermodon a large city, called Themiſcyra, and adorned it with a famous palace. In her warlike expeditions ſhe maintained ſtrict diſcipline and order; and thus reduced to ſubjection all the neighbouring nations, as far as the river Tanais. Having finiſhed theſe exploits, ſhe cloſed her life in the field like a hero, and fell in a battle, in which ſhe had diſplayed ſingular courage. She was ſucceeded by her daughter, who emulated the valour of her mother, and in ſome reſpects ſurpaſſed her. She cauſed the young women to be inured to hunting in early life, and alſo to military exerciſes. She inſtituted feaſts and ſacrifices to Mars and Diana, which were denominated Tauropoli, carried her arms beyond the Tanais, and ſubdued the people of all thoſe countries as far as Thrace. Upon her return with rich ſpoils, ſhe cauſed temples to be erected to the above-mentioned deities, and gained the love of her ſubjects by her mild and gentle government. She afterwards reduced a great part of Aſia, and extended her conqueſts as far as Syria. The ſucceeding queens of the ſame race acquired renown by their government, and greatly enlarged the dominion of the Amazonian nation. The fame of the Amazons continued for ſeveral ages, till at length Hippolyta was vanquiſhed and captured by Hercules, the ſon of Jupiter and Alcmena; and by degrees the Amazonian name became totally extinct. The laſt queen of the Amazons was Penthefilea, who aſſiſted the Trojans, after the death of Hector, and was ſlain by Achilles. So ſignal and extraordinary were the character and exploits of this queen, and others of the Amazonians, that Diodorus acknowledges, that in later ages, the relations of them have been regarded as fabulous.

Diodorus elſewhere (*viz.* lib. iii. p. 220.) mentions another race of Amazons, much more ancient than thoſe of Pontus, in the vicinity of Thermodon. Theſe inhabited the weſtern parts of Libya; they were under the government of women; and as long as they continued ſingle, they performed the duty of ſoldiers in the field; and after a ſtipulated period they aſſociated with the men, and bore children;

but the magiſtracy and all public offices were retained by the females, and the men were employed in domeſtic offices, and were altogether ſubject to their wives, who would not allow them any participation of authority in the ſtate, or any concern in military affairs. Their females had their breaſts ſeared, that they might not be any hindrance to them as they grew up, and engaged in martial exerciſes. One of the principal queens of this nation was Myrina, who is ſuppoſed to have lived in the time of Orus, the ſon of Iſis, and to have conquered Africa and the greater part of Aſia, but was at laſt ſlain in Thrace.

Juſtin (ex Trog. lib. ii. cap. 4.) traces the origin of the Amazonian republic in Scythia. About the time of the firſt irruptions of the Scythians into Aſia, in the reign of Seſoſtris, king of Egypt, two princes of the royal blood, named Hylinos and Scolopytus, were compelled by an adverſe faction to retire into Cappadocia with their wives and families. By the aſſiſtance of the youths they brought with them, they obtained poſſeſſion of Thermoſciria, on the river Thermodon, whence they made incurſions into the adjacent nations for ſeveral years, till at laſt they were all treacherouſly murdered. Their wives, partly from revenge and partly from a dread of ſlavery, put themſelves under the conduct of ſome of their chief heroines, and prepared for a bloody war with the murderers. In order to give full ſcope to their fury, they renounced all future marriages, and deſtroyed thoſe of their huſbands, who had eſcaped the ſlaughter; and then proceeded with ſuch vigour and ſuch ſucceſs againſt their enemies, as totally to overthrow them, and to compel them to ſue for peace. One of their ſtipulations was, that they ſhould yearly have a month's intercourſe with each other, for the propagation of their ſpecies; after which they brought up all their girls in their own way, deprived them of their right breaſts, that they might be no obſtruction to them in drawing their bow; and as for the boys, they either killed them, as Juſtin ſays, or diſabled them for martial exerciſe, or ſent them to their fathers, according to Herodotus and others. Theſe ſurprizing exploits were achieved under the government and conduct of two queens, Lampeto and Marpheſia, who pretended to be the daughters of Mars; and who, having extended their conqueſts into Aſia, built cities there. The former of theſe females was left behind, with an army to ſecure their conqueſt, and the latter, on her return home, with her ſpoils, was ſurpriſed and cut off, with the reſt of her female warriors, by ſome bands of barbarians. After a ſucceſſion of female queens, Penthesilea is ſaid to have come to Troy for the aſſiſtance of Priamus, as we have already mentioned. This queen, it is added, was the inventreſs of the battle-axe, and was killed by Pyrrhus, the ſon of Achilles. Another of their queens, named Tomyris, had a bloody encounter with Cyrus, king of Perſia; and the famous queen Thaleſtris had an amorous intercourſe with Alexander the Great. Under this laſt queen it is ſaid, that the Amazonian kingdom and race were ultimately deſtroyed.

Quintus Curtius (De Rebus Geſtis, A. M. lib. vi. c. 5. tom. i. p. 400. ed. Snakenburg.) has given a particular account of this intercourſe between Thaleſtris and Alexander. He ſays, that the nation of the Amazons were ſituated upon the borders of Hyrcania, and that they inhabited the plains of Themiſcyra, near the river Thermodon. Thaleſtris, their queen, who governed the whole country between Mount Caucaſus and the river Phaſis, being deſirous of ſeeing Alexander, ſent meſſengers to requeſt an interview with him. Having obtained permiſſion to viſit him, ſhe advanced with 300 of her female warriors; and when ſhe approached his preſence, ſhe leaped from her horſe, with two javelins in her right hand. The apparel of the Amazons, ſays Curtius, does not cover the whole body; but the left ſide is naked to the breaſt, and the ſkirts of their garments, which are tied up in a knot, reach below the knees. Their left breaſt is preſerved, that they may ſuckle their female offſpring; but the right breaſt is ſeared, that they may the more eaſily bend the bow, and ſhoot their arrows. Thaleſtris, after obſerving Alexander for ſome time with an undaunted countenance, was diſappointed, as his perſonal appearance did not correſpond to the ideas ſhe had previouſly formed of him, from the report of his ſignal exploits. When the king aſked her, whether ſhe had any thing to deſire of him, Thaleſtris without heſitation replied, that ſhe wiſhed to have children by him, and that ſhe was worthy of the honour of giving heirs to his dominions. The female ſhe would reſerve for herſelf, and the male ſhould be delivered to him. When Alexander interrogated her, whether ſhe would accompany him in his wars, ſhe declined, alleging, that ſhe had left her kingdom without a guardian. Alexander, after renewed ſolicitations on her part, and a delay of 13 days, complied with her wiſhes; and Thaleſtris returned to her kingdom.

Plutarch, in his life of Pompey, (Oper. tom. i. p. 638.) ſays, that the Amazons inhabit thoſe parts of Mount Caucaſus, that lie towards the Hyrcanian ſea, that they are ſeparated from the Albanians by the Getulæ and Leges, and that they annually, for two months, accompany theſe people, and cohabit with them near the river Thermodon. They then retire to their own habitations, and live apart for the reſt of the year. In his life of Theſeus, (Oper. tom. i. p. 13.) Plutarch, after reciting ſome particulars relating to the hiſtory of the Amazons, acknowledges, that the accounts of them which had been preſerved were partly fabulous and partly true. The arms of the Amazons were bows and arrows, javelins, and a kind of battle-axes, denominated the axe of the Amazons, the invention of which is aſcribed by the elder Pliny to their queen, Penthesilea. On medals, the buſt of the Amazons is uſually armed with a ſmall two-edged axe, called *bipennis* or *ſecuris*, borne on the ſhoulder, and a buckler, in the form of a half moon, by the Latins called *pelta*, on the left arm. Hence Ovid's deſcription Ex Pont.

> "Non tibia Amazonia eſt pro me ſumenda ſecuris,
> Aut exciſa lævi pelta gerenda manu."

And Virgil, ſpeaking of the queen Penthesilea in Æneid. lib. i. v. 490, ſays,

> "Ducit Amazonidum lunatis agmina peltis."

Beſide the Amazons of Africa, which formed the moſt conſiderable body of theſe female warriors, and thoſe of Mount Caucaſus, near Colchis and Albania, and likewiſe near the Palus Mæotis, of whom we have already given an account, Polyænus ſpeaks of Amazons in India, who are alſo mentioned by Nonnus. They likewiſe occur in Æthiopia. They at one time, ſays Dr. Bryant, poſſeſſed all Ionia; and there were traditions of their being at Samos, and in Italy, where they had a town in Meſſapia, towards the lower part of the country, called Amazonia. Even the Athenians and Bœotians were of the ſame family; hence it is ſaid, that Cadmus had an Amazonian wife, when he went to Thebes, and that her name was Sphinx. The Colchians and Iberians, as well as the Cimmerians and Mæotæ, according to this learned writer, were Amazonians; and ſo were all the Ionians, and the Atlantians of Mauritania. Philoſtratus, in

in his Heroicis, mentions Amazonians on the Danube, and in Lucius Florus we read of German Amazons.

Among the ancient writers, who conſider the peculiar hiſtory of the Amazons as fabulous, we have already mentioned Palæphatus, who was complimented for his diſtinguiſhed underſtanding, by the appellation "ὁ ἀπιστότατος," and who gave it no credit. Strabo alſo, although born at Amaſtris, in Cappadocia, an Amazonian region, could obtain no evidence to countenance the hiſtory. He ſays, (lib. ii. tom. ii. p. 772.) that many legendary ſtories have a mixture of truth, and moſt accounts admit of ſome variation. But the hiſtory of the Amazons has been uniformly the ſame; the whole a monſtrous and abſurd detail, without the leaſt appearance of probability. For who can be perſuaded, that a community of women, either as an army, or a city, or a ſtate, could ſubſiſt without men? and not only ſubſiſt, but make expeditions into other countries, and gain the ſovereignty over kingdoms; not merely over the Ionians and thoſe who were in their neighbourhood, but paſs the ſeas and carry their arms into Europe; to accede to this were to ſuppoſe, that nature varied from her fixed principles; and that in thoſe days women were men, and men women. It may be added, that if ſuch a people really exiſted, ſome traces of them would have been found, either in Iberia and Albania; or in the country upon the Thermodon, where they are ſuppoſed chiefly to have reſided. But Procopius (De Bell. Gothic. lib. iv. c. 3. p. 570.) ſays, that there was no mark, no tradition to be obſerved concerning them.

Amongſt the moderns, who have maintained the exiſtence of Amazons in ancient times, we may mention M. Petit, a French phyſician, who publiſhed a Latin diſſertation, in 1685, in order to eſtabliſh the fact. This diſſertation contains abundance of curious inquiries, relating to their habit, their arms, the cities built by them, &c. Dr. Bryant (Analyſis of Ancient Mythology, vol. iii. p. 457, &c.) explodes the account of the exiſtence of ſuch a nation as fabulous; and he ſays, that the whole of this ſtrange hiſtory has been owing to a wrong etymology of the appellation Amazon. The Greeks, who were fond of deducing every thing from their own language, imagined, that by the term Amazon was ſignified a perſon without a breaſt. This perſon they inferred to be a female; and, in conſequence of it, as the Amazons were a powerful people, they formed a notion, that they were a community of women, who ſubſiſted by themſelves; and every abſurdity, with which this hiſtory is attended, took its riſe from the above-ſtated miſconception. They did not conſider, that there were many nations of the Amazons widely ſeparated from each other; nor did they know, that they themſelves were of Amazonian race. Dr. Bryant is of opinion, that the Amazons were in general Cuthite colonies from Egypt and Syria; and as they worſhipped the ſun, they were called Azones, Amazones, and Alazones, which are names of the ſame import and bear reference to the national object of worſhip. To this purpoſe Pauſanias (lib. iii. p. 274.) mentions Apollo Amazonius, who was worſhipped in Laconia. The moſt noted of them inhabited the region of Pontus, near the river Thermodon; and they were alſo called Chalybes, and Alybes, and occupied part both of Cappadocia and Armenia, being ſituated near Sinope, and extending towards Colchis. They are mentioned by Homer (Iliad. lib. v. v. 856.) among the allies of the Trojans. One of the principal cities of theſe Chalybes, beſides Sinope, was Amiſon, or as Pliny expreſſes it more juſtly (lib. vi. p. 303.) Amazon, and he mentions a mountain near it of the ſame name. Theſe people had different titles in the countries where they ſettled, and often in the ſame region; and therefore their hiſtory has been confuſed. They were called not only Amazonians, but Syri, Aſſyrii, Chaldæi, Mauri and Chalybes, and were ſtill further diverſified. They were the ſame as the Ionim, and in conſequence of it, they are ſaid to have founded the chief and moſt ancient cities in Ionia, and its neighbourhood. Accordingly the coin of the cities in Aſia Minor, and particularly of thoſe in Phrygia, Ionia, and Myſia, has often an Amazon for its device. The Amazons, according to the learned writer now cited, were Arkites, and one of their chief cities was called Archæopolis, who came from Egypt, and worſhipped the ſun, and Selene, the chief deities of the country, from whence they came. They are ſtiled by Herodotus Æorpata, not as he conceives from killing their huſbands, becauſe, according to their hiſtory, they had not any, but from their worſhip; and this name was given to their prieſts. It ſignifies a prieſt of אור or Orus; and theſe prieſts uſed to ſacrifice ſtrangers, who accidentally came upon their coaſt, and hence they were ſtyled, "Ανδροκτονοι," murderers. The Egyptians, it is alleged, admitted the ſiſtrum among their military inſtruments of muſic, and made uſe of it when they went to war. The ſame practice prevailed among the Amazonians, who worſhipped the Iſis of Egypt, and made uſe of her ſiſtrum, when they engaged in battle. The Amazonians of Colchis and Armenia were not far removed from the Minyæ, near Mount Ararat, and were of the ſame family. They were Arkites, as we may learn from the people of Pontic Theba, and followed the rites of the ark, under the name of Meen, Baris, and Iona. Hence it is, that they have been repreſented with lunar ſhields; not that they were of a lunar ſhape, but the lunette was a device taken from their worſhip. It was the national enſign, which was painted upon their ſhields; whence it is ſaid of them, "pictis bellantur Amazones armis." The Amazonian ſhield approached nearly to the ſhape of a leaf, as did alſo the ſhields of the Gothic nations; and upon theſe ſhields they had more lunettes than one; and from them the cuſtom was tranſmitted to the Turks and other Tartar nations. One of the moſt extraordinary circumſtances in the hiſtory of the Amazons is their invaſion of Attica. They are repreſented as women, who came from the river Thermodon, in revenge for the inſult offered them by Hercules, who had plundered their country. Their attack is deſcribed as violent; and the conflict for a long time doubtful. At laſt, having loſt many of their companions, they were obliged to retreat and entirely to leave the country. Of this invaſion the Athenians pretended to have had many evidences; they exhibited the tombs of the Amazons, who fell in the conteſt; the place of engagement was called Amazoneum; and near it was an ancient pillar, ſaid to be erected by this people But the hiſtory abounds with inconſiſtencies, though Plutarch (*ubi ſupra*) ſeems to credit it, and adduces ſeveral circumſtances, with a view of eſtabliſhing its certainty. Such a people, however, as the Amazonians, had certainly been in Attica; the Athenians, as well as the Bœotians, were in a great meaſure deſcended from them. The rites to which Plutarch refers, in proof of hoſtility between the Amazonians and Athenians, afford no concluſive argument to this purpoſe; becauſe they conſiſted originally in offerings made to the deity, from whom the Amazons derived their name. He was called Azon, and Amazon, and was the ſame as Ares, the ſun. They worſhipped both Ares and Harmon, changed by the Greeks to a feminine Harmonia; and in conſequence of this worſhip, the Amazons were ſaid to be the offſpring of thoſe deities. Hence it is, that the wife of Cadmus was ſaid to be Harmonia; for the Cadmians were

undoubtedly Amazonians. What became of theſe female warriors after their repulſe from Attica, the Grecians have not hiſtorically aſcertained. Some ſay that they retreated into Magna Græcia, and founded the city Cleite. Iſocrates (in Panegyr. p. 93.) acknowledges, that none of them returned into their own country; and Lyſias (Funeb. Orat.) ſays, that their nation was wholly ruined by this expedition, that they loſt their territories, and that they were no more heard of. Upon which Plutarch (*ubi ſupra*) obſerves, that we muſt not wonder, when tranſactions are of ſuch antiquity, if hiſtory ſhould prove contradictory and obſcure.

The Amazons are ſaid to have always fought on horſeback, (Ariſtoph. Lyſiſtrata, v. 680.); and yet the uſe of cavalry was not known in Greece, till long after this æra; for, according to Homer, the Aſiatic nations at the ſiege of Troy were equally unacquainted with this advantage. As for the tombs, which have been adduced as evidence of this invaſion, they were probably high altars, raiſed in ancient days. The whole of this hiſtory relates to old rites and cuſtoms; and not to any warlike expedition. The pillar, called Amazonium, indicates, that the Amazons might have been once in this country, and that they probably erected it; but this was the object to which they paid their adoration, as they lived in an age, when ſtatues were not known. Such a one the Argonauts are ſaid to have found in the temple of Arez, when they landed upon the coaſt of Pontus, and made their offerings to the deity, thus deſcribed by Apollonius, (Argonaut. lib. ii. v. 1174.) according to the Engliſh tranſlation of the original——

> "Now to the grove of Arez they repair,
> And while the victims bleed, they take their ſtand
> Around the glowing altar, full in front
> Of a fair temple. Here of ebon hue
> Riſes in air a lofty antique ſtone.
> Before it all of Amazonian name
> Bow low, and make their vows."

That theſe ſuppoſed tombs were altars, is alſo inferred from their ſituation in the middle of the city, and in many different places. Every circumſtance of this invaſion is attended, ſays our author, with ſome abſurdity. It is owing, we are told, to the injuſtice of Hercules, who ſtole the girdle of Hippolyte, and attacked the nation, of which ſhe was queen, ſo as quite to ruin it. The Amazons, thus defeated and weakened, and not able to withſtand their next neighbours (ſee Diod. Sic. lib. iv. p. 229. tom. i. p. 262.) determined to wage war with the Greeks, and particularly with Theſeus of Athens. They began their march, but inſtead of proceeding directly to Greece, they purſued a contrary route, paſſing north-eaſt in order to arrive at the ſouth-weſt, and ranging round the whole Euxine ſea, by Mount Caucaſus and Colchis, to the Cimmerian Boſphorus, and traverſing many hills and rivers, they at laſt arrived at Athens, pitched their camp in the precincts of the city, cloſe to the Acropolis, fought a ſevere battle, retired, and not being able to return home, were diſperſed and annihilated. And yet ſo far is this female hiſtory from terminating, the Amazons are introduced again by the poets, Homer, Virgil, &c. at the ſiege of Troy, and are to be met with in the wars of Cyrus. Some ages after, in the time of Alexander, an interview is ſaid to have paſſed, as we have already related, in which the queen of the Amazons makes propoſals to that monarch about ſharing, for a night or two, his bed. And even in the time of Pompey the Great, during the Mithridatic war, they are ſuppoſed to exiſt; for after a victory gained by that general, the Roman ſoldiers are ſaid to have found many boots and buſkins, which Dion Caſſius (in Bell. Mithrid.) thinks were undoubtedly Amazonian. Such, ſays Bryant, after a long and learned detail of various particulars, of which the above is merely a conciſe abſtract, was the credulity of the ancients about one of the moſt improbable ſtories that was ever feigned: and this learned writer concludes upon the whole, "that the Amazonians were a manifold people, and denominated from their worſhip. They were ſome of the Titanic race, who ſettled in Colchis, Ionia, Hellas, and upon the Atlantic in Mauritania; they were alſo to be found in other parts, and their family characteriſtic may in all places be ſeen. They were the ſame as the Cadmians; and the ſtructures which bore their names were not erected to them, but were the work of their own hands." Eumolpus, ſays Plato (Menexenus, vol. ii. p. 239.), led the Amazons, when they invaded Attica; and he is ſuppoſed to have been the principal perſon who introduced the rites and myſteries, which were obſerved by the Athenians. His ſons were the prieſts, who officiated at the temple of Ceres in Eleuſis. From all circumſtances it is concluded, "that what has been repreſented as a warlike expedition, was merely the ſettling of a colony, and thoſe who had the conduct of it were Amazonians, who had been repreſented as women. And ſo far is probable, that there were women among them, who officiated at the religious ceremonies which were inſtituted." —Among barbarous nations women have often combated by the ſide of their huſbands; but it is almoſt impoſſible, ſays Mr. Gibbon, (Hiſt. vol. xi. p. 46.) that a ſociety of Amazons ſhould ever have ſubſiſted either in the old or new world.

Later geographers and travellers ſpeak of Mingrelian and Georgian Amazons; Amazons in America, in Monomotapa, in the Philippine iſlands, in Denmark, &c. John de los Sanctos, a Portugueſe capuchin, in his deſcription of Ethiopia, mentions a race of Amazons in Africa; and Æneas Sylvius gives us a very preciſe account of a republic of real Amazons in Bohemia, which laſted nine years, founded by the valour of a young woman, named Valaſca. That there have been females of ſingular talents and very extraordinary firmneſs and reſolution, in all ages and in all nations, no one can diſpute; and if we compare the warlike genius of the Scythian women in general, and more particularly that of the Sarmatians, in whoſe neighbourhood the Amazons are ſaid to have lived, with the occaſion which is reported to have given birth to their ſtrange kind of government, namely, the treacherous murder of their huſbands, and their being in danger of becoming a prey to their murderers, and in a ſtrange country; we may incline to give ſome credit to the brave and maſculine method which they took to ſave themſelves from ſlavery, and to revenge the ſlaughter of their huſbands. The Scythian, as well as the Celtic women, were anciently held in great eſteem and veneration, for their ſkill in divination above the men, inſomuch that the latter are upbraided by ancient authors for ſuffering women to aſſiſt at and direct their councils and to have even preſided in their courts of judicature, and other aſſemblies; in which their judgment was reckoned deciſive, becauſe they were ſuppoſed to be divinely inſpired. Being, therefore, inured to council, execution, and warlike exploits, exaſperated by the barbarous brutality of their huſbands, and rendered, as it were, deſperate by the proſpect of impending ſlavery, we need not wonder, that they ſhould adopt effectual means of inflicting vengeance, and of defending themſelves; and, with this view, that they

ſhould

ſhould ſelect one or two of the ſtrongeſt and moſt valiant to lead them in an offenſive war againſt their enemies, and that they ſhould carry it on with courage and conſtancy, and of courſe with ſuch aſtoniſhing ſucceſs. And if their warlike temper, their government, cuſtoms, valour, conduct, and achievements, have been exaggerated beyond credibility, it may be alleged, that this has been done with reſpect to other nations, governments, and conquerors, which have attracted unuſual attention, and which it would be abſurd to reject as altogether fabulous on that account. The ſame allowance ſhould be made in both caſes: and this is much more reaſonable than to ſuppoſe that the various hiſtorians who have given an account of them, have been guilty of forgery or of too great credulity.

The true hiſtory of the ancient, and even of the modern Amazons, has, without doubt, been blended with much fable, with many marvellous and improbable, not to ſay altogether incredible relations; but the teſtimony upon which it is tranſmitted to us deſerves regard, and it would manifeſt a degree of ſcepticiſm, which, applied to other caſes, would be not only unwarrantable, but dangerous and pernicious, altogether to diſcard it. The empire of the Amazons was certainly of a different kind from that which properly belongs to the female ſex. "The empire of the woman," ſays Rouſſeau, "is an empire of ſoftneſs, of addreſs, of complacency. Her commands are careſſes; her menaces are tears." "The character of the ancient Amazons," ſays Dr. Johnſon, "was rather terrible than lovely. The hand could not be very delicate that was only employed in drawing the bow, and brandiſhing the battle-ax. Their power was maintained by cruelty; their courage was deformed by ferocity; and their example only ſhews, that men and women live beſt together."

AMAZON is applied, in a figurative ſenſe, to bees, becauſe among theſe inſects the females alone are commonly ſuppoſed to bear ſway.

Ariſtotle, treating of the breeding of bees, profeſſes himſelf ignorant of their ſex; and therefore, willing to keep up the prerogative of the males, calls their governor βασιλευς, *rex*, in which he has been followed by the generality of authors.

An ingenious writer of our own country, takes the liberty to ſtrain the ordinary ſignification of the word *rex*, and in ſuch places tranſlates it *queen*, this being an *Amazonian*, or female kingdom.

Mr. Warder has publiſhed a work under the title of the True Amazons, or the Commonwealth of BEES.

AMAZONIAN, ſomething relating to, or reſembling AMAZONS.

AMAZONIAN *kingdom*, is particularly uſed for a feminine one, or that wherein the females alone bear rule.

AMAZONIAN *habit*, in *Antiquity*, denotes a dreſs formed in imitation of the Amazons.

Marcia, the famous concubine of the emperor Commodus, had the appellation Amazonian, becauſe ſhe charmed him moſt in a habit of this kind.—Hence alſo that prince himſelf engaged in combat, or at leaſt intended to engage, in the amphitheatre, in an Amazonian habit; and of all titles the Amazonius was one of thoſe he moſt delighted in. In honour either of the gallant, or his miſtreſs, the month of January was alſo denominated Amazonius. Some alſo apply Amazonian habit to the hunting dreſs worn by many ladies among us.

AMAZONIUS is an appellation given to a kind of paſtil, or *troche*, anciently uſed againſt riſings of the ſtomach, and vomitings.—The ingredients of which it is compoſed, are ſmallage, aniſe-ſeed, wormwood, myrrh, pepper, *caſtoreum*, *opium*, and cinnamon.

AMAZONUS, in *Entomology*, a ſmall ſpecies of SCARABÆUS, found in Surinam. It is teſtaceous, with two black marks on the thorax, and a brown callus on the exterior margin of the wing-caſes. Linn. Syſt. Nat.

AMBA, in *Botany*, a name by which ſome authors have called the *magna Indica*, or MANGO-*tree*, called alſo *ambalam*, and *ambe*.

AMBACHT, in *Topography*, denotes a kind of juriſdiction, or territory, the poſſeſſor whereof has the adminiſtration of juſtice, both in *alto* and *baſſo*; or of what is called in the Scots law a power of pit and gallows, *i. e.* a power of drowning and hanging.

In ſome ancient writers ambacht is particularly uſed for the juriſdiction, government, or chief magiſtracy of a city. The word is very ancient, though uſed originally in a ſenſe ſomewhat different. Ennius calls a mercenary, or ſlave hired for money, *ambactus*; and Cæſar (De Bell. Gallic. vi. 14.) gives the ſame appellation to a kind of dependents among the Gauls, who, without being ſlaves, were attached to the ſervice of great lords.

AMBAGES, in *Rhetoric*. See CIRCUMLOCUTION.

AMBAIBA, the name of a tree in Braſil, called by the Indians, *tipioca*. Ray's Hiſt. Plant. See CECROPIA.

AMBAITINGA, the name of a tree, whoſe leaves are ſo rough that they may be uſed to poliſh hard wood. Ray's Hiſt. Plant.

AMBAPAYA. See CARICA.

AMBAR *ſeed*, in the *Materia Medica*, a name by which ſome have called muſk ſeed.

AMBARES, in *Geography*, a town of France, in the department of the Gironde, and chief place of a canton, in the diſtrict of Bourdeaux, five miles north-eaſt of Bourdeaux.

AMBARVALIA, in *Antiquity*, a feaſt, or ceremony, among the Romans, celebrated annually, in honour of the goddeſs Ceres, in order to procure a happy harveſt.

At theſe feaſts, they ſacrificed a bull, a ſow, and a ſheep; which, before the ſacrifice, were led in proceſſion thrice around the fields; whence the feaſt is ſuppoſed to have taken its name: from the Greek αμφι, *about*: or the Latin *ambio*, *I go round*; and *arvum*, *field*.—Though others write it *ambarbalia*, and *ambarbia*, and deduce it from *ambire urbem*, *to go round the city*.

From the beaſts offered in ſacrifice, the ceremony was alſo called SUOVETAURILIA.

Some will have the *ambarvalia* to have been held twice a year: the firſt time towards the end of January, or, as others think, in April; and the ſecond time in July, or as Roſinus imagines, in Auguſt; at the time when the harveſt was ripe, *maturis frugibus*. Which opinion is the more probable, in that Ovid, who, in his Faſti, deſcribes the feaſts of the firſt ſix months of the year, from January to June incluſive, ſays nothing of the *ambarvalia*.

The ſacrifice offered on this occaſion was hence called *ambarvale ſacrum*, and *hoſtia ambarvalis*.

The *ambarvalia* were of two kinds, *public* and *private*.

The *private* were thoſe ſolemnized by the maſters of families, accompanied with their children and ſervants, in the villages and farms out of Rome.—They walked three times round the grounds, every one being crowned with leaves of oak, and ſinging hymns in honour of Ceres. After the proceſſion, they went to ſacrifice.

The,

The *ambervale carmen* was a prayer preferred on this occaſion; whereof we have the *formula* preſerved in Cato. "De re ruſtica." c. 142.

The *public* ambervalia were thoſe celebrated in the boundaries of the city; and in which the twelve *fratres arvales* officiated pontifically, walking at the head of a proceſſion of the citizens, who had lands and vineyards at Rome.

The prayer, or *formula*, here uſed, as it is given by Feſtus, in voc. "peſtilas," was *avertas morbum, mortem, tabem, nebulam, impetiginem, peſtilatum.* Virgil has deſcribed the ambervalia in the firſt book of his Georgics, v. 343, &c.

Some make a quinquennial as well as an annual ambervalia, the one performed once every *luſtrum*, the other once a year.

The prieſts who chiefly officiated at this ſolemnity, were called *fratres* ARVALES.

AMBERVALIS *flos*, in *Botany*, a name given, by ſome authors, to the *polygala*, or milkwort.

AMBASSADOR. See EMBASSADOR.

AMBAZAC, in *Geography*, a town of France, in the department of the Upper Vienne, and chief place of a canton, in the diſtrict of Limoges, 10 miles north-eaſt of Limoges. The place contains 2783, and the canton 7342, inhabitants; the territory includes 202½ kiliometres, and 7 communes.

AMBE, in *Anatomy*, a ſuperficial jetting out of a bone.

AMBE, or AMBI, in *Surgery*, an inſtrument employed for the reduction of a diſlocated ſhoulder, eſpecially when the head of the os brachii reſts in the axilla. Various improvements have been made in the conſtruction of the ambi ſince Hippocrates's time; but its uſe is rarely wanted, as a dexterous ſurgeon can generally replace the ſhoulder bone by more ſimple means. See DISLOCATIONS.

AMBEEZES, AMBOISES, or AMBOZES, in *Geography*, an iſland of Africa, in the Atlantic Ocean, near the coaſt of Benin. N. lat. 4° 15′. E. long. 10° 50′.

AMBEL, in *Botany*. See NYMPHÆA.

AMBELANIA. See WILLUGHBEIA.

AMBER, Ηλεκτρον, Gr.—*Electrum*, *ſuccinum*, Lat.—*Succin*, *carabé*, *ambre jaune*, Fr.—*Bernſtein*, *agtſtein*, *glas Firnſtein*, *waſch-amber*, Ger.—*Gleſſum*, ancient German, according to Pliny.—*Bärnſten*, *raf*, *glys*, Sweed.—*Bernſteen*, Dan.—*Succino*, *ambra gialla*, Ital.—*Enyokö*, Hung.—*Juntar*, Ruſſ.—*Sacal*, Egypt.—*Bitumen ſuccinum*, Werner.

The colour of amber is generally ſome ſhade of yellow, as wine yellow, wax yellow, honey yellow, hyacinth red, yellowiſh white; it is alſo found occaſionally green or brown. It occurs amorphous, and in detached pieces. Is ſhining, or little ſhining, with a waxen luſtre. Its fracture is conchoidal, and when broken it flies into indeterminate not particularly ſharp fragments. It is commonly tranſparent, more rarely ſemitranſparent or tranſlucid. Is brittle, and its ſp. grav. varies from 1.065 to 1.1.

By rubbing, it readily becomes electric. When applied to a lighted candle it takes fire, ſwells conſiderably, but does not run into drops, and exhales a white ſmoke of a pungent penetrating odour.

It is ſometimes confounded with COPAL and HONEY-STONE, but may be diſtinguiſhed from each without much difficulty. Copal is ſofter than amber, and when inflamed melts into drops. Honey-ſtone is much weaker in its electrical properties, and when laid on a hot coal becomes white.

The only proper mines of this ſubſtance that are as yet known, are in ducal Pruſſia, near the ſea coaſt. They are worked in the uſual way by ſhafts and galleries to the depth of about a hundred feet. The amber is imbedded in a ſtratum of foſſil or carbonated wood, and occurs in nodules from a few grains in weight, to three or even five pounds: ſpecimens alſo are occaſionally met with conſiſting of the wood penetrated by veins of amber. The upper and under ſtrata are ſand and ſandſtone. Amber is alſo found along the whole ſhore of the German ſea, and on the ſouth coaſt of the Baltic. The projecting eaſtern ſhore of England too, and the coaſt at the entrance of the channel from the north affords many ſpecimens. Rounded nodules have been occaſionally met with in the beds of gravel near London. It is not, however, excluſively, though principally a northern product: the coaſt of the Adriatic ſea and the Sicilian ſhores furniſh a ſmall quantity, and occaſionally pieces have been dug up near Siſteron in Provence.

The property of amber, when rubbed, to attract hair, ſtraws, and other light ſubſtances, was firſt obſerved by Thales one of the Greek philoſophers, who on this account attributed a certain kind of life to it; and from the Greek name of amber, electron, is derived the modern term electricity, being the ſcience of an important claſs of facts, the firſt known of which was the attracting power of amber. On this account, and alſo from the real beauty of the ſubſtance, it was held in high eſtimation among the Romans, who made it into bracelets, necklaces, and other articles of female ornament. Thoſe pieces that contained inſects, &c. then as at preſent were the moſt valued, and we meet with many alluſions in the Roman poets to this circumſtance: thus Martial ſays,

"Cum Phætonteâ formica vagatur in umbrâ,
Implicuit tenuem ſuccina gutta feram."

They alſo held the idle opinion, which till lately was generally received among us, that a collar of amber tied round an infant's neck, would enable it to cut its teeth with ſafety.

When amber was more in requeſt than it is now, as an ornament, and an article of Materia Medica, great attention was paid to it by the Pruſſian miners, and many experiments were made by the artiſts to remove its defects, and improve its beauty. The coarſer and ſmalleſt pieces were called ſtandſtein or ſchlug, thoſe that were a little larger and cleaner had the name of firniſs or varniſh amber, and the larger and better pieces were called, from the particular works to which they were applicable. Of the tranſparent ambers the moſt valuable was the bright golden yellow, of the opaque varieties the moſt eſteemed were the flaky, or ſcaly. Methods were diſcovered, eſpecially by Gottlieb Samuelſon of Breſlau, of making opaque amber tranſparent, and of tinging it red, blue, violet, green, and white. Moſt of theſe ſecrets have periſhed with the inventors, but the two following were the uſual methods of rendering amber tranſparent. Firſt, by ſurrounding it with ſand in an iron pot, and cementing it with a gentle heat for forty hours, ſome ſmall pieces being occaſionally taken out to judge of the progreſs of the operation. Secondly, which was the moſt uſual method, by digeſting and boiling the amber about twenty hours with rapeſeed oil, when it became harder and clearer; linſeed oil has not the deſired effect. Amber, however, thus clarified, is always harder and leſs electric than in its natural ſtate. The value of amber depending on its ſize, numerous attempts, but conſtantly without ſucceſs, were made to ſolder together or melt down ſeveral ſmall pieces, ſo as to convert them into one large piece.

The origin of amber has exerciſed the imagination of poets and chemiſts from the days of ancient Greece to the preſent, nor is it worth while to enter into an examination of any of theſe opinions, except thoſe which are held by modern inquirers. Amber is by ſome conſidered as a proper mineral bitumen analogous to petroleum, perhaps originating

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nating from this, and ſlightly altered by the action of the air or an acid. By others it is reckoned as a vegetable reſin, which, by being buried in the earth in contact with carbonaceous and pyritical matters, has become hard, and experienced other modifications of its original properties. That whenever it is found in real mines, it is always accompanied with ſtrata of foſſil wood and peat, is a ſtrong preſumption of its vegetable origin; and the ants and other inſects which it is ſo frequently found to contain, ſhew that amber muſt formerly have been fluid, and when in that ſtate have been in places acceſſible to theſe animals, and therefore upon, or at leaſt very near the ſurface of the earth. It might alſo be mentioned upon the authority of Girtanner, if the uncorroborated authority of this chemiſt was of any value, that pieces of turpentine have been found in the large ants' neſts, that abound in pine foreſts, penetrated by the acid of ants, and thus partly converted into amber, but ſtill of a ductile conſiſtence like wax.

The chemical properties of amber have been as yet but little examined. Few menſtrua will diſſolve without in ſome degree altering it. According to Hoffman, one part of powdered amber, and two of oil of almonds, are capable of combining with each other into a clear gelatinous maſs, by being moderately heated for about an hour in a Papin's digeſter. It is alſo, according to the ſame author, totally ſoluble in cauſtic potaſh. Alcohol extracts the colouring part with ſome reſin, but is not a complete ſolvent. It is ſaid alſo, that ſulphuric acid is a menſtruum for amber, but probably not without conſiderably changing its properties. When expoſed to dry diſtillation in a glaſs retort, it melts and ſwells greatly, and gives out firſt a watery acid liquor ſmelling ſtrongly of amber, then a concrete acid ſalt which cryſtallizes in yellowiſh needles in the neck of the retort, and is the SUCCINIC *acid;* after which there paſſes a light coloured odorant oil, which, as the diſtillation goes on, becomes of a darker colour and thicker conſiſtence, a ſmall quantity of the acid alſo riſes at the ſame time. When all the volatile parts are thus ſeparated, there remains in the retort a ſpungy intenſely black ſhining coal, the baſis of the fine black VARNISH. The oil is afterwards rectified by diſtillation with water, when only the light fragrant colourleſs part comes over. The relative proportions of oil and acid vary according to the purity of the amber uſed and the care of the operator. From ſixteen ounces of the common dark brown amber of the ſhops Neumann obtained eleven ounces, ſix drams of oil, four drams and a half of acid, an ounce and a half of acidulous water, and about an ounce of carbonaceous reſidue. From thirty-two ounces of the ſmall granular kind, or ſandſtein, he obtained nine drams of acid, and twenty-four ounces of oil.

The uſe of amber as a fumigatory is nearly laid aſide, as is alſo the medical employment of its acid. The oil is uſed as an antiſpaſmodic, both externally and internally, and when combined with ammonia forms EAU DE LUCE.

By the change of faſhion, amber is little uſed as an ornament in Europe. Trinkets of this ſubſtance are, however, ſtill valued in Turkey, and the Eaſt. The fineſt ſpecimens are in the cabinet of the king of Pruſſia: as to the column ten feet high in the Florentine muſeum, an account of which authors have copied from each other for a century paſt, it is probably artificial.

Fourcroy Syſt. des Connaiſſ. Chim. vol. viii. Bomare, Dict. d'Hiſt, Nat. vol. i. 250. Neumann's Chemiſtry, vol. i. p. 362. Macquer's Chemiſches Worterbuch, vol. i. p. 463. Hauy, Traite de Mineralog. vol. iii. 327. Weidenmann, handbuch der Mineralog. p. 637. Lenz, Verſuch, &c. p. 511.

AMBER, *black, gagates.* See JET.

AMBER, *liquid,* and *balſam of.* See BALSAM.

AMBER, in *Geography,* a river of Germany, in Bavaria, which riſes two leagues from Faxſen, and joins the Iſer, near Landſhut.

AMBER *Bay,* is ſituated on the peninſula of Yucaten, in the bay of Honduras, and lies north of ASCENSION *Bay.*

AMBER-SEED, or *muſk ſeed,* is a ſeed that is ſomewhat like the millet, of a bitteriſh taſte, and brought dry to us from Martinico and Egypt. The Egyptians uſe it internally, as a cordial, to fortify the heart, ſtomach, and head, and provoke luſt.—It gives a grateful ſcent to the breath, after eating; but it is not proper for thoſe who are inclinable to vapours.

AMBER-TREE, in *Botany.* See ANTHOSPERMUM.

AMBERBOI. See CENTAUREA.

AMBERG, in *Geography,* a city of Germany, in the circle of Bavaria, and Upper Palatinate, 32 miles north of Ratiſbon, and 32 eaſt of Nuremberg. It is the capital of the duchy and reſidence of the elector's governor; it is ſeated on the river Vils, which runs through it, is well fortified, and is the largeſt place in the Upper Palatinate. It has an electoral palace, a cathedral, and a college of Jeſuits. It is ſaid to have been raiſed from a village to a town in 1297; and was taken by the Imperialiſts in 1703. On a mountain near it ſtands the pilgrimage-church, called *Mary's-help,* and in its vicinity is an iron-mine, which furniſhes it with a conſiderable trade. N. lat. 49° 25'. E. long. 11° 55'.

AMBERG, a mountain of Sweden, in Eaſt-Gothland, about two Swediſh miles from Wadſtena. Its height is ſo conſiderable, that from the ſummit of it a perſon may ſee 50 churches. Upon this mountain is a flat ſtone, under which one of the ancient kings is ſaid to be interred. Antimony is found in this mountain near the Wetter-lake.

AMBERGER, CHRISTOPHER, in *Biography,* an eminent painter of portrait and hiſtory, was born at Nuremberg, and reſided at Augſburg, where he died in 1550. He was a diſciple of Hans Holbein, whom he imitated ſo exactly, that his pictures were ſometimes taken for thoſe of his maſter. He principally excelled in portraits, and acquired great reputation by his hiſtory of Joſeph, in 12 pictures, and by the portrait of Charles V., for which the emperor paid him three times as much as he expected, beſides a preſent of a rich chain of gold and a medal. Amberger was alſo an engraver, though his works are not ſpecified. Pilkington and Strutt.

AMBERGREESE KEY, in *Geography,* an iſland in Hanover Bay, on the eaſt ſide of the peninſula of Yucaten, in the bay of Honduras. It runs along the mouth of the bay, and is ſeventy miles in length, but very narrow.

AMBERGRIS, from *amber* and *gris,* AMBERGREASE, AMBRAGRISEA, *ſuccinum griſeum,* in *Natural Hiſtory,* a light, inflammable, greyiſh, variegated ſubſtance, fuſible and fragrant with a gentle heat, and uſed as a perfume and a cordial. Its colour is grey, brown, or yellowiſh brown, ſpotted with black; its hardneſs and conſiſtence are thoſe of wax; its ſpecific gravity from .780 to .926, ſo that it ſwims both in water and rectified ſpirit; its fracture is earthy and rugged, and exhibits bones of fiſh or beaks of birds; it has ſcarcely any particular taſte, and unleſs heated, or much handled, very little ſmell; but in ſuch circumſtances its odour is very fragrant, reſembling that of burning amber, and to moſt perſons agreeable. It ſoftens between the fingers, melts in a ſmall degree of heat like wax; in a ſtronger inflames, and if pure, leaves no reſiduum; cold water has no effect upon it, but to boiling water it communicates its ſmell, and being partially melted, falls to pieces. It is ſcarcely affected by ſpirit of wine, which diſſolves it ſparingly with the aſſiſtance

aſſiſtance of a boiling heat, or fat oils: but by the eſſential, as that of turpentine, it is diſſolved almoſt entirely, and by ether moſt perfectly. It has been found ſoluble in cauſtic fixed alkalis, ſtill more ſo in oil of vitriol, and precipitable by water. Diſtilled it yields an aqueous phlegm, a brown-coloured acidulous ſpirit, a deeper coloured oil, at length, a thick balſam, and as ſome ſay, a volatile ſalt, leaving a black ſhining reſiduum. The ſpirit, oil, balſam, and ſalt, are ſimilar to thoſe obtained from amber; but the oil is of a more grateful ſmell. Its chemical products reſemble thoſe of bitumens, among which ſome have ranked it.

It is found on the ſea-coaſts, floating on the ſurface of the ſea, adhering to rocks, or thrown out upon the ſhores, in ſeveral countries; as along the ſouthern and eaſtern parts of Africa, Madagaſcar, the Maldives, ſome parts of the Mediterranean, and in the Weſt Indies, about the iſlands of Bermudas and Jamaica, and the Bahama iſlands, alſo on the coaſts of Carolina, and the weſtern coaſts of Ireland. It is likewiſe ſaid to be found on the coaſts of Norfolk, and in the iſlands of Orkney. It has alſo been found in the ſtomachs of whales, of various ſizes and ſhapes. We have ſeveral inſtances in authors of large pieces of this matter: one of the largeſt that has been known in Europe was bought by the Dutch Eaſt India Company, of the king of Tidore, for 11000 dollars, in 1693, and ſent to Amſterdam in 1694, and kept in their houſe for ſome years. It was almoſt round; meaſured two feet in diameter, and weighed a hundred and eighty-two pounds. The great duke of Tuſcany offered fifty thouſand crowns for it. We are told, however, that one was taken up, near the Cape of Good Hope, which weighed three hundred pounds; and another, if we may credit the relation, fifteen thouſand pounds. Phil. Tranſ. N° 263. N° 232.

There has been a great variety of opinions among naturaliſts with regard to the origin and production of this ſubſtance: to rehearſe them all, would make a volume. Klobius recites eighteen, to which we could add half as many more. The principal may be reduced to theſe which follow.

1. Some take it for the excrement of a bird, called in the Madagaſcar language *aſchibobuch*, and by the Maldives *Anacangriſpaſqui*; which being melted by the heat of the ſun, and waſhed off the ſhore by the waves, they ſay, is ſwallowed up by whales, who return it back in the condition we find it.

2. Others, and particularly many of the orientals, imagine it ſprings out of the bottom of the ſea, as *naphtha* does out of ſome fountains.—They add that the only ſprings of it are in the ſea of Ormus, between the Arabian and Perſian Gulfs. Edriſſi, who is of this opinion, in the firſt climate of his Geography, mentions pieces of ambergris on thoſe coaſts, weighing a full quintal. Paludanus and Linſchotten alſo ſpeak of it as a ſort of bitumen, gradually working up from the bottom of the ſea and hardening in the ſun.

3. Others take it for a ſea-muſhroom, torn up from the bottom by the violence of tempeſts; it being obſerved, that ambergris is never found but during the ſouth-weſt monſoons, after ſtorms.

4. Others aſſert, that it is a vegetable production, iſſuing out of the root of a tree, whoſe roots always ſhoot toward the ſea, and diſcharge themſelves into the ſame. This account we have in the Philoſophical Tranſactions, from one of the Dutch factors at Batavia; and the ſame is confirmed by Mr. Boyle. Others take it for a kind of wax or gum, which diſtils from trees, and drops into the ſea, when it congeals, and becomes ambergris. Mr. Magellan mentions an undoubtedly vegetable ambergris, gathered from the tree by M. Aublet, and examined by Rouelle. Cronſtett's Mineralogy, p. 458.

5. Others ſuppoſe it a ſpongious kind of earth, which the working of the ſea waſhes off the rocks, where, being lighter than water, it floats.

6. Others maintain, that ambergris is made from the honey-combs which fall into the ſea from the rocks, where the bees have formed their neſts. This opinion ſeems to have ſomething of experience on its ſide; ſeveral perſons having ſeen pieces that were half ambergris, and half plain honey-comb; and others, again, having found large pieces of ambergris, in the middle of which, when broken, they diſcovered both honey-comb and honey. But the error of this hypotheſis may be detected by chemical experiments; as honey likewiſe admits of a ſolution in aqueous *menſtrua*, but reſiſts the moſt highly rectified ſpirit of wine.

7. Others are of opinion, that it is a bituminous matter; that it is at firſt liquid, and runs into the ſea: and that it is there condenſed, and reduced into a maſs. To this purpoſe Mr. Neumann, chemiſt to the king of Pruſſia, after an ample recital of all the different opinions advanced by others, gives us his own; which is, that ambergris is a bitumen, iſſuing out of the earth into the ſea; at firſt of a viſcous conſiſtence, but hardening, by its mixture with ſome liquid *naphtha*, into the form wherein we find it. Phil. Tranſ. N° 433, N° 434. N° 435. Mr. Cartheuſer is of the ſame opinion.

This opinion has been conſidered as the beſt founded, and ſtrengthened by this circumſtance, that ambergris is found in the greateſt quantities in the ſea, about the iſland of Madagaſcar, where the ſubterranean parts are ſuppoſed to be impregnated with bituminous matter.

The pieces are frequently ſeen compoſed of divers ſtrata, laid one over another, with ſtones and other bodies incloſed therein, and the ſtrata are ſometimes full of little ſhells, which ſeem a ſpecies of *concha anatifera*; whence it may be conjectured, that the ambergris has originally been in a fluid ſtate, or, at leaſt, that it has been diſſolved and in that ſtate has formed itſelf afreſh, and inveloped ſuch bodies as happened to be in its way.

Neumann gives the chemical characters of this bitumen, and its analyſis, by diſtillation. He diſtinguiſhes the ſophiſtications of ambergris, and obſerves, that it is totally ſoluble in oils and vinous ſpirits, and that it yields the ſame product, as AMBER. See the particulars and the proofs of this in Neumann's Works, p. 239. & ſeq.

8. Dr. Boylſton, and Mr. Dudley, in the Philoſophical Tranſactions, aſſert, that the ambergris is a true, animal concrete, formed in balls, in the body of the male ſpermaceti whale, and lodged in a large oval bag, over the teſticles, at the root of the penis. Phil. Tranſ. N° 385. and 387. vol. xxiii.

It is certain the whale-catchers have divers times found ambergris in their ſpermaceti whales, and that chiefly in the large and older ſort; and it is from the information of Mr. Atkins, and other whale catchers, that Mr. Dudley chiefly drew his account. But it is added, that it is not one ſpermaceti whale in an hundred that is found to have ambergris, and that it is found only in the male. To this account it has been objected, that ambergris is frequently found in females as well as in males; and that the beaks of the ſepia, which are ſo conſtantly found in ambergris taken out of the whale, could not have been abſorbed from the inteſtines by the lacteals or lymphatics, and collected with the ambergris in the above mentioned bag.

9. Others have approached nearer to the truth, who repreſent ambergris as the excrement of a cetaceous fiſh; becauſe it has been ſometimes found in the inteſtines, and

ſometimes in the fæces themſelves of ſuch animals. Notwithſtanding this ſuggeſtion, it was long thought, that ambergris, after having been ſwallowed, and in ſome mode or other changed in the ſtomach and bowels of the whales, from which it was obtained, was afterwards found among its excrements. But the real animal origin of ambergris has been ſatisfactorily aſcertained by Dr. Swediar, in the Philoſophical Tranſactions, vol. lxxiii. art. 15.

In the accounts given of ambergris by various writers we have been told, that claws and beaks of birds, feathers of birds, parts of vegetables, ſhells, fiſh, and bones of fiſh, have been found blended with it. But Dr. Swediar, after examining many fragments of this ſubſtance, found no ſuch materials mixed with it; and though he allows that ſuch may occaſionally occur, yet the black ſpots which he diſcovered in the various pieces, found in the ſea or in the whale, that were examined by him, appeared upon accurate ſcrutiny, to be the beaks of the *ſepia octopodia*; and he apprehends, that theſe beaks were miſtaken for claws or beaks of birds, or for ſhells. From the exiſtence of theſe beaks in ambergris he infers, that this ſubſtance in its origin muſt have been of a very ſoft or liquid nature. In order to inveſtigate the true nature of this ſubſtance, he premiſes, that ambergris has been found upon the ſea and ſea-coaſt, and alſo in the bowels of whales; but he obſerves, that it has never been determined, whether the ambergris found in theſe different ſituations be of the ſame kind, and poſſeſſed of the ſame or ſimilar properties. He alſo ſuggeſts as a ſubject of previous inquiry, whether ambergris is found in all ſorts of whales, or only in a particular ſpecies; whether it is conſtantly to be met with in thoſe animals; and if this be the caſe, in what part of their body it is to be found. In diſcuſſing theſe ſubjects of examination, Dr. Swediar conſulted the moſt intelligent perſons concerned in the ſpermaceti whale fiſhery, or in procuring and ſelling ambergris; and from their information it appeared, that this ſubſtance is ſometimes found in the belly of the whale, but only in that ſpecies which is called the ſpermaceti whale, and which ſeems from its deſcription and delineation to be the *phyſeter macrocephalus* of Linnæus. The New England fiſhermen, having been long apprized that ambergris is to be found in the ſpermaceti whale, conclude, that whales of this ſpecies frequent thoſe ſeas where ambergris is found. They naturally expect to find ambergris in the ſpermaceti whales which they catch; but they are generally diſappointed. Whenever they took a ſpermaceti whale, they obſerved, that it conſtantly not only vomits whatever it has on its ſtomach, but alſo generally diſcharges its fæces at the ſame time; and if this circumſtance occurs, they ſeldom find ambergris in its belly. But whenever they diſcover a ſpermaceti whale, male or female, which ſeems torpid and ſickly, they commonly find ambergris, as the whale in this ſtate ſeldom voids its fæces upon being hooked. They likewiſe generally find it in the dead ſpermaceti whales, which they find floating upon the ſea. Beſides, thoſe whales which yield ambergris have a morbid protuberance, or a kind of gathering, in the lower part of the belly, in which, when it is opened, they find ambergris. The whales, that yield this ſubſtance, are not only torpid and ſick, but always leaner than others; and hence it is inferred, that a larger collection of ambergris in the belly of the whale is a ſource of diſeaſe, and probably ſometimes the cauſe of its death. As ſoon as a whale, that is torpid, ſick, or emaciated, or one that does not dung on being hooked, is caught, they immediately cut the protuberance already mentioned, if there be any, or rip open its bowels from the orifice of the anus, and find the ambergris, ſometimes in one lump, ſometimes in different lumps, generally from three to 12 and more inches in diameter, and from one to 20 or 30 lbs. in weight, at the diſtance of two, but moſt frequently of about ſix or ſeven feet from the anus, and never higher up in the inteſtinal canal; which, according to their deſcription, is probably the inteſtinum cœcum, hitherto miſtaken for a peculiar bag formed by nature for the ſecretion and collection of this ſingular ſubſtance. That this is the inteſtinal canal is certain, becauſe they conſtantly begin their inciſion at the anus, and find the cavity every where filled with the fæces of the whale, which, from their colour and ſmell, it is impoſſible for them to miſtake. The ambergris found in the inteſtinal canal is not ſo hard as that which is found on the ſea or ſea-coaſt, but ſoon hardens in the air. When firſt taken out, it has nearly the ſame colour, and the ſame unpleaſant ſmell, though not ſo ſtrong, as that of the mere liquid dung of the whale; but, on expoſing it to the air, it gradually not only becomes greyiſh, and its ſurface covered with a greyiſh duſt like old chocolate, but it alſo loſes its diſagreeable ſmell, and when kept for any long time, acquires the peculiar odour which is ſo agreeable to moſt people. In conſidering whether there be any material difference between ambergris found on the ſea or ſea-coaſt, and that found in the bowels or among the dung of the whale, Dr. Swediar refutes the opinion, that ambergris found in whales is of an inferior quality, and therefore of much leſs value in price. Ambergris, he obſerves, is valued on account of its purity, lightneſs, compactneſs, colour and ſmell. On the different coaſts pieces of ambergris are found of a very inferior quality; and thoſe found in whales are of a ſuperior quality; and different pieces in the ſame whale, are, according to the above ſpecified teſt, of greater or leſs value. When ambergris is firſt taken out of the inteſtines of the whale, it has nearly the ſame ſmell with that of the liquid excrements, and alſo the ſame blackiſh colour; and it is found of different degrees of compactneſs, but never ſo liquid as the natural fæces of that animal. After being taken out and kept in the air, all ambergris becomes harder and whiter, and gradually loſes its ſmell, and aſſumes ſuch an agreeable one, as that in general has which is found ſwimming on the ſea, and therefore the goodneſs of ambergris ſeems rather to depend on its age. By being accumulated after a certain length of time in the inteſtinal canal, it ſeems even then to become of a white colour, and leſs heavy, and to acquire its agreeable ſmell. The only reaſon why ambergris floating on the ſea generally poſſeſſes the above mentioned qualities in a ſuperior degree is, becauſe it is commonly older, and has been longer expoſed to the air.

It is more frequently found in males than in females; thoſe pieces that are found in females are generally ſmaller, and thoſe in males ſeem conſtantly to be larger and of a better quality; and therefore the high price in proportion to the ſize is not merely imaginary on account of its rarity, but in ſome reſpect well-founded, becauſe ſuch large pieces appear to be of greater age, and poſſeſs the above-mentioned qualities in a higher degree of perfection than ſmaller pieces.

It is known, continues our author, that the ſepia octopodia, a little fiſh, is the conſtant and natural food of the ſpermaceti whale, or phyſeter macrocephalus. Of this the fiſhermen are ſo well convinced, that whenever they diſcover any recent relics of it ſwimming on the ſea, they conclude that a whale of this kind is or has been in that part. Beſides, the ſpermaceti whale, on being hooked, generally vomits up ſome remains of the ſepia. Hence it is eaſy to account for the many beaks, or pieces of beak, of the ſepia that

that are found in ambergris. The beak of the ſepia is a black horny ſubſtance, and therefore paſſes undigeſted through the ſtomach into the inteſtinal canal, where it is mixed with the fæces; after which it is either evacuated with them, or, if theſe latter be preternaturally retained, form concretions with them, which render the animal ſick and torpid, and produce an obſtipation, that terminates either in an abſceſs of the abdomen, or becomes fatal to the animal; whence, in both caſes, on the burſting of its belly, that hardened ſubſtance, called ambergris, is found ſwimming on the ſea, or thrown upon the coaſt.

From the circumſtances above recited, and from having obſerved the above-mentioned pieces of ſepia in all fragments of ambergris of any ſize, Dr. Swediar concludes with great probability, that all ambergris is generated in the bowels of the phyſeter macrocephalus, or ſpermaceti whale, and then mixed with the beaks of the ſepia octopodia, which is the principal food of that whale. He therefore defines ambergris to be the preternaturally hardened dung or fæces of the phyſeter macrocephalus, mixed with ſome indigeſtible relics of its food.

Many of the preceding obſervations, with regard to the production of ambergris, have been confirmed by the examination of Alexander Champion, Eſq. a principal merchant concerned in the Southern whale fiſhery, and of the captain of a ſhip, employed by him, in the ſaid fiſhery. This ſhip brought home about 360 ounces of ambergris, which the captain took out of the body of a female ſpermaceti whale, on the coaſt of Guinea. This was obſerved to proceed from the fundament of this fiſh, and whilſt they were cutting the blubber, a piece of it was ſeen to ſwim on the ſurface of the ſea. Some of this ſubſtance was obſerved in the ſame paſſage, and the reſt was contained in a ſmall bag, a little between the paſſage, and communicating with it. The whale ſeemed ſickly, was lean and very old. The ſpermaceti whale, it was obſerved, feeds almoſt wholly on a fiſh called ſquids; and when the whale is dying, ſhe throws up a quantity of ſquid, ſometimes whole, and ſometimes in pieces. The bills of the ſquid were found, ſome in the inſide, and ſome on the outſide of the ambergris, ſticking to it. The ſpermaceti whale, when ſtruck, voids her excrement; and if ſhe does not, it is conjectured that ſhe has ambergris in her. It was concluded by the intelligent captain, who communicated this information to the council of trade and foreign plantations, that ambergris is moſt likely to be found in a ſickly fiſh; and that it is the cauſe or the effect of ſome diſorder. The whole quantity of ambergris found in the whale, of which the above account was given, was 362 ounces troy, and it was ſold for 19s. 9d. per ounce; half of it having been bought for exportation to Turkey, Germany, and France, and the other half having been purchaſed by the druggiſts in town. Phil. Tranſ. for 1791. vol. lxxxi. art. 2.

Ambergris is of conſiderable uſe among perfumers, who melt it over a gentle fire, and make extracts, eſſences, and tinctures of it. It is one of the moſt agreeable perfumes. the leaſt apt to diſorder weak conſtitutions, or ſuch as are liable to be offended by ſubſtances of that claſs. It would be of more uſe in phyſic too, were not its ſmell apt to occaſion vapours.

There is a preparation, however, recommended by Hoffman, which is ſaid not to be attended with theſe ill conſequences. The preparation is made in the following manner: Let the ſpirit of roſes, perfectly dephlegmated, be, not only once, but twice, at leaſt, drawn off from the ſalt of tartar, which is burnt, or calcined, in a vehement fire. By this means there is produced a ſpirit, which, by its penetrating quality, enters into the inmoſt ſubſtance of the ambergris, and ſo ſeparates and reſolves its oleous contexture. This, we are aſſured, will not excite commotions and agitations in a weak body, as does the common preparation of ambergris, which is made with a mixture of muſk or civet. Hoffman. Obſerv. Phyſ. Chem. lib. i. c. 18.

Ambergris enters into the compoſition of many cordial, ſudorific, and alexiterial waters. But its chief virtue conſiſts in its antiſpaſmodic and ſedative qualities, ſimilar to thoſe of muſk and caſtor, and its power of relieving certain hyſterical, convulſive, and other nervous affections. It may be taken inwardly from half a grain to ten or twelve grains, or more; for as to doſes, there can be no fixed rules about remedies and diſeaſes of theſe kinds. Dr. Lewis ſays, that taken internally, from two or three grains to a ſcruple, it is accounted a high cordial, corroborant and antiſpaſmodic; and with this view it is preſcribed by Riverius, in hypochondriacal affections. Dr. Swediar obſerves, that we cannot expect any medicinal effects from this ſubſtance in doſes of two or three grains, but that it ſhould be adminiſtered in the quantity of as many ſcruples for a doſe; though even then it could not be expected to produce any great effect, as he himſelf took 30 grains of pure unadulterated ambergris in powder at once, without any ſenſible effect. A ſailor once took half an ounce, and found it a good purgative. The faculty of Paris directs a tincture to be drawn by digeſting two ſcruples of ambergris in two ounces of a highly rectified ſpirit, impregnated with roſes. They have alſo a compound tincture made from the ſame quantity of ambergris, with half as much muſk, ten grains of civet, ſix drops of oil of cinnamon, and four drops of oil of rhodium, digeſted together in four and one-half ounces of a ſpirit impregnated with roſes, and orange flowers. This compound tincture is a very high perfume; and a few drops of it will give a fine ſcent to a large proportion of inodorous matter. In preparing theſe tinctures, the ſpirit ſhould be made to boil or ſimmer with it firſt, that this ingredient may be completely diffuſed before the more ſoluble ones are added. The orientals are ſaid to look upon it as an aphrodiſiac, and ſuppoſe that the frequent uſe of it contributes to longevity. In Aſia and part of Africa, ambergris is uſed not only as a perfume and a medicine, but as an article of cookery; in which it is added to diſhes in lieu of allſpice. A great quantity of it is bought by the Mecca pilgrims, probably to uſe it for the purpoſe of fumigation and ſacrifice, as the Catholics uſe frankincenſe. With us it is uſed by the perfumers to ſcent pillars, candles, balls, bottles, gloves, and hair-powder; and it is mixed with pomatums for the face and hands, either alone or compounded with muſk, &c.

Ambergris is very commonly counterfeited and adulterated. The firſt generally conſiſts of muſk, civet, ſtorax, laudanum, and aloes wood, mixed together; the latter of a large quantity of bullock's blood, duly flavoured with muſk and civet. It is one of the moſt agreeable perfumes; but muſt be proportioned ſo ſparingly, as that while it improves the ſmell of what it is added to, its own may not be perceived.

It may be known to be genuine by its fragrant ſcent, when a hot needle or pin is thruſt into it, and its melting like fat, of an uniform conſiſtence. Whereas the counterfeit will not yield ſuch a ſmell nor prove of ſuch a fat texture. One thing, however, is very remarkable, that this drug, which is the moſt ſweet of all the perfumes, ſhould be capable of being reſembled in ſmell, by the preparation of one of the moſt odious of all fœtid ſubſtances. Mr. Homberg found that a veſſel in which he had made a long digeſtion of the human fæces, acquired a very ſtrong and perfect ſmell of ambergris, inſomuch that any one would have thought a great quantity

of eſſence of ambergris had been made in it. The perfume was ſo ſtrong and offenſive, that the veſſel was forced to be removed out of the laboratory. Mem. Acad. Roy. 1700.

AMBERIEUX, in *Geography*, a town of France, in the department of the Ain, and chief place of a canton, in the diſtrict of Belley, 8 leagues north-eaſt of Lyons. The place contains 2850, and the canton 7275 inhabitants. The territory comprehends 105 kiliometres, and 5 communes. N. lat. 45° 58′. E. long. 5° 15′.

AMBERING is uſed, by ſome writers, to denote the giving a ſcent or perfume of *amber* to any thing. This is otherwiſe called *enambering*. Dr. Hooke mentions an extraordinary method of *ambering in infinitum*, i. e. with a ſmall quantity of amber, and other requiſites, *enambering* a hundred or a thouſand pounds of ſugar, or the like, ſo as the firſt matter ſtill remains undecayed, to be uſed again. Hooke's Phil. Collect. N° 4.

AMBERT, in *Geography*, a town of France, in the department of Puy de Dome, and chief place of a diſtrict, ſituate on the rivere Dore, 10½ leagues ſouth-eaſt of Clermont. It has a manufacture of camblets and woollen ſtuffs, and alſo of excellent paper and playing-cards, &c. The place contains 5926, and the canton 16,376 inhabitants. The territory includes 265 kiliometres and 8 communes. N. lat. 45° 33′. E. long. 3° 39′.

AMBETTUWAY, in *Botany*, the local name of a tree, the leaves of which are ſaid, when boiled in wine, to create an appetite, and uſed by the people of Guinea, for that purpoſe.

AMBIA, in *Ancient Geography*, an epiſcopal city of Africa, in Mauritania.

AMBIANI, a people of Gaul, in Belgia Secunda, mentioned by Cæſar, Strabo, Pliny, and Ptolemy. They were ſituated between the Morini to the north, the Atrebatii and Veromandui to the eaſt, the Bellovaci to the ſouth, and the Caleli to the weſt, and had the ſea on the north-weſt. Their principal river was Samara, and their capital Samarobriva, which afterwards took the name of the people. Theſe people were diſtinguiſhed among the ancient Belgians. We learn from Cæſar that they furniſhed 5000 men for the ſiege of Aleſia, and their cavalry are much commended.

AMBIANUM, now *Amiens*, the capital of the Ambiani.

AMBIBARI, a people of Gaul, ſuppoſed to be the Armoricæ of Cæſar; and ſince his time the Abrincatui. M. D'Anville does not know where to place them.

AMBIDRANI, a people placed by Ptolemy in Norica.

AMBIDEXTER, compounded of *ambo*, *both*, and *dexter*, *right hand*; by analogy to the Greek, αμφιδεξιος, which ſignifies the ſame; one who uſes both hands alike, the left as well as right, or in caſes where only the uſe of one is neceſſary.

Women, according to the obſervation of Hippocrates, are never ambidextrous. But this is denied by ſome moderns, who give inſtances of the contrary; though it is owned, they are but few in compariſon of thoſe that are found in the other ſex. It may be imputed to education and habit, that men as well as brutes are not all ambidexters, there being no difference of right and left in the nature of things. Nurſes are even forced to be at ſome pains to enure the infants under their care to forego the uſe of their left hand. How far it may be our advantage to be deprived of half our natural dexterity, may be doubted. It is certain there are infinite occaſions in life, when it would be better to have the equal uſe of both hands. Surgeons and oculiſts are of neceſſity obliged to be ambidexters; bleeding, &c. in the left-arm or left-ankle, and operations on the left-eye, cannot be well performed but with the left-hand. Divers inſtances occur in hiſtory, where the uſe of the left-hand has been cultivated preferably to the right. But by the laws of the ancient Scythians, people were enjoined to exerciſe both hands alike, without partiality either for the right or left; and Plato enjoins *ambidexterity* to be obſerved and encouraged in his republic. In the Grecian armies their more diſtinguiſhed ſoldiers, their pikemen and halberdeers, as thoſe who formed the firſt line of their battalions, were to be able to fight indifferently with the left hand or right. We find it mentioned in Scripture, that, on an extraordinary occaſion, the ſingle tribe of Gad produced 700 brave men, who fought with the left hand as well as the right; and the Roman hiſtorians aſſure us, that they had gladiators who were trained up to the ſame exerciſe. An ingenious French writer is ſurpriſed, that among all the modern refinements in the art of war, none have thought of reſtoring the ancient practice of forming ambidexters, which, it is certain, might be of conſiderable ſervice in the way of ſtratagem. In performing on keyed inſtruments, the harp, the dulcimer, and ſuch as have a ſeparate part for each hand, ambidexterity is neceſſary. On the piano forte, organ, harpſichord, or clarichord, *two right hands* are ſo neceſſary, that a child rigidly prohibited the uſe of the left hand in the common offices of life, can never have a powerful left hand in performing on the inſtruments juſt mentioned; but in rapid diviſions, fugues, and imitations, the clumſineſs with which difficult paſſages are performed with the left hand diſgraces the player and injures the compoſition. In the ſerious ſtudies and practice of the ſtudent on the piano forte intended for the profeſſion, it might be neceſſary for him perhaps to try to execute all kinds of feeble paſſages, ſhakes, beats, and trills with the left hand, till they can be played with ſo much eaſe and brilliancy, that a diſtant hearer, out of ſight of the inſtrument, ſhall not be certain which hand has been employed.

Ambidexter, in *Law*, denotes a perſon who takes money from both of the contending parties to aid them in their cauſe. In this ſenſe the word may be applied to a judge, juror, a ſolicitor, or the like. The penalty on a juror, in ſuch a caſe, is to forfeit decies tantum, ten times as much as he receives.

AMBIEGNA, in *Antiquity*, an appellation given to a victim, which was ſurrounded, or attended at the time of offering it, with other leſſer ones. In this ſenſe the word is alſo written *ambegui*. We read of *ambiegnæ oves*, uſed in ſacrificing to Juno; which were ſheep, having brought forth twins, and offered up with two lambs fattened on either ſide.

ABIENT, formed of *ambire*, *to encompaſs*, a term applied to ſuch things as encompaſs others round about; called alſo *circumambient* bodies. The whole body of air, becauſe it encompaſſes all things on the face of the earth, is often by phyſical writers called, by way of eminence, the *ambient*, or *ambient* air.

AMBIERLE, in *Geography*, a town of France, in the department of the Rhone and Loire, and chief place of a canton, in the diſtrict of Roanne, eight miles north-weſt of Roanne.

AMBIGENAL *hyperbola*, in *Conics*, a name given by Newton in his "Enumeratio Linearum tertii Ordinis," to one of the triple hyperbolas, E G F (*Plate* I. *Conics*, *fig.* 1.) of the ſecond order, having one of its infinite legs, as E G, falling within the angle A C D, formed by the aſymptotes A C, C D, and the other leg G F falling without that angle. See Hyperbola.

AMBIGU denotes a kind of mixed entertainment, where-

in

in both flesh and fruit are served together; so that it seems doubtful whether to denominate it a mere collation, or a meal.

AMBIGUA, in *Conchology*, a species of Bulla. Shell somewhat tapering, slightly compressed, pale flesh colour, with two remote bands, one broad and brown, the other blue. Gmelin. Country unknown. It is uncertain whether this shell belongs to the Linnæan genus, in which Gmelin places it.

Ambigua, in *Entomology*, a species of Cicada, that inhabits China. Its colour is olive. Wing cases clear, anterior margin testaceous. Donov. Inf. China.

Ambigua, a species of Phalæna, of the *noctua* family. Thorax smooth; wings deflexed, greyish, speckled with black; behind the middle a black streak. Inhabits Austria; and is produced from a larva with a brown head and body, variegated with ferruginous and brown. Lower wings whitish, with a black spot in the middle. Fabricius.

AMBIGUOUS, something dubious, obscure, or which may be taken in different senses. See Equivocal.

The word is formed of *ambo*, *both*, and *ago*, *I drive*; q. d. that which keeps the mind wavering, or in suspence, not knowing which side to choose. The answers of the ancient oracles were always ambiguous. An anonymous writer has published a dictionary of ambiguous words. Lexicon Philosophicum de *Ambiguitate* Vocabulorum. Francoff. 1597, 4to.

Ambiguity is occasioned either by a wrong choice of words and the use of equivocal terms, or by an improper arrangement of them. Ambiguities of the last kind are either where the arrangement leads to a wrong sense, or where the sense is left doubtful. Dr. Campbell expresses the former by the term equivocation, and appropriates that of ambiguity to the latter. See Elem. of Criticism, vol. ii. p. 20—54. and Campbell's Philosophy of Rhetoric, vol. ii. p. 28—38. See Perspicuity.

AMBIL, in *Geography*, one of the smaller Philippine islands, with a volcano, near the island of Luban.

AMBILATRI, in *Ancient Geography*, a people of Gaul, supposed by Martin to be the same with the *Ambiliates*, who are called by Orosius *Ambivarites*. Sampson places them in Brittany, towards Lamballe.

AMBILICI, a people of Norica, according to Ptolemy.

AMBISNA, a town of Spain, assigned by Ptolemy to the Murgobi.

AMBISONTII, or Ambissuntes, a people so called by Pliny, and placed by Ptolemy in Norica.

AMBIT *of a figure*, in *Geometry*, denotes the *perimeter*, or the line or sum of all the lines by which it is bounded.

Isaac Vossius has a particular inquiry concerning the ambit, or circumference of ancient Rome. That of the city he makes to be 60¾ miles, or *mille passus*, and that of the city and suburbs together 72 miles; exceeding ancient Babylon, whose ambit was only 60 miles.

Ambit, *ambitus*, called also *angiportus*, was particularly used, in *Antiquity*, to denote a space of ground to be left vacant betwixt one building and another. By the laws of the Twelve Tables, houses were not to be built contiguous, but an ambit or space of 2½ feet was to be left about each for fear of fire. This was usually a thorough-fare, but sometimes not. For when Rome was crowded with houses, these interstices were only left between some houses. Nero, after the dreadful fire which happened in his time, restored the ancient mode of building houses separate from one another. Tacit. Annal. xv. 43.

The *ambitus* of a tomb, or monument, denoted a certain number of feet, in length and breadth, around the same, within which the sanctity assigned to it was limited. The whole ground wherein a tomb was erected was not to be separated from the common uses: for this reason, it was frequent to inscribe the *ambit* on it, that it might be known how far its sanctity extended: thus, *in fronte pedes tot*, *in agrum pedes tot*.

AMBITIANUS *Vicus*, in *Ancient Geography*, the place in which Caligula was born, and in which, according to Pliny, there were altars erected in honour of that prince. Cluvier makes it the village of Capella, near Coblentz. M. d'Anville places it on the Rhine, between Confluentes on the north-west, and Baudobrica to the south.

AMBITION, in *Ethics*, is the passion which prompts men to value or to seek any kind of eminence or distinction, as well as to avoid degradation and reproach. It is a kind of compound of *admiration* and *desire*, and becomes either a virtue or a vice, honourable or disgraceful, useful or pernicious, according to its direction or degree. The opinions of others concerning us, when expressed by words or actions, are principal sources of happiness or misery. The pleasures of this kind are usually referred to the head of honour; the pains to that of shame; but as it is most convenient to have a single word, to which to refer both pleasure and pain of this class, Dr. Hartley selects ambition for this purpose. He classes the several particulars which persons, under the influence of ambition, wish to have known to others, or concealed from them, in order to obtain praise or dispraise, under four heads; *viz.* external advantages or disadvantages, of which the principal are fine clothes, riches, titles, and high birth, with their opposites, rags, poverty, obscurity, and low birth; bodily perfections and imperfections, of which the chief are beauty, strength, and health on the one hand, and on the other, deformity, imbecility unfitting a person for the offices of life, and disease; intellectual accomplishments or defects, such as sagacity, memory, invention, wit, learning, and their opposites, folly, dulness, and ignorance; and moral qualities, *i. e.* virtue or vice. This ingenious writer investigates, in conformity to his proposed theory, the associations by which the pleasures and pains of ambition are produced. Observations on Man, § 2. prop. 95. p. 262, &c. Ed. 1791.

The Romans erected a temple to Ambition; and this was the divinity to which they offered the greatest number, or at least a very considerable number of sacrifices. It was represented with wings on its back, and naked feet, to express the extent of its designs, and the promptitude with which they were executed. "A being of the nature of man," says an elegant historian, at the close of his account of the Byzantine princes, "endowed with the same faculties, but with a longer measure of existence, would cast down a smile of pity and contempt on the crimes and follies of human ambition, so eager, in a narrow span, to grasp at a precarious and short-lived enjoyment. In a composition of some days, in a perusal of some hours, 600 years have rolled away, and the duration of a life or reign is contracted to a fleeting moment; the grave is ever beside the throne; the success of a criminal is almost instantly followed by the loss of his prize; and our immortal reason survives the 60 phantoms of beings who have passed before our eyes, and faintly dwell on our remembrance. The observation, that in every age and climate ambition has prevailed with the same commanding energy, may abate the surprise of a philosopher; but while he condemns the vanity, he may search the motive of this universal desire to obtain and hold the sceptre of dominion." Gibbon's Hist. vol. ix. p. 10.

AMBITNI, in *Ancient Geography*, a people of Galatia.

AMBITUS, among the *Ancient Romans*, the act of soliciting, or making interest, for offices or honours.

The candidates, in this case, went about the city, and into all publick places and assemblies, to beg votes; which

was called *ambitus*: from *am*, in the ancient Latin, ſignifying *circum*, *about*, and *ire*, *to go*.

Among the Romans, it differed from *amlition*, as the former lies in the act, the latter in the mind. *Ambitus* was of two kinds, one lawful, and even laudable; the other infamous. The firſt, called alſo *ambitus popularis*, was when a perſon offered his ſervice to the public frankly, leaving it to every body to judge of his pretenſions as they found reaſonable. This kind was not prohibited by any law, but always approved and practiſed by the beſt and greateſt men.

The means and inſtruments here made uſe of were various: 1. *Amici*, or friends, under divers relations, including *cognati*, *affines*, *neceſſarii*, *familiares*, *vicini*, *tribules*, *clientes*, *municipes*, *ſodales*, *collegæ*. 2. *Nomenclatura*, or the calling and ſaluting every perſon by his name; to which purpoſe the candidates were attended with an officer, under the denomination of *interpres*, or *nomenclator*. 3. *Blanditiæ*, or obliging perſons by ſerving them, or their friends, patrons, or the like, with their vote and intereſt on any other occaſions. 4. *Prenſatio*, the ſhaking every perſon by the hand, offering him his ſervice, friendſhip, &c. 5. *Aſſiduitas*. 6. The *toga candida*, worn looſe. 7. *Benignitas*, the diſtributing largeſſes, *congiaria*, &c.

The ſecond kind was that wherein force, cajoling, money, or other extraordinary influence was made uſe of. This was held infamous, and ſeverely puniſhed, as a ſource of corruption and other miſchiefs. This kind of *ambitus* was at one time the great trade of Rome, and demanded a conſtant ſupply of great ſums of money. Tully aſſigns this as the cauſe of the high rate of intereſt, and tells us it had raiſed it from 4 to 8 per cent. Bribery was come to the pitch of 80729l. per tribe; and there being no leſs than 35 tribes, it is obvious how expenſive this corruption was grown. It is alſo well known where it ended. Several laws were made againſt it; as the *Lex Acilia*, or *Calpurnia*, A.U. 686, *Aufidia*, A.U. 692, *Bæbia*, A.U. 571, *Æmilia*, A.U. 675, *Cornelia*, A.U. 672, *Cæcilia Didia*, *Fabia*, *Julia Auguſti*, *Julia Cæſaris*, *Licinia*, A.U. 698, *Maria*, *Pætelia*, A.U. 397, *Pompeia*, A.U. 701, *Tullia Vetus*, A.U. 960.

In the year of Rome 321, the uſe of the *toga candida* was prohibited. In the year 397, the candidates were forbid to go to the markets and meetings in the neighbouring towns. In 571, ſevere penalties were laid on the givers of largeſſes. In 594, this was made puniſhable by baniſhment. In 692, by the lex Aufidia, it was enacted, that if a candidate preſented money to a tribe, and did not pay it, he ſhould be exempt, but if he did pay it, he ſhould be obliged to pay to every tribe a yearly fine of 3000 ſeſtertii as long as he lived. In 697, heavy fines were impoſed. By the *Lex Tullia*, made in the conſulſhip of Cicero, the candidates were forbidden to beſtow any combats of gladiators on the people, to make any publick feaſts, or to cauſe themſelves to be followed by a crowd of clients for two years before they offered themſelves for any place. A ſenator, who was guilty of a breach of this law, was puniſhed with ten years baniſhment; others were fined, and rendered incapable of any dignity for ever.

Ambitus was not only practiſed at Rome and in the forum, but in the meetings and aſſemblies of other towns in Italy, where numbers of citizens were uſually found, on account of trade and buſineſs. The practice ceaſed in the city from the time of the emperors, becauſe poſts were not then to be had by courting the people, but by favour from the prince. Perſons who had cauſes depending practiſed the ſame, going about among the judges to implore their favour and mercy. They who practiſed this were called *ambitioſi*. Hence we alſo meet with *ambitioſa decreta*, and *ambitioſa juſſa*; uſed for ſuch ſentences and decrees as were thus procured from the judges, contrary to reaſon and equity, either gratuitouſly or for money.

AMBITUS, in *Muſic*, a name ſometimes appropriated to ſignify the particular extent of each tone, or modification of grave and acute.

AMBIVARETI, in *Ancient Geography*, a people of Belgic Gaul, placed by Cæſar beyond the Meuſe. Martin places them between the Scaldi to the weſt, and Moſa to the eaſt; and to the ſouth of the Menapii, near the ſituation of the preſent Brabant.

AMBIX, in *Ancient Writers*, denotes a veſſel of glaſs or ſhell. Hence the origin of the word *alembic*, which we ſometimes alſo find denoted by the word *ambix*.

AMBLADA, in *Ancient Geography*, a town of Aſia Minor, in Piſidia, according to Stephan. Byz. but in Caria, according to Strabo, who ſays, that the wine of Amblada was uſeful in medicine.

AMBLAU, in *Geography*, one of the Moluccа iſlands, is the ſmalleſt of thoſe that are ſubject to the governor of Amboyna, and diſtant three leagues from Bouro.

AMBLE, AMBLING, in *Horſemanſhip*, a peculiar kind of pace, wherein a horſe's two legs, of the ſame ſide, move at the ſame time.

The ambling horſe changes ſides at each remove; two legs of a ſide being always in the air, and two on the ground at the ſame time: an amble is uſually the firſt natural pace of young colts, which, as ſoon as they have ſtrength enough to trot, they quit. There is no ſuch thing as an amble in the manege; the riding-maſters allowing of no other paces beſide walk, trot, and gallop; their reaſon is, that a horſe may be put from a trot to a gallop, without ſtopping him; but not from an amble to a gallop without ſtopping, which loſes time, and interrupts the juſtneſs and cadence of the manege. This movement, which is very laborious to the horſe, and in which he ought not to be indulged, except on ſmooth ground, is very eaſy to the rider; it has not the hardneſs of a trot, becauſe the hind leg moves along with the fore one, and creates no reſiſtance to the motion. Connoiſſeurs ſay that horſes which naturally amble never trot, and that they are much weaker than thoſe which have no ſuch movement. Colts, indeed, often aſſume this mode of moving, when forced to go quick, and when they have not ſtrength enough to trot or to gallop; and even good horſes, after being fatigued, or when they begin to decay, are apt, when puſhed, to amble ſpontaneouſly. The amble may, therefore, be regarded as a motion occaſioned by weakneſs or defect. But there are two other movements aſſumed ſpontaneouſly by weak or decayed horſes, which are ſtill more defective than that of the amble, and they are known by the name of *broken ambles*. The one is a motion between walking and ambling, and the other between trotting and galloping. Both proceed from great fatigue or weakneſs in the loins, and are conſpicuous in many of our hackney and poſt-horſes.

There are various practices and methods of diſcipline for bringing a young horſe to amble; ſome chooſe to toil him in his foot-pace through new-ploughed lands, which naturally inures him to the ſtroke required in the amble. But its inconveniences are, the weakneſs and lameneſs that ſuch diſorderly toil may bring on a young horſe.

Others attempt it by ſudden ſtopping or checking him in the cheeks when in a gallop, and thus putting him into an amazedneſs, between gallop and trot, ſo that loſing both he neceſſarily ſtumbles upon an amble. But this is apt to ſpoil a good mouth and rein, and expoſes the horſe to the danger of a hoof-reach, or ſinew ſtrain, by over-reaching, &c.

Others

Others prefer ambling by weights as the beſt way; and to this end ſome overload the horſe with exceſſive heavy ſhoes, which is apt to make him interfere or ſtrike ſhort with his hind feet. Others fold leaden weights about the fetlock paſterns, which are not only liable to the miſchiefs of the former, but put the horſe in danger of incurable ſtrains, cruſhing of the coronet, and breeding of ring-bones, &c. Others load the horſe's back with earth, lead, or the like maſſy ſubſtance; but this may occaſion a ſwaying of the back, over-ſtraining the fillets, &c.

Some endeavour to make him amble in hand before they mount his back, by means of ſome wall, ſmooth pail or rail, and by checking him in the mouth with the bridle hand, and correcting him with a rod on the hinder hoofs, and under the belly, when he treads falſe. But this is apt to drive a horſe to a deſperate phrenſy before he can be made to underſtand what they would have of him, and to rear, ſprawl out his legs, and to make other antic poſtures, which are not eaſily quitted again. Others think to effect it by a pair of hind ſhoes, with long ſpurns or plates before the toes; and of ſuch length, that if the horſe offers to trot the hind-foot beats the fore-foot. But this occaſions wounds of the back-ſinews, which often bring on an incurable lameneſs.

Some attempt to procure an amble by folding fine ſoft liſt ſtrait about his gambels, in the place where he is gartered for a ſtiffle-ſtrain, and turn him thus to graſs for two or three weeks, and afterwards take away the liſt. This is a Spaniſh method, but diſapproved; for though a horſe cannot then trot but with pain, yet the members muſt be ſufferers; and though the amble be gained it muſt be ſlow and unſightly, becauſe attended with a cringing in the hind-part. In effect, ambling by the trammel, as practiſed by us, appears the neareſt to nature, and beſt and moſt aſſured way.

There are divers errors, however, uſually practiſed in this method; as, that the trammel is often made too long, and ſo gives no ſtroke, but makes a horſe hackle and ſhuffle his feet confuſedly; or too ſhort, which makes him volt and twitch up his hind feet ſo ſuddenly, that by cuſtom it brings him to a ſtring-halt, from which he will ſcarce ever be recovered. Sometimes the trammel is miſplaced, and, to prevent falling, put about the knee and the hind-hoof. In which caſe the beaſt cannot give any true ſtroke, nor can the fore-leg compel the hind to follow it; or if, to evade this, the trammel be made ſhort and ſtraight it will preſs the main ſinew of the hind-leg and the fleſhy part of the fore-thighs, ſo that the horſe cannot go without halting before and cringing behind.

As to the matter of the trammel ſome make it all of leather, which is inconvenient, in that it will either ſtretch or break, and thus confound the certainty of the operation. In a true trammel the ſide ropes are to be ſo firm as not to yield to a hair's breadth; the hoſe ſoft, and to lie ſo cloſe as not to move from its firſt place; and the backband flat, no matter how light, and to deſcend from the fillet ſo as not to gall.

When the horſe, by being trammelled on one ſide, has attained to amble perfectly in the hand, it is to be changed to the other ſide, and that is to be likewiſe brought to rule.

When by this changing from one ſide to another with a half-trammel, the horſe will run and amble in the hand readily and ſwiftly, without ſnappering and ſtumbling, which is ordinarily done by two or three hours labour; the whole trammel is to be put on, with a broad, flat, backband, and both ſides trammelled alike. See TRAMMEL.

This pace is now generally diſuſed, and not admitted in the regular ſyſtem of the Manege.

AMBLAUW, or BELAUW, in *Geography*, one of the Molucca iſlands, about four leagues in circumference, two leagues ſouth of Bourro.

AMBLESIDE, an old irregular town of Weſtmoreland, near the lake of Windermere or Winandermere. It is 274½ miles from London, and its weekly market is on Wedneſday.

AMBLETEUSE, a ſea port town of France, in the department of the ſtraits of Calais, in the Engliſh channel, eight miles north of Boulogne, and twelve ſouth-weſt from Calais. It is defended with a battery of cannon. King James II. on his departure from England, in 1688, landed in this place. At this port, called *Ambletonienſis portus*, Cæſar embarked his cavalry when he paſſed over into England. N. lat. 50° 48′. E. long. 1° 37′.

AMBLYGON, or AMBLYGONIUM, formed of αμβλυς, *obtuſe*, and γωνια, *angle*, and denoting *obtuſe-angular*; in *Geometry*, denotes a triangle, one of whoſe angles is obtuſe, or conſiſting of more than ninety degrees.

AMBLYOPIA, AMBLYOPY, in *Surgery*, dulneſs of ſight, from αμβλυς *dull*, and ωψ *the eye*: *viſa debilis* of Ætius; *viſa hebitudo* of Boerhave. By this term Paulus and Actuarius denote the GUTTA SERENA, or AMAUROSIS. See DYSOPIA and GUTTA SERENA.

AMBO, or AMBON, a kind of pulpit or deſk in the ancient churches, where the prieſts and deacons ſtood to read or ſing part of the ſervice, and preach to the people; called alſo *analogium*.

The term is derived from αναβαινειν, *to mount*. The *ambo* was mounted upon two ſides, whence ſome alſo derive the application from *ambo*, *both*. The ambo was aſcended by ſteps, which occaſioned that part of the office performed there to be called the gradual. The Goſpel was read at the top of the ambo, the Epiſtle a ſtep lower.

The modern reading deſks and pulpits have been generally ſubſtituted inſtead of the ancient ambos, though, in ſome churches, remains of the ambos are ſtill ſeen. In that of St. John de Lateran, at Rome, there are two moveable ambos. M. Thiers inveighs againſt the diſuſe of the ancient ambo. Thoſe by whom this innovation has been effected he calls by a new word *ambonoclaſtes*. It was in the ambo that publication was made of feaſts, faſts, proceſſions, &c. Here were read the acts of the martyrs, the *ſanctæ ſanctis*, the diptychs, or commemoration of the dead; the letters of peace and communion, which one church ſent to another. Here new converts made their public confeſſion of faith, and biſhops their defence againſt accuſations brought againſt them. Here treaties of peace were ſometimes alſo concluded, and coronations of kings and emperors performed, &c.

Several antiquaries hold that the ambo was anciently the place from whence the biſhops and preſbyters made their ſermons; pulpits for that purpoſe having only been introduced by the mendicants at the beginning of the thirteenth century. A late writer combats this opinion, and ſhews, that the uſual place from whence the ancients preached was the ſteps of the altar; not but St. Chryſoſtom and St. Auguſtine both appear to have preached from the ambo, but this was looked on as a thing ſomewhat extraordinary.

AMBOES, or AMBUS, in *Geography*, a people of Lower Guinea in Africa.

AMBOHITSMENE, or VOHITSANGHOMBE, a province of Madagaſcar, ſituate weſt and north of Antavare, derives its appellation from the red mountains of the ſame name, lying in 20° of ſouth latitude. The high mountains reſemble the Tafelberg of the Cape of Good Hope, and

are ſeen from a great diſtance at ſea. On one ſide of this long and lofty ridge of mountains, which extends fifteen leagues inland, is the ſea, and on the other a flat country, abounding in ponds and marſhes. Here is alſo a lake fifteen leagues long, and of the ſame breadth, that contains ſeveral ſmall iſlands. The people that inhabit theſe mountains are called Ambohitſmenes.

AMBOINENSE, in *Conchology*, a ſpecies of CARDIUM. This ſhell is rather oblong, white, with blackiſh ſpots, and the ribs very convex. It inhabits the ſhores of Amboyna, is an inch and three quarters in length, and the ribs are uſually about twelve in number.

AMBOINENSIS, in *Ornithology*, a ſpecies of CERTHIA that inhabits Amboyna; it is of a cinereous colour above, beneath green, head and neck yellow, breaſt red, and wings black. Gmelin's Linn. This bird is remarkably brilliant and gloſſy, the length is about two inches and three quarters, bill half an inch long, and yellowiſh, and the edges of the wings and quills yellow.

This is the Tſioei, or Kakopit of Seba. Muſ. or Avis Amboinenſis; and Polytmus Amboinenſis of Briſſon. Dr. Latham calls it the Amboina Creeper, obſerving, that "both Edwards and Buffon ſay, that *humming-birds* are peculiar to South America, and that none are found on any part of the old continent. It is moſt probable that the three laſt-mentioned (*viz.* the Macaſſar, Indian, and Amboinan creepers) may belong to the creeper genus on our better acquaintance with them; which is the more to be ſuppoſed, as the whole deſcription has been taken from Seba, who lived in an age not ſufficiently enlightened in theſe matters.

AMBOINENSIS, a ſpecies of PSITTACUS, or parrot. It is of a fine ſcarlet, with a blue back, and a green ſpot in the wing. Gmel. Linn. This is the Pſittaca Amboinenſis coccinea (red Amboyna parrot) of Briſſon, and Lori Perruche tricolor, (three-coloured Lory parrot) of Buffon, as well as the Perruche rouge d'Amboine, Pl. enl. of the latter author.

The length of this bird is fifteen inches and an half, the bill red, with a black tip; the head, throat, neck, and under parts ſcarlet; back, rump, upper tail, leſſer underwing coverts, and the edge of the wings fine blue; under tail coverts violet in the middle, ſurrounded with red; the two middle tail feathers nine inches and an half in length, and of a violet brown; the exterior feathers decreaſe gradually in length, the outer one on each ſide being only four inches and an half long, and is diſtinguiſhed from the reſt by having the interior margin red. The legs and claws are red. It is a native of Amboyna, as its ſpecific names imply.

AMBOINENSIS, a ſpecies of TURDUS, rather bigger than a lark; it inhabits Amboyna, and is remarkable for its fine ſinging, and for flirting up its tail, which reflects on the back in the breeding ſeaſon.—The colour is ferruginous or reddiſh-brown, beneath yellow; the ſecondary quill-feathers from the baſe to the middle yellowiſh, tail cuneiform or wedge-ſhaped, and fulvous beneath. Gmel. Linn. Seba calls this Avicula Amboinenſis cinerea. It is the Merula Amboinenſis of Briſſon, Le Merle d'Amboine of Buffon, and Amboina thruſh of Latham.

AMBOISE, GEORGE D', in *Biography*, a French cardinal and miniſter of ſtate, was born of an ancient and noble family in 1460. As he was a younger ſon he was deſtined for the church, and at the age of 14 obtained the biſhopric of Montauban. He was appointed almoner to Lewis XI. and raiſed by Lewis XII., to whoſe intereſt, whilſt he was duke of Orleans, he attached himſelf, and for whom he ſuffered impriſonment, to the archbiſhopric of Narbonne, which he changed for that of Rouen. In the ſituation of lieutenant-general, under the duke of Orleans, who was governor of Normandy, he was inſtrumental in reſtoring juſtice and order to that province. Upon the acceſſion of Lewis XII. he was made cardinal and prime miniſter, and acquired popularity by diminiſhing the impoſts. After the conqueſt of the Milaneſe in 1499, he recovered the people who had revolted to their allegiance. As the pope's legate in France he attempted the reformation of the eccleſiaſtical orders, and promoted it by his own example; for he held only one benefice at a time, and devoted two-thirds of the revenue of his archbiſhopric to the relief of the poor and the repair of religious edifices. He aſpired to the papacy with a view of more effectually accompliſhing his ſchemes of reform, but he was counteracted and outwitted by the Italian cardinals. As a miniſter of ſtate he contributed ſo much to the welfare of the nation, that he was honoured with the appellation of "the father of the people." For the purpoſe of reforming the courts of judicature, and ſuppreſſing partiality and bribery in the adminiſtration of juſtice, he cauſed to be compiled a new code of regulations, and exerciſed his authority in Normandy, where he was governor, in reducing them to practice. The diſappointment of his views with regard to the papacy, induced him to recommend a war with the Venetians, to whom he conceived it was owing. Conſcious of ſome errors and faults into which his ambition had led him, he expreſſed his concern in the review of his conduct to an infirmary brother, who attended him at the convent of the Cæleſtines, at Lyons, where he was taken ill, in the proſecution of his journey for the Venetian war.—"Brother John! why have not I been all my life-time brother John." He died in this place, A.D. 1510, in the 50th year of his age. During the whole of his adminiſtration he cauſed the ſciences and trade to flouriſh. He was a munificent patron and encourager of literature; and ſuch was his general conduct in the various ſtations which he occupied, and eſpecially as prime miniſter, that he was as much beloved by the people as by his maſter. Gen. Dict.

AMBOISE, FRANCIS D', was the ſon of a ſurgeon to Charles IX. of France, and maintained by his liberality in the college of Navarre, where he ſtudied rhetoric and philoſophy. In 1572 he was made ſolicitor of the French nation, and afterwards applying to the ſtudy of the law, became one of the beſt advocates of the parliament of Paris. From this employment he was advanced to that of counſellor in the parliament of Bretagne, and then to be a maſter of requeſts and counſellor of ſtate. He publiſhed ſeveral pieces chiefly of a poetical kind, and others containing an account of his travels into various countries. He took great pains in collecting the MSS. of Abelard, and he prefixed an apologetical preface to the edition of 1616. His two brothers, Adrian and James, arrived at conſiderable literary and profeſſional eminence; the former as an eccleſiaſtic and the latter as a phyſician. Gen. Dict.

AMBOISE, *Ambaſia*, or *Ambacia*, in *Geography*, a town of France in the department of the Indre and Loire, and chief place of a canton, in the diſtrict of Tours; ſituate at the conflux of the Loire and Amaſſe. The place contains 5100, and the canton 14,415 inhabitants: the territory comprehends 322½ kiliometres and 16 communes. It has two pariſh churches, four convents, and a hoſpital; and near it is a large caſtle ſeated on a high rock, and difficult of acceſs, in which are ſhewn the ſtatues of Charles VIII. and of his conſort Anne. In this place the proteſtants conſpired in 1560, and the civil war commenced in 1561, and here it is ſaid the name of Huguenot had its origin. In the caſtle of this town Lewis XI. inſtituted

ſtituted the order of St. Michael, in 1469; and Charles VIII. was born in 1470, and died in 1498, at Amboiſe. N. lat. 47° 24′ 51″. W. long. 0° 59′ 7″.

AMBOISES, ſee Ambeezes.

AMBON, a town of France, in the department of the Morbihan, three leagues S.E. of Vannes.

AMBONUM, in *Natural Hiſtory*, a term uſed by ſome old writers, to expreſs the prominent tubercles on certain ſtones.

AMBORA, in *Botany*. See Mithridatea.

AMBOTE, in *Geography*, a town of Poland, in Samogitia, on the river Wardana, 28 miles north north-eaſt of Mednink.

AMBOTEN, a town of the duchy of Courland, eight leagues ſouth of Goldingen.

AMBOULE, *valley* of, a province of Madagaſcar, is ſituated ſomewhat more northward than 23° ſouth latitude, at the mouth of the river Manampani, which waters the whole valley. In this valley ſtands a large town of the ſame name. The country produces abundance of plants and fruits, particularly yams, and the ſeſame herb, whoſe ſeeds yield by expreſſion the oil called menachil; the oxen and cows are very fat, and their fleſh excellent. It has alſo iron mines. Near the town of Amboule is a fountain of hot water, within 20 feet of a ſmall river whoſe ſand is almoſt burning. The water of this fountain is ſaid to boil an egg hard in two hours, and to be a ſovereign remedy againſt the gout. The inhabitants of the country are employed in different preparations of iron and ſteel, which they obtain from their own mines, and forge darts and various other inſtruments, with conſiderable ſkill. The voadziri, or chief governor of the country is honoured with the title of great lord, or rabertau; and he is the richeſt and moſt powerful of the chiefs in this country. He exerciſes ſovereign authority, and abſolute power; but in times of public diſtreſs his ſubjects often aſſemble in great numbers, ſeize his perſon, and threaten him with death, unleſs they are relieved; and this he does, by iſſuing orders for diſtributing proviſions among them. The people are repreſented as licentious, diſhoneſt, and indolent. Mod. Un. Hiſt. vol. xi. p. 404.

AMBOURNAY, or Ambronay, a town of France, in the department of the Ain, and chief place of a canton, in the diſtrict of St. Rambert. It is ſituated in the road from Lyons to Geneva; has a pariſh church, a hoſpital, and an abbey of Benedictine monks, founded about the year 800; nine leagues north-eaſt of Lyons, and one mile and an half north-weſt of St. Rambert. N. lat. 46° 1′. E. long. 5° 16′.

AMBOUTNOSSI, a ſmall iſland on the coaſt of Madagaſcar, near the bay of Galemboule; and alſo a river of the ſame name.

AMBOY. See Perth-Amboy.

AMBOYNA, one of the Molucca or ſpice iſlands, in the Eaſtern Indian Ocean, lies in S. lat. 4° 25′, and E. long. 127° 25′. This iſland is about 60 miles in length from north to ſouth, and is divided on the weſt ſide, by a large bay into two parts or peninſulas, one of which, being about 12 leagues long, and two and a half broad, is called Hetou; and the other about five leagues in length, and one and a half broad, is called Leytimor. On the eaſtern ſide is another bay, with a bad harbour, where the Portugueſe erected their chief fortreſs Victoria. The town of Amboyna, which is the capital of the iſland, is neatly built, and ſtands near the ſouth-weſt extremity. As the iſland is ſubject to frequent earthquakes, the houſes generally conſiſt only of one ſtory; but the ſtate-houſe is a more lofty edifice of two ſtories. The face of this iſland is beautiful; as woody mountains and verdant vales are interſperſed with hamlets, and enriched by cultivation. The ſoil is chiefly a reddiſh clay, but in the vales it is blackiſh and ſandy. The chief produce of the iſland, in conſequence of the reſtrictions impoſed by the monopolizing avarice and deſpotiſm of the Dutch, is cloves; and the clove-tree grows to the height of about 40 or 50 feet, with ſpreading branches, and long pointed leaves. Some of theſe trees, that are ſituated in deep ſheltered vales, yield annually thirty pounds weight, and the chief crop is from November to February. The Dutch governor, in order the more effectually to ſecure this monopoly, makes an annual progreſs through the ſpice iſlands, for the purpoſe of enforcing the obſervance of exiſting treaties, and of preventing the culture of cloves beyond the limits to which it is reſtricted. About eleven years ago, indeed, nutmegs were allowed to be cultivated in Amboyna, becauſe Banda did not ſupply a ſufficient quantity. The growth of indigo is prohibited, leſt the natives ſhould become rich and turbulent: but the ſugar and coffee are excellent, and among many delicious fruits, which the iſland produces, is the mangoſteen of Hindoſtan. Cattle, grain, &c. are imported from Java, and they have a variety of curious woods, but theſe are chiefly brought from Ceram. The plants of the iſland have been deſcribed by Rumphius. The principal animals are deer, and wild hogs, and among their birds is the caſſowary. Amboyna, with its dependencies, contained in 1796, when it was taken by the Engliſh, 45,252 inhabitants, of whom 17,813 were proteſtants; the reſt were Mahometans, except a few Chineſe, and ſavages. As this is the next ſettlement to Batavia, with reſpect to wealth and importance, the Dutch are tolerably poliſhed; but the natives are ſtill rude and uncultivated. They reſemble the other Malays, and when intoxicated with opium they will commit any crime. Their dreſs is a looſe ſhirt or frock of cotton cloth; the men wear large whiſkers, and leave a little hair upon the chin; the women tie the hair in knots; wives are bought of their fathers, and if they prove barren, the marriage is diſſolved. Their houſes are made of bamboo canes and ſago-trees; they ſleep on mats; and their weapons are bows and arrows, javelins, ſcymetars, and targets; and their chiefs are called Rajas.

The iſlands that are immediately ſubject to the Dutch governor of Amboyna are ten, comprehending an extent of about five degrees of longitude, that of Amboyna being fartheſt to the ſouth: theſe iſlands are Ceram, Ceram-Lavut, Bouro, Amblau, Manipa between Bouro and Ceram, Kelang, two leagues north-eaſt of Manipa, Bonva farther north, Orna two leagues eaſt of Amboyna, Honimoa, a league eaſt of Orna, and Nouſſa-Laout, a league ſouth-eaſt of Honimoa. The three laſt iſlands are denominated Uliaſſers. The culture of cloves is reſtricted to theſe three iſlands, and Amboyna; but they formerly grew in all the iſlands, more eſpecially in Ceram. Amboyna is the centre of this rich commerce, and the Dutch have taken care to deſtroy all the clove-trees in the adjacent iſlands, and it is ſaid that even in Amboyna, when the harveſt is very large, part of the produce is burnt. Soon after the fruit is gathered from the tree, the cloves are collected and dried on hurdles before the fire; and thus their natural and beautiful red colour is changed into a deep purple or rather black, to which their being ſprinkled with water probably contributes. The reaſon aſſigned for this ſprinkling is to prevent the worm from getting into the fruit; but it has been generally ſuppoſed that the true reaſon is to add weight to

the cloves. The cloves are carefully gathered by the hand; and the produce is very different in different ſeaſons; but at a medium of ſeven years it has been eſtimated at a million of pounds.

Amboyna was firſt diſcovered by the Portugueſe adventurers Diego d'Abreu and Ferdinand Magellan, about the year 1515, and taken poſſeſſion of in 1564; it was conquered by the Dutch about the year 1605; but it was ſome time before they became complete maſters of the whole iſland. The Engliſh were at this time in poſſeſſion of ſeveral factories, that were protected by the Dutch caſtle, but differences having ariſen between the Engliſh and Dutch colonies, they were terminated, or rather ſuſpended, by a treaty concluded in 1619 between Great Britain and the States General of the United Provinces. In conſequence of this treaty, the Engliſh lived in ſecurity at Amboyna, and enjoyed one-third part of its cloves, whilſt the Dutch were in poſſeſſion of the other two-thirds. In the year 1622, freſh occaſions of diſcord aroſe; theſe were referred to the council of defence eſtabliſhed at Jacatra, in the iſle of Java; and the council, not being able to decide to the ſatisfaction of all parties, the ſtate of the caſe was tranſmitted to Europe to be ſettled by the Eaſt India Companies of both nations, or, in the laſt reſort, by the king of England and the States General. During the deliberations in Java and Europe, the diſſenſion at Amboyna increaſed, and the Dutch contrived, by a feigned plot, to get poſſeſſion of the whole iſland. This plot, as it was pretended, was confeſſed by two ſoldiers in the Dutch ſervice, one a Japaneſe, and the other a Portugueſe, who, upon a ground of ſuſpicion, trivial and even imaginary, had been put to the torture; and, by the teſtimony of theſe two unhappy wretches, confirmed by that of an Engliſh priſoner who was alſo ſentenced to the rack, the Engliſh were accuſed of being confederates in a conſpiracy againſt the Dutch ſettlement. Upon this extorted confeſſion, the Engliſh were ſeized; ſome of them were impriſoned, and others loaded with irons and confined on board the ſhips in the harbour: and their books and property were ſeized. By a proceſs of varied torture of the moſt ſavage kind, the governor and fiſcal conſtrained ſome of the wretched ſufferers, after proteſting their own innocence and total ignorance of the pretended conſpiracy, to acknowledge the truth of charges that were altogether unfounded. Some were racked, drenched with water, and ſcorched with fire; others were compelled to ſwallow ſuch quantities of water as cauſed their bodies to be diſtended to more than twice their uſual dimenſions, and then made to diſgorge, by violence, the water which they had ſwallowed; and others were conſumed by burning them gradually from the ſoles of the feet upwards. But humanity ſhudders at the recital of ſuch acts of barbarity. Of thoſe who eſcaped or ſurvived this ſavage treatment, ten Engliſhmen, with one Portugueſe, and eleven Japaneſe were executed, though all of them proteſted their innocence with their expiring breath. The day following that of the execution was ſpent, by order of the governor, in public rejoicings and thankſgivings for ſo ſignal an eſcape and deliverance from a pretended conſpiracy, and for the iniquitous extirpation of their rival traders. That the conſpiracy was a mere pretence on the part of the Dutch for gaining the ſole poſſeſſion of the iſland, is evident from various concurring circumſtances. They had, at this time, a garriſon of 300 men in the fort, and ſeveral other garriſons in the iſland; whilſt the number of the Engliſh did not amount to 20 perſons, who were unprovided with arms and ammunition for effecting the purpoſe with which they were charged. The Engliſh had not one veſſel in the harbour, whereas the Dutch had eight ſhips near the town. When the boxes of the factors were opened, and their papers rifled, no trace of any ſuch conſpiracy could be diſcovered; and, beſides, the ſufferers on this occaſion perſiſted in avowing their innocence. The Engliſh factory was withdrawn from the iſland; and the Dutch governor retained the effects that had been ſeized, amounting, as ſome ſay, to the value of 400,000 pounds. When the Engliſh council at Jacatra demanded juſtice, the conduct of the governor was vindicated, and his proceedings were declared to be juſt and indiſpenſably neceſſary; and from all the ſubſequent proceedings of the Dutch, it ſufficiently appears, that the plot was of their own invention, and that their object was to monopolize the whole trade of the ſpice iſlands; for, after the cataſtrophe at Amboyna, they ſeized all the Engliſh factories in theſe iſlands, and diſpoſſeſſed the Engliſh, to their incredible loſs and damage.

When the news of this tranſaction reached England, and ſufficient proof was adduced of the treachery and cruelty of the Dutch, it was natural to expect that reparation would be demanded and obtained. If, indeed, king James I. had acted with becoming ſpirit, and made proper repreſentations to the States General, juſtice would probably have been done; for ſuch atrocious villanies could not have been abetted by any civil community. But James ſubmitted to the national injury even without requiring ſatisfaction, and contented himſelf with merely telling the Dutch ambaſſador, "That he never heard nor read a more cruel or impious act, than that of Amboyna." But he adds, "I forgive them, and I hope God will, but my ſon's ſon ſhall revenge this blood, and puniſh this horrid maſſacre." Charles I. finding remonſtrances, letters of requeſt, and memorials ineffectual, was preparing to increaſe his ſhipping, and to call the Dutch to an account; but he was prevented from accompliſhing his deſign by the civil war which enſued. Cromwell, in this inſtance, avenged the wrongs of the Britiſh nation; for among the conditions on which he gave peace to the Dutch, in April 1654, it was inſerted, "That they ſhould deliver up the iſland of Polerone in the Eaſt Indies," which they had taken from the Engliſh in the time of king James, and where they had acted a tragedy ſimilar to that at Amboyna, "into the hands of the Engliſh Eaſt India Company; and pay a good ſum of money (300,000*l.*) for the old barbarous violence exerciſed ſo many years ſince at Amboyna, for which the two laſt kings could never obtain ſatisfaction and reparation." The Dutch, however, have long retained unmoleſted poſſeſſion of this iſland.—But both Amboyna and Banda were taken without reſiſtance in February and March, 1796, by the Engliſh admiral Rainier; however they have been reſtored to their Batavian maſters by the treaty with France in the year 1801. Mod. Un. Hiſt. vol. viii. p. 288—301. vol. ix. p. 70. Aſiatic Regiſter for 1800. p. 200.

AMBRA, or Ambro, *Cape*, in *Geography*, ſometimes called Cape Natal, is the north point of Madagaſcar iſland. S. lat. 12° 15′. E. long. 49° 10′.

AMBRACIA, in *Ancient Geography*, was one of the moſt conſiderable cities of Epirus, and ſituated in the territory of Theſprotia, near the mouth of the river Arachthus, or Arethon, and the gulf to which it gave its name. It was built, according to Polybius, (lib. iv.) by Ambrax, ſon of Theſprotus; probably when the territory of his father had been ravaged by the Dryopes, and afterwards by Hercules; and thus the origin of the Ambracians is traced to an æra about 50 years before the laſt war of Troy. Strabo

(lib. vii.) ſays, that Ambracia was the work of Tolgus, the ſon or the brother of Cypſelus, who was tyrant of Corinth, and lived about 620 years before the Chriſtian æra. A colony from Corinth under the conduct of Cypſelus arrived in Epirus, and delivered the Ambracians from the tyranny of Phalæcus, and reduced them into ſubjection to himſelf: and Ariſtotle informs us, that they drove away Periander the ſon of Cypſelus, and recovered their ancient liberty, for it was originally a free city. It was afterwards reduced by the Æacidæ kings of Epirus, who choſe it for the place of their reſidence. In proceſs of time, the Ætolians made themſelves maſters of it, and held it till the year before Chriſt 189, when they were ſubdued by the Romans, who found at Ambracia a great number of pictures and ſtatues belonging to the magnificent palace of Pyrrhus.

At this time it was a place of great ſtrength, defended on one ſide by the river Arachthus, and on the other by ſteep and craggy hills; and it was ſurrounded by a high and thick wall, about three miles in circuit. It was vigorouſly beſieged by the Romans and their allies, the Epirots, under the conduct of the Roman conſul Marcus Fulvius, and as bravely defended by the Ætolian garriſon. It was at length compelled to capitulate; and Fulvius was preſented with a crown of gold, which is ſaid to have weighed 150 pounds. Paulus Æmilius alſo deprived its inhabitants of their privileges and effects. Livy (lib. xxviii. c. 4.) has given a particular deſcription of Ambracia. It is now reduced to a ſmall place of Turkey in Europe, called *Ambrachia*, on the lower part of the gulf of Larta in the ſouthern Albania.

AMBRACIUS SINUS, the gulf of Ambracia, now the gulf of Larta, was ſituated between the country of the Moloſſi in Epirus, to the north, and Acarnania to the ſouth, and communicated with the Ionian Sea, by a ſtrait called that of Actium.

AMBRARIA, in *Botany*. See ANTHOSPERMUM.

AMBRAS, or OMBRAS, in *Geography*, a town of Germany, in the county of Tyrol, four miles eaſt of Innſpruck.

AMBRAVETTY, a river of Hindoſtan, which runs into the Cauvery, eight miles eaſt-north-eaſt of Carroor.

AMBREADA, thus they call the falſe or factitious amber, which the Europeans uſe in their trade with the Negroes on the coaſt of Africa, and particularly on the river Senegal. There are ſome large and red pieces of it, a thouſand of which making twenty ropes of ſtrings weigh three pounds. There are others ſmall, and alſo red, which weigh but two pounds and a half.

AMBRES, in *Geography*, a ſmall town of France, ſituate on an eminence, in the department of Tarn and dioceſe of Caſtres.

AMBRESBURY, or AMESBURY, a town of England, in the county of Wilts, pleaſantly ſituate in a ſmall valley on the banks of the Upper Avon, and conſiſting of two ſtreets. The town is indifferently built, and has all the appearance of decay. Whether it derived its name from Ambres' conſecrated ſtone, as Toland ſuggeſts—from its neighbouring monument, Stonehenge, being erected by Aurelianus Ambroſius, who is ſuppoſed to have been ſlain near this place—or from Ambri, a Britiſh monk, who founded a monaſtery in this place—it is not eaſy to determine. In former times it was a place of importance. Some have ſuppoſed that, when the Britons reſorted to the general *Gorſedd* at Stonehenge, Ambreſbury might have been uſed as a reſting-place, or place of Aſſembly, and that Ambri founded a monaſtery here for the benefit of future devotees. At this town a nunnery was founded by Elfrida, widow of king Edgar, in expiation, as it has been ſaid, of the atrocious and unprovoked murder of her ſon-in-law, Edward the Martyr, at Corfe Caſtle. Queen Eleanor, widow of Henry III. retired to Ambreſbury, took the veil, and died a nun in 1291; and her grand-daughter Mary, the ſixth daughter of Edward I. followed her example, and in company with 13 children of the Engliſh nobility reſorted hither, and took the veil in 1285. The eſtates belonging to this nunnery, after its diſſolution, and in proceſs of time, became the property of the Queenſbury family. To the weſt of the river Avon is a camp, occupying the whole ſummit of a hill, which has been generally attributed to Veſpaſian; but an ingenious tourift ſuggeſts that it is the camp, or town, often mentioned in the old Britiſh writings under the name of Caer Caradoc. It is conſtructed in the ſhape of an oblong ſquare, with a very deep vallum towards the weſt; and to the eaſt it overlooks the town. The road paſſing from Ambreſbury to Warminſter is cut through the rampart of this fortification. The market of this town is on Friday: and it is diſtant from London 78 miles.

AMBRI, in *Ancient Geography*, a name given by Juſtin to a people of India, who lived upon the banks of the river Aceſines. The Ambri are, according to M. d'Anville, the ſame with the Oxydraci.

AMBRIÈRES, in *Geography*, a town of France, in the department of Mayenne, and chief place of a canton in the diſtrict of Mayenne, two leagues north of Mayenne. The place contains 2231, and the canton 14,077, inhabitants; the territory includes 162½ kiliometres, and 10 communes. N. lat. 48° 24'. W. long. 0° 44'.

AMBRIZ, or AMBRISI, a river of Africa, in the kingdom of Congo, which ſprings from a lake in the eaſtern mountains of Tenda, and runs weſtward into the ocean between the mouths of the Lahunda and Loze. It runs by the town of St. Salvador. Its courſe is rapid; its channel deep, and large; and its waters muddy. S. lat. 7° 10'. E. long. 13° 25'.

AMBROCHOS, in *Ancient Geography*, a country of Africa, in Marmarica, according to Ptolemy.

AMBRODAX, a town or borough, placed by Ptolemy in Parthia.

AMBROGI, DOMINICO, in *Biography*, an Italian artiſt, flouriſhed in 1653, and painted hiſtory and landſcape. He was the diſciple of Brizio, and, as an engraver, he is ſaid to have executed ſome prints on wood in Chiaro-Scuro. One of his engravings is "a woman ſeated in a triumphal car, holding two flambeaux and a ſerpent, conducted by Neptune." Strutt.

AMBROMA, in *Botany*. See ABROMA.

AMBRONES, in *Ancient Geography*, a people of Gaul, known in the Cimbric war. They were probably the anceſtors of the Ligurians, and had poſſeſſions to the north and ſouth of the Po. They invaded the Roman territories, as Plutarch (in Marco) informs us, in conjunction with the Cimbri and Teutones, and were defeated with great ſlaughter by Marius, about 102 years before Chriſt. Their wives, who were waiting the iſſue of the engagement, ſeeing their huſbands flying and the Romans purſuing, armed themſelves with axes, and, gnaſhing their teeth, fell furiouſly on the purſuers and the purſued, without diſtinction. Heedleſs of their own defence, they threw themſelves upon the combatants, ſeized their ſwords, and endeavoured to ſnatch away their bucklers; but when their rage was exhauſted, they offered to capitulate on this ſingle condition, that their honour ſhould be preſerved. When this condition was denied, theſe unfortunate women, being reduced to deſpair, firſt killed their children, and afterwards themſelves, not one of ſo great a multitude remaining alive.

AMBROOK.

AMBROOK *Iſland*, in *Geography*, a ſmall iſland of the Baltic, under Œſel, ſeven leagues ſouth-eaſt from Demeſneſs, and eight leagues north-weſt from Round iſland. See Arensburg.

AMBROSA Island, is ſituated on the coaſt of Chili, in South America, on the Pacific Ocean. S. lat. 26° 40'. W. long. 82° 35'.

AMBROSE, of Alexandria, in *Biography*, the friend of Origen, flouriſhed about the beginning of the third century. He was deſcended from a good family, affluent in his circumſtances, and diſtinguiſhed by his intellectual accompliſhments and Chriſtian virtues. According to Jerom he was a Marcionite, but Euſebius calls him a Valentinian; and he was convinced of his errors by Origen, about the year 212, in conſequence of which he became a deacon of the church, either at Alexandria, or at Cæſarea, where Protoctetus was preſbyter. To both theſe perſons Origen inſcribed his book on Martyrdom, and he dedicated to Ambroſe many of his other works, which were publiſhed at his deſire and charge. Origen and Ambroſe lived on terms of the moſt intimate friendſhip; they were alike indefatigable in their application; and Ambroſe aſſiſted Origen by procuring him notaries, and amanuenſes, who copied his works, and to whom he occaſionally dictated. Origen repreſents his friend, as a perſon eminent for his piety and for his diligent ſtudy of the Scriptures. Although Jerom reports that Ambroſe was blamed by many for making no proviſion at his death for Origen, who was not only poor but likewiſe far advanced in years, Tillemont ſuggeſts this apology for him, that he knew his friend's mind, and that Origen choſe to be poor, and to live in a ſtate of dependence upon Providence. Some ſay that Ambroſe died, with his friend Protoctetus, as a martyr, in the perſecution under Maximin, about the year 236; but the dedication of Origen's eight books againſt Celſus ſhews, that though he died before Origen, yet he lived to the year 250, or near it. Ambroſe had a wife named Marcella, by whom he had ſeveral children; and ſhe is commended by Origen as a true Chriſtian and a faithful wife. Lardner's Works, vol. ii. p. 447. Cave's H. L. vol. i. p. 122.

Ambrose, St. biſhop of Milan, deſcended from a noble family of Romans, was born in Gaul, as ſome ſay, in the year 333, but according to others, in 340. His father, at the time of his birth, was prætorian præfect of Gaul, and reſided at Arles, the capital of Gallia Narbonenſis. The ſon, after paſſing through the ſtudies of a liberal education, attained, by the regular gradation of civil honours, the ſtation of Conſular of Liguria, a province which included the imperial reſidence of Milan. In the exerciſe of this government, he manifeſted a degree of wiſdom and equity which obtained general eſteem. At the age of 34, and before he had received the ſacrament of baptiſm, a circumſtance occurred which ſerved ſuddenly to transform him from a civil magiſtrate to an eccleſiaſtical governor. His mother, and his ſiſter Marcellina, both women of diſtinguiſhed piety, had trained him up not only in habits of virtue, but with an early bias towards the religious ſyſtem of the Catholic church. Thus previouſly diſpoſed, he was prepared for availing himſelf of a diſpute concerning the ſucceſſion in the epiſcopal ſee of Milan, that had been produced by the death of Auxentius, who had been the leader of the Arian party in the weſt. In a tumultuous conteſt between the Arians and Catholics for ſupplying the vacancy, Ambroſe preſented himſelf to the aſſembly, and by an eloquent ſpeech recommended a peaceable election. At the cloſe of his addreſs, a child exclaimed—"Ambroſe is biſhop!" The voice of the infant was regarded by the ſuperſtitious multitude as a miraculous ſuggeſtion, though others might more naturally have inferred that it was the reſult of contrivance on the part of Ambroſe or his friends. But the expedient, however, was effectual, and Ambroſe was immediately elected by acclamation. The civil magiſtrate expreſſed great reluctance in complying with the public choice, and recurred to a variety of ſingular expedients to divert the multitude from perſiſting in the appointment. The emperor Valentinian was at length ſolicited to confirm and enforce the election; and as the talents and character of the biſhop elect were well known to him, he very readily interpoſed. Ambroſe ſubmitted to his authoritative injunction, and, after baptiſm, was ordained to the epiſcopal office. The eccleſiaſtical hiſtorians, acquitting the biſhop and his friends of art and intrigue, and conſidering his oppoſition as real, repreſent the choice as "a divine election," and "the peculiar work of God." But the traces of human contrivance were much more diſcernible in the whole conduct of this buſineſs than thoſe of a divine operation; and it will not be eaſy to exculpate the biſhop himſelf from all concern in the plot.

Unprepared as Ambroſe was, by the habits and occupations of his former life, for the new office that was devolved upon him, the active force of his genius ſoon qualified him to exerciſe, with zeal and prudence, the duties of his eccleſiaſtical juriſdiction. With this view, he beſtowed his money upon the poor, ſettled his lands upon the church, with the reſerve of a life-intereſt in favour of his ſiſter, and committed the care of his houſe and family to his brother. Thus diſengaged from ſecular concerns, he commenced a courſe of theological ſtudy with Simplician, preſbyter of Rome, and devoted himſelf to eccleſiaſtical buſineſs. In 377 he was obliged, by the irruption of the Goths and other northern barbarians, to retire to Illyricum; but the invaders were ſoon defeated by the Roman emperor, and Ambroſe and the other exiles were allowed to return home. The prevalence of the Arian doctrine furniſhed ample occaſions for the zealous exertions of Ambroſe. Having written a treatiſe concerning the Trinity, for the eſtabliſhment of the faith of Gratian, he was leſs ſucceſsful in his attempts for converting the younger Valentinian, Gratian's colleague in the empire. The inſtructions of his mother Juſtina, who was an avowed Arian, counteracted the arguments of the orthodox prelate. Ambroſe, by his influence with Gratian, prevented the aſſembling of a general council, which he had agreed to convene; and probably fearing that the ſentiments of the whole body of Chriſtian biſhops would be favourable to Arianiſm, he wiſhed the deciſion of the diſpute to be referred to an aſſembly of the weſtern clergy. Here the two "rotten heretics," as he called the two Arian biſhops, Palladius and Secundianus, might be eaſily ſilenced. Accordingly a ſynod, conſiſting of 32 biſhops, was held at Aquileia in 381, and Ambroſe preſided. Palladius very properly demurred againſt the deciſion of ſuch a partial aſſembly, and it terminated with Ambroſe's ejection of the two obnoxious biſhops from the epiſcopal office. The orthodox prelate was no leſs zealous in his oppoſition to the followers of the ancient pagan religion than in his efforts for ſuppreſſing Arianiſm. The leader of the pagans was Symmachus, a wealthy and eloquent ſenator; and in the year 384 he was employed to prepare and preſent a petition for reſtoring the Altar of Victory to its ancient place in the hall of the ſenate; and the public funds for the ſupport of the ſeven veſtal virgins, and their religious ceremonies. To the talents of Symmachus were oppoſed thoſe of Ambroſe, who addreſſed a letter to Valentinian, in reply to the pleas of this petition; and he concludes with obſerving, that it

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was a debt which Chriſtian princes owed to their faith, not to give countenance to heathen rites. Ambroſe prevailed, and the petition of Symmachus was rejected.

The Arians were at this time a more formidable body to the intolerant biſhop than the pagans. They were ſupported by the young emperor Valentinian and his mother Juſtina; and they concurred in demanding from the biſhop the uſe of two churches, one in the city and the other in the ſuburbs of Milan. The biſhop peremptorily refuſed; alleging, that though the palaces of the earth might belong to Cæſar, the churches were the houſes of God; and that, within the limits of his dioceſe, he was the lawful ſucceſſor of the apoſtles, and was the only miniſter of God. The privileges of Chriſtianity, temporal as well as ſpiritual, were confined to the true believers; and Ambroſe was ſatisfied in his own mind that his own theological opinions were the ſtandard of truth and orthodoxy. He therefore declared, that it was his firm purpoſe to die a martyr rather than to yield to the imperious ſacrilege, by delivering up the temple of the Lord into the hands of heretics. Juſtina reſented the refuſal as an act of diſloyalty and rebellion; and as ſhe deſired to perform her public devotions on the approaching feſtival of Eaſter (A. D. 385), Ambroſe was ordered to appear before the council. He obeyed, accompanied by a tumultuous crowd of people; and the affrighted miniſters of Valentinian, inſtead of pronouncing a ſentence of exile on the biſhop, humbly requeſted that he would interpoſe his authority to protect the perſon of the emperor, and to reſtore the tranquillity of the capital. Notwithſtanding the tumult and clamours of the people, the biſhop perſiſted in his refuſal, and the court proceeded to the exerciſe of power. Orders were iſſued to the officers of the houſhold to prepare, firſt, the Portian church, and afterwards the Baſilica, for the immediate reception of the emperor and his mother. But it was found neceſſary to defend them by a ſtrong guard from the inſults of the people. The Arian eccleſiaſtics, who ventured to ſhew themſelves in the ſtreets, were expoſed to the moſt imminent danger of their lives; and Ambroſe had enjoyed the merit and reputation of reſcuing his perſonal enemies from the hands of the enraged multitude; but while he laboured to reſtrain the effects of their zeal, the pathetic vehemence of his ſermons continually inflamed the angry and ſeditious temper of the people of Milan. The characters of Eve, of the wife of Job, of Jezabel, of Herodias, were indecently applied to the mother of the emperor; and her deſire to obtain a church for the Arians was compared to the moſt cruel perſecutions which Chriſtianity had endured under the reign of Paganiſm. The prelate was ſupported, not only by the populace, but by the moſt reſpectable citizens; and the court, finding violent meaſures to be ineffectual, had recourſe to the milder method of perſuaſion, and ſolicited Ambroſe to reſtore peace to his country by a timely compliance with the will of his ſovereign. He reſolutely replied: "if you demand my patrimony, which is devoted to the poor, take it; if you demand my perſon, I am ready to ſubmit; carry me to priſon, or to death, I will not reſiſt; but I will never betray the church of Chriſt. I will not call upon the people to ſuccour me; I will die at the foot of the altar rather than deſert it. The tumult of the people I will not encourage; but God alone can appeaſe." In his ſermons he aſſerted the excluſive power of the catholic biſhops over the churches, and expreſsly denied the right of the emperor even to the uſe of a church for himſelf. Valentinian and his court were not diſpoſed to ſubmit to this eccleſiaſtical tyranny. An attempt was made for ſeizing the Baſilica; and a body of Goths, urged by their Arian principles and ferocious ſpirit, advanced towards the church. On the threſhold they were met by the biſhop, who, thundering out a threat of excommunication, aſked them, by what authority they preſumed to invade the houſe of God? Superſtitious terror held the barbarians in ſuſpenſe: and the empreſs was perſuaded to leave the catholics in poſſeſſion of all the churches of Milan, and to diſſemble, till a more convenient ſeaſon, her intentions of revenge. The mother of Valentinian, however, could never forgive the triumph of Ambroſe; and the royal youth uttered a paſſionate exclamation, that his own ſervants were ready to betray him into the hands of an inſolent prieſt. This temporary triumph of Ambroſe was ſucceeded by an edict of general toleration in favour of thoſe who profeſſed Arianiſm, and by a ſentence of eaſy and honourable baniſhment, enjoining the prelate to leave Milan, and to chuſe the place of his exile as well as the number of his aſſociates. This ſentence was reſiſted by the biſhop, and his refuſal to obey it was ſupported by the unanimous conſent of his faithful people, who guarded his perſon and his palace. He deviſed various expedients for ſecuring and increaſing their attachment. By his bounty to the poor he formed a train of indigent perſons; by introducing into Italy from the eaſt the alternate or reſponſory pſalmody, he aided the public devotion; and by alluding to exiſting characters and circumſtances in his diſcourſes and commentaries upon the ſcriptures, he increaſed the popularity which was annexed by the ſuperſtition of the times to his religious and epiſcopal character. Pious frauds and pretended miracles ſerved alſo to augment the eſteem and veneration with which he was regarded by the credulous multitude. The contending prelate was fortunately directed by a dream to the diſcovery of the remains of two martyrs, Gervaſius and Protaſius, which had been under the pavement of the church for 300 years. Two perfect ſkeletons were found, with the heads ſeparated from the bodies, and a plentiful effuſion of blood. Theſe holy relics were preſented with ſolemn pomp, to the admiration of the people; and many miracles were wrought on poſſeſſed and diſeaſed perſons who touched them, and one recovered his ſight by touching the bier on which the bodies were depoſited with his handkerchief. Ambroſe appealed to theſe miracles in his ſermons, and the people believed them to be real. The incredulity of the Arians, and the deciſion of Juſtina and her court, were reproached and condemned; and the miracles were atteſted not only by Ambroſe himſelf, but by Auguſtine, and Paulinus, who were then reſident in Milan. Dr. Cave, relying on theſe teſtimonies, expreſſes his firm belief of their reality, and ſays, "that God ſuffered them to be wrought, at this time, on purpoſe to confront the Arian impieties." Such were the talents of Ambroſe and the general eſtimation in which his character was held, that his aſſiſtance was repeatedly ſolicited in times of public exigence and danger; and it ought to be recorded to his honour, that he ſurrendered his private reſentment to the public good, and ſerved his country with fidelity and ardour. After the aſſaſſination of Gratian in 383, Ambroſe was deputed by Valentinian on an embaſſy to Maximus, and contributed by his authority and eloquence to check the ambition of the tyrant, to diſſuade him from paſſing the Alps, and thus to protect the peace of Italy. In 387 he undertook the ſame office; and if the council of Milan had availed themſelves of the information given them by Ambroſe on his return from an unſucceſsful embaſſy, they might have been guarded againſt the perfidy of Maximus, and Italy might poſſibly have eſcaped the deſolation which ſoon followed. The conqueror, however, entered Milan in triumph; Juſtina and her ſon Valentinian fled precipitately

cipitately from the country, and put themſelves under the protection of Theodoſius, the emperor of the eaſt, in the port of Theſſalonica; but Ambroſe remained reſolutely at his poſt, and during the depredations of a victorious army, humanely ordered the church-plate to be ſold, and the money to be diſtributed among the unfortunate ſufferers. After Theodoſius had reſtored Valentinian to the kingdom in 388, he received information that the monks and populace of Callinicum, an obſcure town on the frontier of Perſia, had tumultuouſly burnt a Jewiſh ſynagogue. The magiſtrate of the province had ordered the biſhop, by whoſe inſtigation the ſynagogue had been burnt, either to rebuild it or to repay the damage; and his order was confirmed by Theodoſius. Ambroſe remonſtrated; repreſenting the toleration of the Jewiſh, as the perſecution of the Chriſtian religion; boldly declaring, that he himſelf, and every true believer, would eagerly diſpute with the biſhop of Callinicum the merit of the deed, and the crown of martyrdom; and lamenting, in the moſt pathetic terms, that the execution of the ſentence would be fatal both to the fame and ſalvation of Theodoſius. Beſides this private admonition, he publicly addreſſed the emperor from his pulpit, nor would he conſent to offer the oblation of the altar, till he had obtained from Theodoſius a ſolemn and poſitive declaration, which ſecured the impunity of the biſhop and monks of Callinicum. After an interval of five years, and at a diſtance from Ambroſe, his ſpiritual guide, Theodoſius, tolerated the Jews, and condemned the deſtruction of their ſynagogue. How different were the feelings and conduct of Theodoſius and Ambroſe on another occaſion! The tolerant emperor, incenſed by the conduct of the populace at Theſſalonica, who had murdered Botheric, and ſeveral of the principal officers of his army, and irritated by the ſuggeſtions of his miniſter Rufinus, iſſued a general order for the maſſacre of the inhabitants. The promiſcuous carnage continued three hours, without diſcrimination of ſtrangers or natives, of age or ſex, of innocence or guilt; the moſt moderate accounts ſtate the number of the ſlain at 7000; and it is affirmed by ſome writers, that more than 15000 victims were ſacrificed to the manes of Botheric. "A foreign merchant, who had probably no concern in his murder, offered his own life, and all his wealth, to ſupply the place of one of his two ſons; but while the father heſitated with equal tenderneſs, while he was doubtful to chuſe, and unwilling to condemn, the ſoldiers determined his ſuſpenſe, by plunging their daggers at the ſame moment into the breaſts of the defenceleſs youths." Ambroſe, on the other hand, though unforbearing and intolerant on occaſion of the ſlighteſt religious differences, heard the relation of the maſſacre with horror and anguiſh; reproached Theodoſius with the enormity of his crime; admoniſhed him not to receive the holy euchariſt with hands that were ſtill polluted with the blood of an innocent people; and ſtopped him in his approach to the church of Milan, declaring to his ſovereign in the tone and language of an ambaſſador from heaven, that private contrition was not ſufficient to atone for a public fault, or to appeaſe the juſtice of the offended deity. When Theodoſius replied, that David, the man after God's own heart, had been guilty both of murder and adultery, the undaunted Ambroſe rejoined, "you have imitated David in his crime; imitate then his repentance." After a delay of eight months, Theodoſius was abſolved and reſtored to the privilege of communion; but in the interval he appeared, ſtripped of the enſigns of royalty, in a mournful and ſuppliant poſture, in the church of Milan, ſoliciting the pardon of his ſins, and he ſigned an edict enjoining a ſpace of 30 days before any ſentence of death or confiſcation, and its execution. After the aſſaſſination of Valentinian, A.D. 392, the empire of the Weſt was uſurped by the ignoble Eugenius; but Ambroſe, with a laudable reſolution, refuſed to enter into alliance with the uſurper, and withdrew from Milan; but when the empire was regained by Theodoſius, he generouſly interceded with the emperor for the pardon of the adherents of Eugenius. Ambroſe did not long ſurvive Theodoſius, whoſe funeral obſequies he performed; but after a ſhort illneſs, in which his mind was perfectly compoſed, and which afforded him an opportunity of declaring to his friends, "that he had not conducted himſelf ſo among them as to be either aſhamed to live or afraid to die," he departed this life in April, A.D. 397.

Many fabulous particulars are related concerning Ambroſe, which are not worth minutely recording, and which the allowable ſcepticiſm of the preſent age will not admit. Such are the ſtories of the ſwarm of bees that ſettled upon his face, when he was an infant in the cradle; of the paralytic woman, who was inſtantaneouſly cured, when he was praying by her bed-ſide; of the two Arians, who having affronted him, were inſtantly thrown from their horſes and killed; of the globe of fire, which covered his head in his laſt illneſs, and inſinuating itſelf into his mouth, left his face white as ſnow; and of the voice, which proclaimed in the hearing of a biſhop, juſt as he was expiring, "ariſe, and haſten to him, for he is departing." Theſe tales are gravely related by Paulinus, Dr. Cave, and others; but they will claim little credit. Of his general character, it will be ſufficient to ſay, that his moſt partial advocates cannot acquit him of diſhoneſt artifice, arrogance, and intolerance; and that his moſt prejudiced enemies cannot deny him the praiſe of firmneſs in avowing his ſentiments, aſſiduity in the performance of his eccleſiaſtical offices, liberality to the poor, generoſity in his conduct towards his enemies, and zeal in the cauſe of humanity. With energy of mind he combined a great degree of tenderneſs and ſympathy, and in his general conduct he was virtuous and amiable, except on occaſions when he was miſled by profeſſional ambition or religious bigotry. As a writer, many of his ſentiments will now be thought abſurd, trivial, or ludicrous; his ſtyle is conciſe and affected, and ſomewhat reſembling that of Seneca. "Ambroſe," ſays Mr. Gibbon, "could act better than he could write; his compoſitions are deſtitute of taſte, or genius; without the ſpirit of Tertullian, the copious elegance of Lactantius, the lively wit of Jerom, or the grave energy of Auguſtin." The writings of Ambroſe are numerous; but many of them are little more than tranſcripts from the Greek fathers, particularly Origen. Their chief object is to maintain and eſtabliſh the faith and diſcipline of the Catholic church; or recommend perpetual celibacy as the ſummit of Chriſtian perfection. One of the moſt valuable is his book "De Officiis," intended to explain the duties of Chriſtian miniſters, formed on the model of Cicero's "Offices." In his "Commentaries on the Scriptures," he chiefly follows the abſurd method of allegorical interpretation; his "Epiſtles" throw much light on the hiſtory of his life and times. The moſt accurate and complete edition of his works is that of the Benedictine Monks, in two volumes, folio, in 1682; reprinted in 1690. Ambroſe appears to have received all the books of the New Teſtament, which we receive, without any other. For in his works he does not pay any particular regard to the writings of Barnabas, Clement, or Ignatius, or to the recognitions, or conſtitutions. Hence we may reaſonably conclude, that theſe writings were not eſteemed of authority by himſelf,

himſelf, or other Chriſtians at that time. Cave's H. L. vol. i. p. 261. Gibbon's Hiſt. vol. v. p. 38—78. Lardner's Works, vol. iv. p. 447.

Ambrose, a monk of Camalduli, was born at Portico, near Florence, ſtudied Greek under Emanuel Chryſoloras, at Venice, and entered into the order of Camalduli at the age of 14 years. He was made general of the order in 1431, after having lived in it 30 years; at the council of Baſil, to which he was deputed by Eugenius IV., he defended the authority of the papal ſee; at the councils of Ferrara and Florence he diſplayed equal ardour againſt the Greeks: and at Florence he was employed to draw up the articles of union between the Latin and Greek churches. The Greek oration, which he addreſſed at Ferrara, in 1437, to John Paleologus, emperor of Conſtantinople, was much applauded. He was much eſteemed by Coſmo de Medicis, who had his letters collected into a volume, that has been kept in the library at Florence; and by Paul Jovius, he is repreſented as a perſon who united piety with good humour, and who was ſo free from envy, and from a ſpirit of contradiction, that when he endeavoured to reconcile Poggius with Laurentius Valla, he declared to them, that they acted neither as true men of letters nor like Chriſtians, ſince they diſgraced the dignity of the ſciences by their ſatirical writings. Ambroſe died, on his return from the council of Florence, in the year 1439, and his remains were depoſited in the oratory of Camalduli, without any epitaph or ornament. He collected a very large library in the convent of St. Mary de Angelis, where he lived; and left behind him ſeveral tranſlations of Greek authors; ſuch as thoſe of Dionyſius Areopagita de Cæleſti Hirerarchia, Manuel Calecas againſt the errors of the Greeks, Palladius's Life of Chryſoſtom, Æneas of Gaza's Theophraſtus, S. Ephrem's Sermons, Diogenes Laertius's Lives, &c. He alſo wrote, "Hodæporicon," or a Journey through Italy, in 1431, to viſit ſeveral monaſteries and nunneries of his order, and to correct their abuſes; publiſhed in 4to. in Florence, in 1681; and "Letters," above-mentioned, which have been inſerted in the third volume of Martenne's and Durand's "Veterum Scriptorum et Monumentorum Collectio," Paris, 1724, fol. ſome of which contain hints concerning the lives and characters of the learned men of his time. Gen. Dict. Cave's H. L. vol. ii. p. 155.

Ambrose, Isaac, an Engliſh Preſbyterian divine, was the ſon of a clergyman, and deſcended from the Ambroſes, of Ambroſe-hall, in Lancaſhire. In 1621, he was admitted into Brazen-noſe college, in Oxford, where he took a degree of bachelor of arts; and he afterwards took holy orders, and officiated in the church of England, but he obtained no preferment. In 1641, he left the eſtabliſhed church, joined the Preſbyterian party, took the covenant, and preached firſt at Garſtang, and afterwards at Preſton, in his native county. His zeal againſt the eſtabliſhed clergy recommended him to the office of aſſiſtant to the commiſſioners for ejecting ſuch as were called ſcandalous and ignorant miniſters and ſchool-maſters. It was his cuſtom to retire for a month every year into a hut in the wood for the advantage of ſolitude and religious meditation. He anticipated his death for ſome time before it occurred, and took leave of all his friends at their own houſes. He then died ſuddenly, as it is ſuppoſed, of an apoplexy, in 1634, at the age of 72. His works, written in the truly puritanical ſtyle and ſpirit, are numerous. They are entitled "Prima, Media, et Ultima; or Regeneration, Sanctification, and Meditations of Man's Miſery and God's Mercy, &c." 1682 and 1689, Lond. "Looking upon Jeſus," 1658, 4to. Lond. "War with devils, miniſtration of and communication with angels," printed with the former. Biog. Brit.

Ambrose, St. *Gulf* or *Haven*, in *Geography*, lies on the weſt coaſt of Africa, ſouth-ſouth eaſt from Cape Negro, S. lat 20° 25′. E. long. 13°.

Ambrose.—*St. Ambroſe in the Wood*, by the Italians called *al nemo*, is an order of religious, confirmed in 1431, under the rule of St. Auguſtine.

The monks of *St. Ambroſe al nemo* wear the image of the ſaint engraven on a little plate, and make uſe of the Ambroſian office.

In the province of Berry, in France, the title of *Fathers of St. Ambroſe* is alſo given to the canons regular of St. Auguſtine, becauſe their abbey at Bourges is dedicated to St. Ambroſe de Cahors.

AMBROSIA, in the *Heathen Theology*, &c. a delicious kind of food, on which the gods were ſuppoſed to feed.

The word is compounded of the primitive particle α, and βροτος, *mortal*; becauſe it rendered thoſe who fed on it immortal, or becauſe it was the food of the immortals.

Lucian, rallying the poetical gods, tells us, that *ambroſia* and *nectar*, of which one is the meat, and the other the drink of the gods, were not ſo excellent as the poets deſcribe them; ſince theſe deities would leave them for blood and fat, which they come to ſuck from the altars like flies.

But though the ambroſia is commonly repreſented as the ſolid food of the gods, by way of contradiſtinction from the fluid, which was called *nectar*; yet the appellations are ſometimes inverted, and the name ambroſia given to the drink of the deities, as that of nectar to the meat.

Wedelius has a diſſertation on ambroſia and nectar, wherein he ſhews, that the term is ſometimes uſed to denote honey, ſometimes wine, ſometimes perfumes, and particularly ambergris; ſometimes the method and ingredients for embalming and preſerving dead bodies from putrefaction, and ſometimes alſo for a ſtate of unchangeableneſs or immortality.

Ambrosia is alſo a ſplendid kind of title given by ſome phyſicians to certain alexipharmic compoſitions of extraordinary virtue. In this ſenſe *ambroſia*, αμβροσια, amounts to much the ſame with αθανασια, *athanaſia*, as being ſuppoſed to conduce to immortality. This name was particularly given to a famous antidote of Philip of Macedon againſt all poiſons, bites, and ſtings of venomous creatures, as well as many internal diſeaſes.

Ambrosia is alſo uſed for a pure ſpirituous kind of medicine, artfully extracted from the groſs elementary parts of a body, and which being adminiſtered in the ſmalleſt doſe is of conſiderable virtue, and may be taken without diſguſt or inconvenience. In this ſenſe *ambroſia* amounts to much the ſame with what we otherwiſe call quintessence. Nic. Abr. Frambeſa has a treatiſe on the preparation of theſe *ambroſiæ*. Ambroſiopœa, Ludg. Bat. 1628, 12mo. Francof. 1629. 4to.

Ambrosia is alſo uſed by ſome of the *Ancient Writers* to expreſs what they judged to be the food of the bees.

This ſubſtance is by ſome taken to be a groſs or ſolid honey, and is contradiſtinguiſhed from the liquid or purer ſort, which is denominated *nectar*.

The ambroſia will not keep, and, if not ſpeedily ſpent, corrupts and turns ſour, making what is ſometimes called *coom*, or *ſlopping*, or, after the Greeks, *ſandarak*; highly offenſive and pernicious to the hive. See Pain *des Abeiles*.

Ambrosia, in *Antiquity*, denotes a feaſt celebrated in Ionia, and in almoſt all the countries of Greece, in honour of Bacchus, at the time of vintage.

The ambroſia were alſo denominated *choa* and *lenæa*.

They were held in the month called Lenæon, conſecrated to Bacchus.

Ambrosia, in *Mythology*, the daughter of Atlas, was one of the Hyades.

Ambrosia, formed of α and βρότος, and denoting *immortal food*, in *Botany*, a genus of the *monœcia pentandria* (*pentandria monogynia*, Gmelin) claſs and order; of the natural order of *compoſitæ nucamentaceæ*, and *corymbiferæ* of Juſſieu: its characters are as follow. Male flowers compound: the *calyx* is a common, one-leafed, flat perianthium, of the ſame length with the floſcules; the *corolla* compound, uniform, tubulous, equal, and hemiſpherical; the proper, one-petalled, tubulous, funnel-ſhaped, erect, quinquefid (trifid, Linn.); the *ſtamina* have very ſmall filaments, anthers erect, parallel, and acuminate; the *piſtillum* has a filiform ſtyle, of the length of the ſtamens, ſtigma orbiculate and membranaceous; the *receptacle* common, ſcarcely any, naked. Female flowers, below the males, doubled; the *calyx* is a one-leafed, acuminate, entire, permanent perianthium, the belly five-toothed, and one-flowered: no *corolla*; the *piſtillum* is a germ ovate, in the bottom of the calyx, ſtyle filiform, of the ſame length with the calyx, ſtigmas two, ſetaceous, long, and divaricate; the *pericarpium* a ſubovate nut, formed from the calyx hardened, one-celled, not opening, crowned with the five acuminate teeth of the calyx; the *ſeed* ſingle and roundiſh. There are five ſpecies, *viz.* 1. A. *trifida*, trifid-leaved A. "with three-lobed, ſerrate leaves." There is a variety, β. A. gigantea inodora, fol. aſperis trifidis. Ray. Hiſt. This ſpecies is a common annual weed in North America, growing often eight or ten feet high, and in a rich moiſt ſoil, ſpreading out into many branches; the flowers are not more conſpicuous than thoſe of hemp: cultivated in 1699 by Mr. C. Bobart. The ſort common in gardens has three-lobed leaves; but the larger variety β. has the lower leaves five-lobed. 2. A. *elatior*, tall A. "with leaves pinnatifid, racemes panicled, terminal, and ſmooth." This is an annual, herbaceous plant, from two to three feet in height, upright, and branched; male flowers more numerous, approximating and nodding; the female flowers fewer, ſeſſile, from three to ſix, aggregate: a native of Jamaica, in barren, ſandy, rocky ſituations, by river ſides, in the ſouthern part of the iſland; flowers there from February to June, with us in July and Auguſt; cultivated in Kew garden by Mr. S. Doody, in 1696. It has the appearance and taſte of wormwood; and the ſeeds have been imported from Virginia and Carolina, as well as from the Weſt India iſlands. 3. A. *artemiſiifolia*, mugwort-leaved A. "with bipinnatifid leaves, the firſt leaves at the origin of the branches quite entire;" differs from the ſecond in having the ſpikes of the flowers axillary; the racemes are lateral, and not terminal as in the preceding ſpecies; the primary ſtem about a foot high, is more diffuſed, and the branches four feet long: a native of North America; cultivated, in 1759, by Mr. Miller. 4. A. *maritima*, ſea A. "with multifid leaves, ſpikes ſolitary, hairy and ſubſeſſile;" riſes about two feet high: the leaves, when handled, emit a ſtrong odour; the ſpikes of the flowers are axillary; the ſpike does not ſit on a long peduncle as in the preceding ſpecies: grows naturally in Cappadocia, Tuſcany, and the county of Nice, on ſandy ſhores; cultivated in Kew garden in 1570. 5. A. *arboreſcens*, tree A. "with pinnatifid, hirſute leaves, racemes ſolitary and terminating, and ſtem ſhrubby:" a native of Peru, grows to the height of 10 or 12 feet; the ſpikes and flowers are produced at the extremities of the branches, and the female flowers grow in ſmall, ſeparate cluſters. The fifth ſpecies of Gmelin's Linnæus is A. *ſimplicifolia*, with ſimple, lanceolated leaves, and axillary, ſubſolitary leaves. Walt. Flor. Carol. p. 231.

Culture.—The ſeeds of the firſt ſpecies, ſown in Spring, will remain till the following Spring; and when the plants come up, they may be tranſplanted into a moiſt, rich ſoil, at the diſtance every way of four or five feet. If the ſeeds ripen, and are ſuffered to ſcatter, they will vegetate the following Spring, provided that the ground be not diſturbed; or if the ſeeds be ſown in Autumn, the plants will come up in the Spring, and may be treated as above. The ſecond ſort will thrive in the open air in England; but in order to obtain the ſeeds every year, they ſhould be ſown on a moderate hot-bed in March; and when the plants are two inches high, they muſt be tranſplanted into another moderate hot-bed, allowing to each plant a ſquare diſtance of three or four inches, watering and ſhading them till they have taken root, and afterwards expoſing them to the air in warm weather, and well watering them: when the plants are pretty ſtrong, they ſhould be taken up with balls of earth to their roots, and planted in large pots filled with light earth: towards the latter end of May they ſhould be placed abroad with other hardy, annual plants; they will flower in July, and their ſeeds will ripen in September. The third ſort may be cultivated in the ſame manner. The ſeeds of the fourth ſort ſhould be ſown in a warm border in Autumn; and when the plants come up in the Spring, they ſhould be tranſplanted into a warm border of poor ground; the beſt method for obtaining good ſeeds, is to plant ſome of them in lime-rubbiſh; the plant has not much beauty, and is admitted into gardens merely for variety. The fifth ſort may be propagated by cuttings or ſeeds; if the former are uſed, they ſhould be planted in a ſhady border in any of the ſummer months, and frequently watered; in four or five weeks they will have good roots, and ſhould be taken up and potted; this ſort is hardy enough to admit of being expoſed to the open air in Summer, and in Winter, if it be ſheltered in a common greenhouſe, it will live ſeveral years; the ſeeds that are ſown in the Spring will ſeldom come up the ſame year, but thoſe which fall, or are ſown in Autumn, will come up the following Spring. Martyn's Miller.

Ambrosia. See Artemisia and Cochlearia.

AMBROSIACA, in *Ornithology*, a ſpecies of Hirundo, or ſwallow, that inhabits Senegal, and ſmells particularly ſtrong of ambergris. It is of a greyiſh brown colour, bill blackiſh, legs brown. Gmel. Linn. Syſt. The length is five inches and an half, bill half an inch, the plumage darkeſt on the head and quills, and the tail very forked. This is the hirundo riparia Senegalenſis of Briſſon. av. ii. p. 508. N° 13. L'Hirondele ambrée of Buffon. Oiſ. vi. p. 612.; and ambergris ſwallow of Lath. Gen. Syn. iv. p. 568.

Amerosiaca β. It is uncertain whether this ſhould be conſidered as a diſtinct variety of the preceding ſpecies, or merely a ſexual difference. Dr. Latham deſcribes it as "cineraſcens ſubtus cinereo-alba, cauda elongata maxime forficata;" (Ind. Orn. tom. ii. 575.) general colour inclining to grey, beneath cinereous white, tail long, and greatly forked; its length is five inches. This was obſerved in the collection of Sir Joſeph Banks, Bart. after the former had been deſcribed, and was publiſhed in the ſupplement of the Gen. Syn. It is ſuppoſed to inhabit China.

AMBROSIAN *rite*, or office, denotes a particular office or formula of worſhip, uſed in the church of Milan, which is ſometimes alſo called the Ambroſian church.

The denomination takes its riſe from St. Ambroſe, archbiſhop of Milan, in the fourth century, who is uſually ſuppoſed to have been the author of this office. Yet ſome are of opinion the church of Milan had an office different from that of the Roman and other churches of Italy before the time

time of that father. In effect, till the time of Charlemagne, each church had its ſeveral office: and when in after-days the pope took on him to impoſe the Roman office on all the other churches of the Weſt, that of Milan ſheltered itſelf from the impoſition, under the name and authority of St. Ambroſe; from which time the phraſe Ambroſian rite has obtained, in contradiſtinction to the Roman rite.

The public library of Milan is alſo called the *Ambroſian Library*.

We alſo meet with the *Ambroſian chant*, or ſong.

AMBROSIAN CHANT. There are few writers on eccleſiaſtical muſic who do not ſpeak of the *Ambroſian chant*, and of its being different from the Gregorian; but no ſatisfactory account has been given of their ſpecific difference; nor was I able (ſays Dr. Burney) in hearing the ſervice performed at the Duomo in Milan, (whereit is ſaid to be preſerved in all its purity), or by a peruſal of the Miſſals, or other books on *canto fermo* publiſhed in that city, to diſcover any conſiderable deviation from the plain ſong uſed in the ſervice of other cathedrals in France or Italy, where the Gregorian chant is ſaid to ſubſiſt. The truth is, that there are no veſtiges of the Ambroſian chant remaining, ſufficient to aſcertain its peculiar character. The fragments of it that Gafurio has inſerted in his Practica Muſica are very ſuſpicious, not only as they have a much more modern appearance than even the ancient Gregorian chants that are come down to us, but on account of the *number* of modes in which he gives them, which amount to eight; whereas all writers on theſe ſubjects agree in ſaying that St. Ambroſe only uſed the four authentic modes, and that the four plagal were added afterwards by St. Gregory. Thoſe who pretend to know the difference between the Ambroſian and the Gregorian canto fermo, tell us, that it is louder, higher, and of greater compaſs—*fortior, durior, et magis extenſa*; but this conveys nothing to the mind of a muſician as to the difference in the melody of the two chants. See GREGORIAN CHANT, CANTO FERMO, and PLAIN SONG.

AMBROSIN, in *Middle Age Writers*, denotes a coin ſtruck by the lords or dukes of Milan, whereon was repreſented St. Ambroſe on horſeback, with a whip in his right-hand. The occaſion of this coinage is ſaid to have been a viſion of that ſaint, who appeared to the Milaneſe general in 1339, during the time of a battle.

AMBROSINIA, ſo named in honour of the two brothers Bartolomeo and Hyacinto Ambroſini, for 52 years profeſſors of botany at Bologna, in *Botany*, a genus of the claſs and order of *gynandria polyandria* of Miller, *monoecia monandria* of Schreber, *polyandria monogynia* of Swartz, and *polyandria polygynia* of Gmelin's Linnæus, of the natural order of *piperitæ*, and *aroideæ* of Juſſieu: its characters are, that the *calyx* of the *males* is a ſpathe, one-leafed, cowled, convolute at the baſe, and converging at the tip, partition membranaceous. (Spadix *Baſs.*), divided into two cells communicating at top; no *corolla*; theſtamin a have no filaments; the anthers are very many, ſolitary, within the hinder cell of the ſpathe, in the upper part of the partition, digeſted in a diſtinct order; the nectaries are two, roundiſh, concave, at the baſe of the anthers. The *calyx* of the *female* is a ſpathe common with the males; no perianthium; the *piſtillum* has a germ in the anterior cell of the ſpathe, and the lower part of the partition, ſolitary and roundiſh; the ſtyle cylindrical, ſhorter than the ſpathe; the ſtigma obtuſe; the *pericarpium* a roundiſh one-celled capſule; the *ſeeds* are very many, ovate and neſtling. There is one ſpecies, *viz.* A. *Baſſii*, ariſarum of Moriſon, Ray, and others, a native of Sicily near Palermo, firſt found, deſcribed and figured by Bocconi, requiring the protection of a green-houſe, and capable of being increaſed from the root.

AMBROSIUS, AURELIANUS, or AURELIUS AMBROSIUS, in *Biography* and *Hiſtory*, a famous general, and afterwards king, of the ancient Britons, was of Roman extraction, and is ſuppoſed to have been the ſon of one of the kings elected by the Britons after the Romans had left the iſland. He was educated at the court of Aldroen, king of Armorica, and ſent over at the requeſt of the Britons with 10,000 men under his command, to aſſiſt them againſt the Saxons, whom Vortigern their king had invited into Britain.

His ſucceſs in this expedition was ſo conſiderable, that, after the death or abdication of Vortigern, Ambroſius, probably king of the Dammonii, in conſequence of the death of his father, was elected to the pendragonſhip or ſovereignty of all England; which ſupreme office he exerciſed with great honour to himſelf and benefit to his ſubjects. During his reign, and under his direction, the famous Arthur obtained ſeveral victories, and was eminently ſucceſsful in reſtraining the progreſs of the Saxons among the Northern Britons. Ambroſius, after diſtinguiſhing himſelf by his valour on ſeveral occaſions, and by his zeal, as it is ſaid, in regulating the affairs of the church, died at Wincheſter, according to the report of Geoffrey of Monmouth, of poiſon, adminiſtered by a Saxon diſguiſed as a phyſician, and hired for the purpoſe by one of the ſons of Vortigern, or, according to the more generally received opinion, was killed in a battle fought in 508, againſt Cerdic, one of the Saxon generals. Geoffrey of Monmouth pretends that Ambroſius built STONE-HENGE, near Saliſbury, in commemoration of 300 Britiſh noblemen, who were maſſacred by the Saxon general, Hengiſt. Polydore Virgil ſays, that this edifice was erected by the Britons as a monument to their general Ambroſius, on the place where he fell in battle, to perpetuate the memory of the illuſtrious ſervices which he performed for his country. But both theſe ſtories are rejected as fabulous by the beſt antiquarians, though they are by no means agreed as to the true origin of this building. Biog. Brit.

AMBRY, the place where arms, plate, veſſels, and every thing belonging to houſe-keeping, were formerly kept.

Hence, probably, the *ambry* at Weſtminſter was ſo called, becauſe formerly ſet apart for that uſe; or rather, from *aumonery*, a houſe adjoining to an abbey; in which the charities were laid up and diſtributed to the poor. The word is ſtill uſed in Scotland, in the ſame ſenſe.

AMBRYM, or AMBRIN, *iſland*, in *Geography*, one of the New Hebrides in the ſouth Pacific Ocean, S. lat. 16° 9′ 30″. E. long. 168° 12′ 30″. It has a volcano, and is about 50 miles in circumference.

AMBRYSUS, or AMBRYSSUS, in *Ancient Geography*, a town of Greece in the Phocide. M. d'Anville places it between two chains of mountains, weſt of Lebadea, and north-weſt of Anticyra. It is called by Pauſanias Amphryſſus. This town was ſeparated from Delphi by Mount Parnaſſus; and it was fortified by the Thebans, in their war with Philip of Macedon. Near it was a temple of Diana Dictynnea, to which the inhabitants paid peculiar homage. Her ſtatue was of black marble. Pauſan. lib. x. c. 36.

AMBUBAJÆ, in *Antiquity*, a kind of wanton minſtrels about Rome, who lived by playing on the flute, dancing in places of reſort, and proſtituting their bodies for hire.

Authors ſpeak as if there had been a regular college, or community of ambubajæ, and that theſe were the ſame with

what were otherwiſe called *tilicinæ*. Thus Horace, ſat. i. ſpeaks of

" Ambubajarum collegia, Pharmacopolæ."

Some ſuggeſt that the ambubajæ were of the male kind, only dreſſed in the habit of women.

Antiquaries have been greatly divided about the ambubajæ; ſome will have them to have come to Rome out of Syria; others ſuppoſe them to have been Roman women, though called by a name of Syriac origin.

Torrentius, Turnebus, and Pulmannus, derive the name from *amba*, or *am*, an old Latin prepoſition, denoting *circum*, *about*, and *Baja*, a delicious place near Naples; and maintain, that the ambubajæ were a kind of courtezans, who frequented the baths of that city. Cruquius is of a different opinion, taking the word ambubajæ to have been uſed for *ambubeja*, and primarily to denote a ſeller of *ambubeja*, an herb mentioned by ancient naturaliſts. Theſe ſellers of ambubeja being a kind of empirics, their name became afterwards applied to all charletans, and quacks.

Others ſay, that ambubaia is a Syrian word, and that in the Syriac language, it denotes a flute, or the ſound of a flute. From Juvenal it appears, that Syria was famous for furniſhing the beſt players and muſicians. Thus he ſays, ſat. iii. 62.

" Jam pridem Syrus in Tiberim defluxit Orontes,
Et linguam, et mores, et cum tibicine chordas
Obliquas, necnon gentilia tympana ſecum
Vexit, et ad Circum juſſas proſtare puellas."

Suetonius exhibits the emperor Nero as attended by theſe Syrian women, and Roman courtezans at table; thus, " Cœnitabat non nunquam—inter ſcortorum totius urbis, et ambubajarumque miniſteria." The followers of the profeſſion of female flute-players became ſo numerous and ſo licentious at Rome, that their occupation was prohibited in the Theodoſian code; but with ſo little ſucceſs, that in the time of Juſtinian, as we are informed by Procopius, the ſiſter of the empreſs Theodora, who was a flute player, or tibicina, appeared on the ſtage without any other dreſs than a ſlight ſcarf thrown looſely over her. Theſe performers even became ſo common in all private entertainments, as well as at public feaſts, where they frequently obtruded themſelves, uninvited, that towards the cloſe of this reign their profeſſion was regarded as infamous, and utterly aboliſhed.

Hoffman has a diſcourſe on the ambubajæ.

AMBUBEIA, in *Botany*, a name given, by ſome authors, to wild ſuccory.

AMBUELLA, or Amboilla, in *Geography*, a country of Africa, in the kingdom of Congo, between the lake of Aquelond and St. Salvador.

AMBULANS, in *Entomology*, an inſect of the Podura genus, deſcribed by Linnæus; it is white, with an extended tail, and lives amongſt moſſes. This is the " Podura terreſtris nivea," of Degeer Inſ. vii. p. 33. n. 6. tom. iii. f. 5.

Ambulans, a ſpecies of Cryptocephalus, one of the new genera, adopted by Gmelin in the Linnæan arrangement, from Geoffroy and Fabricius. This inſect is a native of Germany, is black, ſhining, and has the wing-caſes punctured. Fab. et Gmel. It approaches Cryptocephalus elongatus, very nearly, and the antennæ of both ſpecies are ſerrated, but the thorax of the latter is rufous and downy, which in the former is black.

AMBULANT, or Ambulatory, a name formerly given in France to thoſe commiſſioners or clerks of the king's farms, who had no ſettled office, but viſited all the offices within a certain diſtrict, to ſee that nothing was done in them againſt the king's right, and the intereſt of the farm.

Ambulant is alſo uſed to denote thoſe brokers at Amſterdam, or exchange agents, who have not been ſworn before the magiſtrates. They tranſact brokerage buſineſs, but their teſtimony is not received in the courts of juſtice.

AMBULATION, or walking. See Exercise.

Ambulation, in *Phyſic*, is uſed by ſome for the ſpreading of a gangrene or mortification.

AMBULATOR, in *Entomology*, a ſpecies of Lamia, figured by Petiver, Gazop. tab. 37. fig. 6. and deſcribed by Fabricius. The anterior part of the thorax is armed on each ſide with two ſpines, and the body is clouded with cinereous and cheſnut. It is properly a cerambyx of Linnæus. See Lamia.

AMBULATORIUS, a ſpecies of Ichneumon, with a yelloviſh ſcutellum, and ſpotted thorax, the ſecond joint of the abdomen ferruginous brown, the margins of the others white. This inſect is very rare, it inhabits Great Britain, and was firſt deſcribed by Fabricius in the Species Inſectorum, from a ſpecimen in the cabinet of Sir Joſeph Banks, Bart. The ſpecies was known to Linnæus, and his lateſt editor Gmelin has adopted the above Fabrician ſpecific character. The head of this creature is black, the antennæ yellow beyond the middle, the thorax is black, with a yelloviſh line in the anterior part, and a ſpot of the ſame colour before the baſe of the wings: the abdomen is black, except the ferruginous or ſecond joint, and the white margins of the third, fourth, and fifth.

AMBULATORY, formed from *ambulare*, *to walk*, a term anciently applied to ſuch courts, &c. as were not fixed to any certain place; but held ſometimes in one place, and ſometimes in another.—In oppoſition to ſtationary courts.

The court of parliament was anciently ambulatory; ſo alſo were the courts of king's bench, &c.

We ſometimes alſo ſay, in a legal ſenſe, a man's will is ambulatory to the time of his death; meaning, that he has it always in his power to revoke it.

AMBULIA, in *Botany*, a genus of the *didynamia angioſpermia* claſs and order; the eſſential characters of which are, that the *calyx* is quindentated, the *corolla* tubuloſe, quadrifid, with unequal ſegments; and the *capſule* pentagonous, ſingle-celled, and ſingle-ſeeded. There is one ſpecies, *viz.* A. *monoſperma* of Gmelin, or A. *aromatica* of La Marck, who repreſents the capſule as polyſpermous. This plant, particularly deſcribed by La Marck, (Encycl. tom. i. p. 128.) grows in Malabar, in a ſandy and watery ſoil, and appears to be annual. All its parts have a ſweet and aromatic ſmell, reſembling that of pepper, when it is green. Its taſte is bitteriſh; and it is adminiſtered in a decoction, for allaying fevers, and in four milk in caſes of vertigo. La Marck ſuggeſts that it is the manga-nari of Rheed, and the terebinthiana of Rumphius.

AMBULII, in *Mythology*, a name given at Lacedæmon to Jupiter, Minerva, Caſtor, and Pollux, where they had altars before a large portico, in which the inhabitants were accuſtomed to walk. They are ſaid to have derived their name from αμβολη, delay, becauſe it was thought that thoſe deities had it in their power to retard the inſtant of death.

AMBULON, in *Botany*, a tree which grows in the iſland

iſland of Aruchit, and the fruit of which is white, and reſembles that of ſugar, and about the ſize of the coriander ſeed. La Marck ſuggeſts that it is a ſpecies of GALLIUM, the fruit of which contains a white duſt reſembling that of ſugar, but is a ſort of wax of which are made bougies. It is probably the *Myrtus Brabanticæ ſimilis*, &c. mentioned by Plukenet, in his Almageſt, p. 260. Ray mentions a tree called Ambulong, which, he ſays, is a ſort of palm, the fruit of which grows in large cones, like the NIPA.

AMBURBIUM, or AMBURBIALE *Sacrum*, in *Antiquity*, a religious feaſt or ceremony, practiſed among the Romans, in which they made proceſſions around their city. See a deſcription of an amburbiale in Lucan's Pharſalia. lib. i. v. 392, &c. Hence alſo we have *amburbiales victimæ*, the victims carried along in the proceſſion, and afterwards ſacrificed.

The word is compounded of *ambio*, *I go round*; or of *amb*, or *ambu*, an ancient prepoſition, ſignifying *around*, and *urbs*, *a city*.

Scaliger, in his notes on Feſtus, followed by many others, maintains the amburvia to be the ſame with amburvalia. Servius, however, expreſsly diſtinguiſhes between the amburvia and amburvalia, and ſays, the one was performed in the city, and the other in the country.

AMBUSCADE, AMBUSH, AMBUSHMENT, in *Tactics*, a body of men who lie in a wood, &c. in readineſs to ruſh out upon, or incloſe an enemy unawares.—Or, the place wherein ſuch a corps hide themſelves.

Ambuſcades in battle are certain arrangements or diſpoſitions, in which a general, by drawing back one of his wings, or his centre, or even his whole army, entices the enemy to follow him, and by theſe means draws him into ſome ſnare, which he has prepared for receiving him. No general in ancient times ever manifeſted a greater talent for ſtratagems, or uſed them with better ſucceſs, than Hannibal. He defeated Sempronius on the banks of the river Trebia, by means of an ambuſcade, compoſed of a thouſand horſe and a thouſand foot, placed in ravins and buſhes near this river, by which the two armies were then ſeparated. Minutius, who commanded the Roman army jointly with Fabius, fell into a ſimilar ambuſcade at Gerunium. On another occaſion Hannibal ſurpriſed the conſuls Criſpinus, and C. Marcellus. Livy.

Amongſt the moderns, the eaſtern nations, though little verſed in tactics, are, perhaps, of all people, thoſe who beſt underſtand the art of ſtratagem; thus endeavouring to compenſate for the defects of other parts of their military diſcipline. A ſingular inſtance of a well-contrived and ſucceſsful ambuſcade is furniſhed by the hiſtory of Thamas Kuli Khan, the famous uſurper of the throne of Perſia. Whilſt he was beſieging Gangea, a city on the confines of Armenia, he received intelligence, that the Ottoman army, conſiſting of more than 100,000 men, was advancing to ſuccour the place; upon which he immediately raiſed the ſiege, joined a body of troops commanded by his ſon, and encamped on the plains of Erivan: but ſome mountains, which were on his rear, ſuggeſted to him the idea of inſuring victory by a ſtratagem. This ſtratagem he conducted with ſo much art and aſſiduity, that by a feigned retreat he allured the Turks into a purſuit, and at length into the defiles prepared in the mountains; when they ſuddenly found themſelves attacked by the Perſian artillery in ambuſh, and abyſſes opened under their feet, by the ſpringing of mines, which ſwallowed up whole battalions of them. The Turks, on this occaſion, loſt 50,000 men, their artillery, baggage, and military cheſt; and among the killed were nine baſhaws, with the general in chief, Abdoual Cuperli. Similar inſtances of ſucceſsful ambuſcades frequently occur among the Aſiatics, who have recourſe to them on a greater variety of occaſions than the Europeans.

AMBUSTA, in *Entomology*, a ſpecies of PHALÆNA of the *noctua* family. Thorax creſted; wings incumbent, greyiſh-brown, with three yelloviſh ſtreaks, an annule in the middle, and an undulated ſtreak behind.—This moth is produced from a naked brown larva, with white lines. The antennæ are ferruginous, white at the baſe; head, and thorax reddiſh grey. Poſterior wings white, tips brown. Inhabits Auſtria, on Lichen parietinus. Fabricius.

AMBUSTA, or AMBUSTIO, in *Surgery*, a ſolution of continuity, cauſed by the application of heated ſubſtances. See BURN and SCALD.

AMBUSTUS, in *Ornithology*, a ſpecies of FALCO. The body is pale tawny, front of the head between the eyes and bill naked, cere large, legs bluiſh. Gmel. Linn. This is the tawny vulture of Brown and Latham. The bill is duſky, ſhort and thick, cere large, and beſet with briſtles, the chin bearded with a tuft of long ſlender feathers: head, neck, breaſt, belly, and thighs, pale tawny: coverts of the wings intermixed with brown; tail dirty white, with brown bands: legs ſlender, bluiſh claws, long and ſlightly bent. The length of this bird is two feet four inches; it inhabits Falkland iſlands.

AMBY, in *Geography*, a town of the Auſtrian Netherlands, in the province of Limburg, oppoſite to Maeſtricht, and on the eaſt ſide of the river Maeſe.

AMBUTUA. See PAREIRA *Brava*.

AMCHITCHE, one of the Fox iſlands in the North Pacific Ocean. N. lat. 53° 22′. E. long. 178° 14′.

AME, ſoul, is made a muſical term by the French, for feeling and expreſſion. As to its effect in the *airs tendres* of their old muſic, it degenerated into over-charged tenderneſs, diſpleaſing to all ears but their own.

AMEA, in *Botany*, a name given, by the natives of Guinea, to a plant which they uſe in bleeding at the noſe, drying and powdering the leaves, and ſnuffing up the powder. It ſeems to be of the family of the plant called *pajamirioba*, by Sir Hans Sloane, in his Jamaica Catalogue. Its leaves are large and alated, and of a beautiful green, even when dried. Phil. Tranſ. N° 232.

AMEDABAD, in *Geography*. See AMHEDABAD.

AMEDAN, a town of Perſia in the province of Taberiſtan, 20 leagues S. S.W. of Amol.

AMEDEI, *Amedians*, in *Eccleſiaſtical Hiſtory*, formed of the Latin *amans Deum*, q. d. *lover of God*, or rather of *amatus Deo*, *beloved of God*, a congregation of religious in Italy, inſtituted in 1400.

The Amedei wore a grey habit, and wooden ſhoes, had no breeches, and girt themſelves with a chord. They had twenty-eight convents, and were united by Pope Pius V. partly with the Ciſtercian order, and partly with that of the Soccolanti, or wooden-ſhoe wearers.

AMEDEUS, in *Biography*, a monk; was biſhop of Lauſanne about the middle of the 12th century. His "Sermons in praiſe of the Virgin Mary," printed at Baſil in 1537, and at Antwerp in 1600, are included in the Bibliotheca patrum. Dupin.

AMEDNAGUR, in *Geography*, a country or Soubah of Hindoſtan, bounded on the north by Candeiſh and Malwa,

on the weſt by the Gatte or Balagat mountains, on the ſouth by Bejapour or Viſiapour, and Tellingana, and on the eaſt by the province of Berar.

AMEDNAGUR is alſo a capital of the above Soubah, now called Dowlatabad, ſituate at the foot of the Balagât mountains, 105 miles N.N.W. of Viſiapour, and 65 N.E. of Poonah. This city has been generally placed 30 miles S.E. of its true poſition. N. lat. 17° 6′. E. long. 74° 52′. See AHMEDNAGUR.

AMED. See DIARBEKIR.

AMEENABAD, or AMINABAD, a town of Hindoſtan, in the country of Lahore; 30 miles north of Lahore. N. lat. 31° 30′. E. long. 72° 40′.

AM-EIS, a town of Germany, in Carinthia, on the Drave, five miles W.S.W. of Lavamund.

AMEIVA, in *Zoology*, a ſpecies of LACERTA, having a verticillated long tail, thirty abdominal ſcales, and a kind of collar conſiſting of a double wrinkle beneath. Linn.

The ameiva inhabits America. Dr. Shaw ſays it is principally found in South America, but that it is ſaid to occur in ſome parts of Aſia and Africa. "This creature varies conſiderably in colour, but is commonly blue or bluiſh green above, with ſomewhat irregular variegations of black and white, which are ſometimes diſpoſed in ſtreaks, and ſometimes in ſpots or patches; and commonly in ſuch a manner as to leave ſeveral whitiſh, or pale blue round ſpots ſcattered on different parts of the body and limbs; the under parts are duſky, with more or leſs of a bluſh caſt, and often marked here and there with ſmall whitiſh ſpots."—Dr. Shaw. Zool.

AMELANCHIER, in *Botany*. See CHIONANTHUS and MESPILUS.

AMEL, ſee ENAMEL.

AMELANDT, in *Geography*, an iſland in the German Ocean, about four leagues long, and one wide, ſituated about two leagues north from the main of Friſland. N. lat. 53° 30′. E. long. 6° 12′.

AMELBUREN, a town of Germany, in the circle of Weſtphalia and biſhopric of Munſter, ſix miles ſouth of Munſter.

AMEL CORN, in *Agriculture*, the ſame with SPELT-CORN.

AMELIORATING SUBSTANCES, in *Agriculture*, are ſuch, either of the animal or vegetable kind, as, when applied to land, render it more fertile and productive.

AMELIORATING CROPS, are ſuch as are ſuppoſed to improve the lands on which they are grown. Moſt of thoſe plants which have a large ſtem and ſhady leaf are thought to render the ſoils on which they are produced more fertile. Carrots, turnips, artificial graſſes, and many other green vegetables, are in general conſidered as ameliorating crops; but it is probable, that all ſorts of vegetables, carried off the land, are in ſome degree or other exhauſters of the ſoil; and that green crops, ſuch as have been juſt mentioned, are only leſs ſo, than ſuch crops of grain or other vegetables as contain large proportions of gluten, or vegeto-animal matter in their compoſitions. The improvement of lands, therefore, by what are termed ameliorating crops, in a great meaſure probably depends either upon the culture, which the ground receives while they are growing, and the returns which they make to it in the way of manure, after decaying, or being conſumed by animals, or from their taking up only ſuch ſorts of matters as are not neceſſary to the ſucceeding crop.

AMELI, in *Botany*, *Karetta-Amelpodi* of Rheed, Malab. is a tree about ſeven feet high, with a ſlight ſtem, and white wood, covered with brown bark. The leaves are oppoſite, ovate-lanceolated, pointed at the two ends, thick, entire, ſoft, ſmooth, gloſſy, of a blackiſh green above, and greeniſh below. The flowers are white, and grow at the ſummit of the branches, diſpoſed in ſhort panicles, and corymbiform. Each flower has a corolla with five oval-pointed petals, opening in a ſtar, thick, white above, and ſtriated with red lines below; the ſtamina are five, a little longer than the petals, white, withered anthers, and an ovary with a purpliſh ſtyle, forked at its ſummit. The fruit is a roundiſh capſule, of a brownith green colour, gloſſy, with three cells; but Rheed does not mention its ſeeds. This tree grows on the coaſt of Malabar, in ſandy ſtony ſoil. It is always green; flowers all the year, and produces mature fruit about the month of Auguſt. The decoction of its leaves in water is recommended as a ſovereign remedy in colics. Its leaves and roots, boiled in oil, furniſh a topic which is ſaid to be efficacious in reſolving large tumours. Rheed mentions another ſpecies of Ameli, which he calls *Kattou-belutta amelpodi*, ſomewhat ſmaller than the former, but little differing from it in other reſpects; it grows in the mountainous and uncultivated parts of Malabar. La Marck, Encycl. tom. i. p. 12).

AMELIA, in *Geography*, a county of Virginia, in North America, ſituate between the Blue ridge and the tide waters, having Cumberland county to the north, Prince George county to the eaſt, and Lunenburg county to the ſouth and weſt. Amelia, including Nottaway, a new county, contains 18,097 inhabitants, of whom 11,037 are ſlaves.

AMELIA *iſland*, lies on the coaſt of Eaſt Florida, in America, about ſeven leagues north of St. Auguſtine, and very near Talbot iſland on the ſouth, at the mouth of St. John's river. It is thirteen miles long, and two broad, is very fertile, and has an excellent harbour. Its north end lies oppoſite to Cumberland iſland, between which and Amelia iſland is the entrance into St. Mary's river, in N. lat. 30° 52′. W. long. 67° 23′.

AMELIA, anciently AMERIA, a ſmall town of Italy, ſeated on a mountain in the duchy of Spoleto, and the reſidence of a biſhop, holding immediately of the pope, fourteen miles ſouth of Todi. N. lat. 42° 33′. E. long. 13° 2′.

AMELIUS, GENTILIANUS, in *Biography*, a Platonic philoſopher, was born in Tuſcany, chiefly reſided at Apamea in Syria, and flouriſhed about the year of Chriſt 263. Having been inſtructed in philoſophy by Lyſimachus, he became the diſciple of Plotinus, and continued with him at Rome 24 years, viz. from the year 246 to the beginning of the year 269. His talents and taſte were ſo ſimilar to thoſe of his maſter, that he was ſoon admitted into his friendſhip, and employed by him in reſolving queſtions propoſed by his diſciples, and refuting the objections and calumnies of his enemies. Here he commenced an intimate acquaintance with Porphyry, who, during the laſt ſix years of his reſidence at Rome, was his fellow diſciple and companion, and who repreſents him as the moſt ſtudious and laborious of all the diſciples of Plotinus. He made large collections from the lectures and diſputations of the ſchools: and in a work of his own, conſiſting of 40 books, he refuted Zoſtrianus, a Chriſtian heretic, who confounded the doctrines of the goſpel with thoſe of the philoſophers. He alſo vindicated his maſter from a charge of plagiariſm, in a treatiſe "On the difference between the Doctrine of Numenius and that of Plotinus." His works, amounting,

as

as it has been ſaid, to 100 volumes, are loſt. Longinus ſpeaks of him as a verboſe writer, but ſays, that Amelius and Plotinus were the only philoſophers, who, in his time, publiſhed works that were worth procuring. Euſebius, Cyril, and Theodoret cite a paſſage from his writings, in which he refers to the Evangeliſt John, and quotes the beginning of his goſpel in confirmation of Plato's doctrine concerning the divine nature. His proper name, as we learn from Porphyry, was Gentilian; and he choſe to have his ſurname written with an *r*, *Amerius*, as it is in Eunapius, and not *Amelius*; the laſt in Greek denoting negligence, the former integrity. He ſurvived his maſter Plotinus ſome years, and probably died at Apamea. Porphyr. Vit. Plot. apud Fabr. Bib. Græc. tom. iv. p. 104. Suidas. Brucker's Hiſt. Phil. by Enfield, vol. ii. p. 70. Lardner's Works, vol. viii. p. 160.

AMELLOIDES, in *Botany*. See CINERARIA.

AMELLUS, a genus of the *ſyngeneſia polygamia ſuperflua* claſs and order; of the natural order of *compoſitæ oppoſitifoliæ*, and *corymbiferæ* of Juſſieu: its characters are, that the common *calyx* is imbricate, roundiſh, (ſcales linear, preſſed cloſe) the *compound corolla* is radiate, corollets hermaphrodite, very many in the diſc, females very many in the ray; *proper* of the hermaphrodite tubulous, five-cleft, female ligulate, lax, two or three-toothed; the *ſtamina* in the hermaphrodites, have five capillary, ſhort filaments, anther cylindrical and tubulous; the *piſtillum* in the hermaphrodites has an obovate germ, ſtyle filiform, of the length of the ſtamens, ſtigmas two, and filiform; females very like the hermaphrodites; no *pericarpium*; *calyx* unchanged; *ſeeds* to the hermaphrodites ſolitary, obovate; down capillary, to the females very like the others; the receptacle chaffy. Obſ. The teeth in the corollets of the ray are ſcarcely viſible. Martyn reckons two; Gmelin and La Marck three, ſpecies. 1. A. *Lychnitis*, trailing A. verbeſina aſteroides of Linn. ſpec. edit. 1. chryſanthemum Africanum of Breynius, "with leaves oppoſite, lanceolate, obtuſe, downy, peduncles one-flowered." This ſpecies riſes from two or three feet high, ſending out branches on every ſide, terminated by flower-ſtalks, each ſupporting one violet-coloured flower, with a yellow diſk, ſhaped like thoſe of the aſter, and appearing in July or Auguſt. The down is villoſe with few rays; a native of the Cape of Good Hope; cultivated in Kew Gardens, by Mr. Miller, in 1768. 2. A. *umbellatus*, umbelled A. ſolidago villoſa, &c. of Brown Jam. "with leaves oppoſite, three-nerved, downy underneath, flowers umbelled." This ſpecies has herbaceous, upright, ſimple round hairy ſtems, two or two and a half feet high; the leaves at firſt radical, petioled, wedge-ſhaped at the baſe, ſomewhat decurrent and ſerrate, nerved, ſmooth, dark green, white and ſoft beneath; the ſtem towards the top generally divided into three branches, each of which is ſubdivided into many ſmall flower branches, forming a ſort of umbel; the umbellules have from three to eight flowers, with linear leaflets, the peduncles an inch long, each ſuſtaining one large yellow flower; the ſcales of the calyx lanceolate, membranaceous, and hoary; the ſeeds obconical; the down ſeſſile and hairy; the receptacle hirſute. It has the habit of tuſſilago, and would be of that genus, if the down were ſtipitate, and the receptacle naked. It is connected with the firſt ſpecies by the briſtly chaffs between the florets. It is a native of Jamaica, in the rocks, woods, and mountains, and flowers there in Summer. 3. A. *tenuifolius*, ſlender-leaved A. amellus fruticoſus, "with alternate linear leaves, and one-flowered branches." This ſpecies is about fifteen inches high; its ſtem is woody, and divided at the bottom into cylindric branches, hairy, leafy, and generally ſimple; the leaves one line and a half long, and one line and a half broad, are ſtraight, linear, ſoft, pubeſcent and alternate, the flowers terminating, the branches are ſolitary, and reſemble thoſe of the firſt ſpecies in their form and colour; the ſcales of their calyx are ſtraight, very acute, hairy, and almoſt equal to one another; the receptacle contains ſmall ſeeds. The account of this plant was communicated by M. Sonnerat to La Marck. It was found at the Cape of Good Hope. Its wood is yellow. 4. A. *caroliniamus* of Gmelin, "with oppoſite, ſublanceolate, ſubſerrate leaves, the peduncles double, one-flowered and axillary." Walt. Flor. Carol. p. 213.

The firſt ſpecies is a perennial plant, and may be eaſily propagated by cuttings, planted in the ſhade in the Summer months, and well watered. The plant ſhould be taken up with beds of earth, and put in pots, ſo as to be ſheltered in winter, under a common frame or in a green houſe, with plenty of air in mild weather. The ſecond ſpecies may be propagated by ſeeds ſown on a hot-bed in ſpring; two or three of the plants, when they are fit to be removed, ſhould be planted in pots, and plunged into a hot bed of tan, ſo as to get ripe ſeeds in the autumn, otherwiſe the plants will require a ſtove in winter. Martyn's Miller.

AMELLUS. See CALEA and ERIGERON.

AMELLUS *Virgilii*. See ASTER.

AMELOT DE LA HOUSSAYE, ABRAHAM NICHOLAS, in *Biography*, was born at Orleans in 1634, and formed under the preſident of St. Andrè, ambaſſador at Venice, who employed him as his ſecretary. His manner and his writings were alike auſtere; and as he never roſe much above indigence, he was often indebted to the liberality of his friends. The events of his life are little known; and he died at Paris in 1706, in the 73d year of his age. His writings are numerous, and attracted notice, as he wrote with freedom on political ſubjects. The principal of his works, which were written in French, are the following:—"A Tranſlation of Father Paul's Hiſtory of the Council of Trent," 4to. 1686, well received, and highly commended by the aſſertors of the liberty of the Gallican church, now greatly ſuperſeded by that of Courayer; "A Tranſlation of Machiavel's Prince," 12mo. with notes, vindicating that writer from the charge of having taught aſſaſſination and poiſoning; "A Tranſlation of Gratian's Courtier," 12mo. with moral and political reflections; "A Tranſlation of the Annals of Tacitus," with valuable notes of a political kind; "The Hiſtory of the Government of Venice," in 3 vols. 12mo. printed in 1714, with "An Inquiry into the original Liberty of Venice, tranſlated from the Italian," which gave great offence to the Venetian ſtate; "The Morals of Tacitus, "extracted from his Annals, 12mo. a work that has been much read; "Memoirs, Hiſtorical, Political, Critical, and Literary," a poſthumous work, abounding with ſatirical anecdotes. Amelot was at one period of his life confined in the Baſtile; but the cauſe of his impriſonment is not now known. Probably ſome of his free political writings might incur diſpleaſure. Gen. Dict.

AMELOTTE, DENNIS, a prieſt of the Oratory, and a famous writer among the Roman Catholics, was born at Saintes, in 1606, ordained prieſt in 1632, and maintained a great correſpondence with the fathers of the Oratory. He publiſhed at Paris, in 1643, a life of Charles de Gendron, ſecond ſuperior of that congregation, which contained reflec-

tions

tions on the famous abbot of St. Cyran, the [illegible] the resentment of the gentlemen of Port Royal excited them to write a libel against the author; but [illegible] ample retaliation, fo that he did them greater prejudice than the whole body of Jefuits. The work which principally deferves to be mentioned is, "The French Tranflation of the New Teftament, with Annotations," in 4 vols. 8vo. printed in 1667, 1667, and 1675. His firft object in this tranflation was to find expreffions more proper and elegant than thofe of the former verfions, and with this view he obtained the affiftance of M. Conrart, a proteftant, well fkilled in the French language, but ignorant of Greek and Latin, fo that in turning a period he perverted the true fenfe of the text, or enervated its force, for want of being able to conful the original. In the preface to the firft edition he boafted that he had confulted the manufcripts of the Vatican, and many others, but afterwards he confeffed that he had never feen any of them. He alfo wrote "An Abridgment of Divinity;" "A Catechifm for the Jubilee;" "A kind of Chriftian Manual;" (Journée Chretienne) and "A Harmony of the Gofpels," in 12mo. publifhed in French, in 1669, and in Latin in 1670. Amelotte entered into the congregation of the Oratory in 1650, and continued with them till his death in 1678. Gen. Dict.

AMEN, a fcriptural and eccleſiaſtical term, uſed as the concluſion of all ſolemn prayers, &c. and ſignifying *ſo be it*, or *fiat*.

The Hebrews had four kinds of *amen*. That juſt mentioned they called *amen paſt*, which was accompanied with the greateſt attention and devotion: in this ſenſe the word has paſſed into almoſt all languages, without any alteration.

Some authors are of opinion, that the word amen is formed of the initial letters of theſe words, *Adonai, Melech Neeman, Dominus Rex Fidelis;* an uſual expreſſion among the Jews when they would give weight or ſanction to any thing they ſaid. In effect it is known that to expreſs the words אדני מלך נאמן *Adonai Melech Neeman*, in the ordinary way of abbreviatures; the rabbins only take the initial letters, which, joined together, are really the letters of the word אמן, *amen*.

On the other hand, there are ſome of their Cabbaliſts, who according to their uſual manner of finding a hidden meaning in words, which they call *notaricon*, out of the letters of the word amen form the whole phraſe *Adonai Melech Neeman*.

Yet it is certain alſo that the word amen was in the Hebrew tongue before ever there were any ſuch things as cabbala or cabbaliſts in the world, as appears from Deuteronomy, chap. xxvii. ver. 15.

The primitive of the word *amen* is the verb *aman*, which, in the paſſive voice, ſignifies to be true, faithful, conſtant, &c. Hence came the noun אמן *amen*, which ſignifies *truth*. And, laſtly, of this noun *amen* they made a kind of affirmative adverb, which, when placed at the end of any phraſe, or propoſition, ſignifies, *ſo be it, be it true, I acquieſce in it*, &c. Thus in the paſſage above cited from Deuteronomy, Moſes ordered the Levites to cry aloud to the people, *Curſed is he that makes any graven or molten image, &c. and all the people ſhall ſay amen*, i. e. yes, may he be curſed, we deſire, we agree to it.—But at the beginning of a phraſe, as in ſeveral paſſages of the New Teſtament, it ſignifies, truly, verily.—When it is redoubled, or repeated twice together, as is always done by St. John, it has the effect of a ſuperlative; agreeably to the genius of the Hebrew tongue, and her two daughters, the Chaldee, and Syriac.—In this ſenſe we are to underſtand *amen, amen, dico vobis*. The Evangeliſts uſually preſerve the Hebrew word *amen*, in their Greek αμην, though St. Luke ſometimes renders it by αληθως, *truly*, or ναι, *certainly*.

AMENABLE, or AMAINABLE, from the Fr. *amener*, or *main, hand*, is applied in our *law-books* to a woman, who is ſuppoſed to be governable by her huſband.

It is likewiſe uſed to ſignify a right or power of bringing perſons before a particular juriſdiction: thus, we ſay, a perſon is *amenable* before ſuch a court, or magiſtrate.

AMENANUS, in *Ancient Geography*, a river which paſſed by Catana.

AMEND, or AMENDE, in the French *Cuſtoms*, a mulct, or pecuniary puniſhment, impoſed by a ſentence of the judge; for any crime, falſe proſecution, or groundleſs appeal.

AMENDE HONORABLE, denotes an infamous kind of puniſhment, uſed in France, &c. on traitors, parricides, ſacrilegious perſons, and other heinous criminals.

It conſiſts in this, that the offender is delivered up to the common hangman; who, having ſtript him to his ſhirt, and put a rope about his neck, and a wax taper in his hand, leads him to the court, where he is to beg pardon of God, the king, the court, and his country.

Sometimes the puniſhment ends here; and ſometimes death, or the galleys, are added.

The phraſe *amende honorable* is alſo uſed by way of alluſion, where a perſon is condemned to come into court, or into the preſence of ſome perſon injured, and make an open recantation, aſk pardon, &c.

AMENDMENT, in a general ſenſe, a change made in a thing for the better.

Amendment amounts to much the ſame with melioration, reformation, correction, &c.

AMENDMENT, in *Agriculture*, is more particularly uſed for a MANURE laid on the ground, to fatten or enrich it.

AMENDMENT, in a *literary ſenſe*, is uſed to denote the corrections and other alterations made in the poſterior editions of books. In this ſenſe, amendments are alſo denominated emendations.

AMENDMENT, in *Law*, the correction of an error committed in a proceſs, and diſcovered after judgment.

If the error be committed in giving judgment, *viz.* if a wrong judgment be given, there they cannot amend it; but the party aggrieved muſt bring his writ of error.—However, where the fault appears to be in the clerk who writ the record it may be amended. Terms de Ley. 39.

At common law there was little room for amendments; for, ſays Britton in a treatiſe, publiſhed in the name and by the authority of the king, probably about the 13 Edw. I., becauſe the laſt ſtatutes therein referred to are thoſe of Winchester and Weſtminſter the ſecond, the judges are to record the parols or pleas, deduced before them in judgment; and king Edw. I. granted to the juſtices to make record of pleas pleaded before them, but prohibited their making their own record a warranty for their own wrong, and raiſing their rolls, amending them, and recording them contrary to their original enrolment. So rigidly was this ſtatute obſerved, that when juſtice Hengham, in the ſame reign, was induced from motives of mere compaſſion for a poor man, who was fined 13s. 4d. to eraſe the record and to make it 6s. 8d., he was fined 800 marks. With this fine, it has been ſaid, a clock-houſe was built at Weſtminſter, and furniſhed with a clock; but the true æra of the invention and uſe of clocks in this country, which did not take place till about 100 years afterwards, or about the cloſe of the 14th century,

falſifies

falſifies this ſtory. There were, however, ſome caſes, that were amendable at common law. Original writs were not amendable at common law; for if the writ be not good, the party may have another: judicial writs may and often have been amended. 8 Rep. 157. Whatever at common law might be amended in civil caſes, was at common law amendable in criminal caſes, and ſo it is at this day: reſolved by Holt, Ch. J. Powell, and Powis J. 1 Salk. 51.

Formerly the ſuitors were much perplexed by writs of error brought upon very ſlight and trivial grounds, as miſpellings and other miſtakes of the clerks, all which might be amended at the common law, while all the proceedings were in *paper;* for they were then conſidered as only *in fieri*, and therefore ſubject to the controul of the courts. But when once the record was made up, it was formerly held, that by the common law no amendment could be permitted, unleſs within the very term in which the judicial act ſo recorded was done; for during the term the record is in the breaſt of the court; but afterwards it admitted of no alteration. But now the courts are more liberal; and, when juſtice requires it, it will allow of amendments at any time while the ſuit is depending, notwithſtanding the record be made up, and the term be paſt. For they at preſent conſider the proceedings as *in fieri*, till judgment is given; and therefore, that, till then, they have power to admit amendments by the common law; but when judgment is once given and enrolled, no amendment is permitted in any ſubſequent term. Stat. 11 Henry IV. c. 3. Miſtakes are alſo effectually helped by the ſtatutes of amendment and *jeofails*, ſo called, becauſe when a pleader perceives any ſlip in the form of his proceedings, and acknowledges ſuch error (*jeo faille* or *j'ai faillè*), he is at liberty by thoſe ſtatutes to amend it; which amendment is ſeldom actually made, but the benefit of the acts is attained by the court's overlooking the exception. Stra. 1011. Theſe ſtatutes are 12 in number; and by theſe all trifling exceptions are ſo thoroughly guarded againſt, that writs of error cannot now be maintained, but for ſome material miſtake aſſigned. See Com. Dig. tit. *Amendment.*

By ſtat. 14 Edw. III. c. 6. no proceſs ſhall be annulled or diſcontinued by the miſpriſion of the clerk in writing one ſyllable or one letter too much or too little; but it ſhall be amended; and by ſtat. 9 Henry V. c. 4. it is declared, that the judges ſhall have power to make theſe amendments, as well *after* as *before* judgment, as long as the record in proceſs is before them. This ſtatute is confirmed by ſtat. 4 Hen. VI. c. 3. For further enlarging the authority of the courts the ſtatute 8 Hen. VI. c. 12. gives power to amend what they ſhall think in their diſcretion to be the miſpriſion of their clerks in any record, proceſs, and plea, warrant of attorney, writ, pannel, or return. There are only two ſtatutes of amendments, *viz.* 14 Ed. III. ſtat. 1. c. 6. and 8 Hen. VI. c. 12. and 15.; the reſt are reckoned to be ſtatutes of jeofails, and not of amendments. As theſe ſtatutes only extended to what the juſtices ſhould interpret the miſpriſion of their clerks, and other officers, it was found by experience, that many juſt caſes were overthrown *for want of form*, and other failings, not aided by ſtat. 8 Hen. VI. c. 15. though they were good in ſubſtance; and therefore the ſtatutes of jeofail were made. By ſtat. 32 Hen. VIII. c. 30. it is enacted, that if the jury have once paſſed upon the iſſue, though afterwards there be found a *jeofail* in the proceedings, yet judgment ſhall be given according to the verdict. The ſtat. 18 Eliz. c. 14. ordains, that after verdict given in any court of record, there ſhall be no ſtay of judgment, or reverſal, for want of form in a writ, count, plaint, &c. or for want of any writ original or judicial; or by reaſon of inſufficient returns of ſheriffs, &c. By ſtat. 21 Jac. I. c. 13. if a verdict ſhall be given in any court of record, the judgment ſhall not be ſtayed or reverſed for variance in form between the original writ or bill and the declaration, or for want of averment of the party's being living, ſo as the perſon is proved to be in life; or for that the *venire facias* is in part miſ-awarded; for miſnomers of jurors, if proved to be the perſons returned; want of returns of writs, ſo that a pannel of jurors be returned, and annexed to the writs; and for that the return-officer's name is not ſet to the return, if proof can be made that the writ was returned by ſuch officer, &c.

The ſtat. 16 and 17 Car. II. c. 8. called in 1 Ventr. 100. an omnipotent act, and made perpetual by ſtat. 22 and 23 Car. II. c. 4. enacts, that judgment ſhall not be ſtayed or reverſed after verdict in the courts of record at Weſtminſter, &c. *for default in form;* or becauſe there are not pledges to proſecute upon the return of the original writ, or becauſe the name of the ſheriff is not returned upon it, for default of alleging and bringing into court of any bond, bill, or deed, or of alleging or bringing in letters teſtamentary or of adminiſtrations; or for the omiſſion of *vi* and *armis*, or *contra pacem*, miſtaking the Chriſtian name or ſurname of either party, or the ſum of money, day, month, or year, &c. in any declaration or pleading, being rightly named in any record, &c. preceding; nor for want of the averment of *hoc paratus eſt verificare*, or for not alleging *prout patet per recordum*, for that there is no right *venire*, if the cauſe was tried by a jury of the proper county or place; nor ſhall any judgment after verdict, by confeſſion, *cognovit actionem*, &c. be reverſed for want of *miſericordia* or *capiatur*, or by reaſon that either of them be entered, the one for the other, &c.; but all ſuch defects, *not being againſt the right of the matter of the ſuit*, or *whereby the iſſue or trial is altered*, ſhall be *amended* by the judges:—though not in ſuits of *appeal*, of *felony*, *indictments*, and *informations*, on *penal ſtatutes*, which are excepted out of the act.

By ſtat. 4 and 5 Ann. c. 16. all the ſtatutes of *jeofails* ſhall extend to judgments entered by confeſſion, *nil dicit*, or *non ſum informatus* in any court of record, and no ſuch judgment ſhall be reverſed, nor any judgment or writ of inquiry of damages thereon ſhall be ſtayed for any defect which would have been aided by thoſe ſtatutes, if a verdict had been given, ſo as there be an original writ filed, &c.—By ſtat. 9 Ann. c. 20. § 7. this act and all other ſtatutes of *jeofail* are extended to writs of *mandamus* and *informations*, in the nature of a *quo warranto:* the ſtatutes of amendment and jeofails not being conſtrued to extend to criminal proceedings, or on penal ſtatutes in general. Bull. N. P. 325. 2 Mod. 144. But a *mandamus* may not be amended after return. 4 Term. Rep. 689. The ſtat. 5 Geo. I. c. 13. ordains, that, after verdict given, judgment ſhall not be ſtayed or reverſed for defect in form or ſubſtance in any bill or writ, or for variance therein from the declaration, or any other proceedings.

By the foregoing ſtatutes, from 14 Edw. III. c. 6. to 8 Hen. VI. c. 15. the faults and miſtakes of clerks are in many caſes amendable; the miſpriſion of a clerk in matter of *fact* is amendable, though not in matter of *law*. Palm. 258. If there be a miſtake in the legal form of the writ, it is not amendable; the negligence of the clerk ſhall be amended, but his ignorance in the legal courſe of original writs is not amendable. 8 Rep. 159. A party's name was miſtaken in an original writ; and it appearing to the court

that the curſitor's inſtructions were right, the writ was amended in court; and they amended all the proceedings after. 2 Vent. 152. Cro Car. 74. If a thing which the plaintiff ought to have entered himſelf, being a matter of ſubſtance, be totally omitted, this ſhall not be amended; but otherwiſe it is, if omitted only in part and miſentered. Danv. Abr. 346. By the common law a writ of error, returned and filed, could not be amended; becauſe it would alter the record; but now by ſtat. 5 Geo. I. the writs of error, wherein there ſhall be any variance from the original record, or other defect, may be amended by the court where returnable.

When the award of a writ of inquiry on the roll is good, the writ ſhall be amended by the roll. The court cannot amend to make a new writ, or to alter a good writ and adapt it to another purpoſe, &c. only when the writ is *prima facie* bad. Mod. Caſ. 263. 316. Annaly 367. A declaration grounded on an original writ may not be amended, if the writ be erroneous; though if it be on a bill of Middleſex or a latitat, it is amendable. 1 Lill. Abr. 67. A plaintiff may amend his declaration in matter of form, after a general iſſue pleaded, before entry thereof, without payment of coſts; if he amend in ſubſtance, he is to pay coſts, or to give imparlance; and if he amend after a ſpecial plea, though he would give imparlance, he muſt pay coſts. 1 Lill. 58. A declaration in ejectment laid the demiſe before the time; this was not amendable, becauſe it would alter the iſſue and make a new title in the plaintiff. 1 Salk. 48. A demurrer may be amended after the parties have joined in demurrer, if it is only on paper. Style. 48. For the amendment of a plea, in paper or on record, &c. ſee ſtat. 4 Geo. II. c. 26.

As to the amendments of records, &c. an iſſue entered upon record, with leave of the court may be amended; but not in any thing material, or that ſhall deface the record. 1 Lill. Abr. 61. A record may be amended by the court in a ſmall matter, after iſſue joined, ſo as the plea be not altered. Danv. Abr. 338. If on a writ of error a record is amended in another court in affirmance of the judgment, it muſt be amended in the court where judgment was given. Hard. 505. Where the record of *niſi prius* does not agree with the original record, it may be amended after verdict, provided it do not change the iſſue; but a record ſhall not be amended to attaint the jury, or prejudice the authority of the judge. A general or ſpecial verdict may be amended by the notes of the clerk of aſſize in civil cauſes; but not in criminal actions. 1 Salk. 47. The iſſue roll ſhall be amended by the imparlance roll, which is precedent; but a roll may not be amended after verdict, where there is nothing to amend it by; though ſurpluſage may be rejected, and ſo make it good. Cro. Car. 92. 1 Sid. 135.

A miſtake of the clerk in entering a judgment was ordered to be amended. Cro. Jac. 351. Hutt. 41. A judgment may be amended by the paper-book, ſigned by the maſter. 1 Salk. 50. At common law, the judges may amend their judgment of the ſame term, and by ſtatute of another term. 8 Rep. 156. 14 Edw. III. If judgments are not well entered, on payment of coſts, they will be ordered to be done ſo. When judgments are entered, it is ſaid that the defects therein being the act of the court, and not the miſpriſion of the clerk, are not amendable. Golſb. 104. Miſtakes in returns of writs, fines, and recoveries, by mutual aſſent of parties may be amended. Judgment ſhall not be ſtayed after verdict, becauſe an original wants form, or varies from the record in point of form, which are amendable. 5 Rep. 45. After verdict given in any court of record, there ſhall be no ſtay of judgment for want of form in any writ, or inſufficient returns of ſheriffs, variance in form between the original writ and declaration, &c. Stat. 32 Hen. VIII. 18 Eliz. 5 Geo. I. c. 13. The *poſtea* may be amended by the judge's notes. 1 Wilſ. 33. 2 Stra. 1797. For amendments in informations by the attorney general, ſee 4 Term. Rep. 457, 8. Amendments are uſually made in affirmance of judgments, and ſeldom or never to deſtroy them; and where amendments were at common law, the party was to pay a fine for leave to amend. 3 Salk. 29. Jacob's Law Dict. by Tomlins, art *Amendment*. Blackſt. Com. vol. iii. p. 407.

AMENDMENT *of Bills in Parliament*, means ſome alteration made in the original draught; and we read of *amendments* of *amendments*, *amendments* of returns of repreſentatives, &c.

In caſes of wrong returns, ſo reported by the committee of privileges and elections, and voted by the houſe of commons, it is uſually ordered, that the returns be *amended* by the returning officer, according to the directions of the houſe, without iſſuing a new writ.

Amendments ought always to be in that houſe from whence the thing to be amended originally proceeded, though the directions for the amendments came from the other houſe. Hakew. Mann. of Paſſing Bills, p. 167.

AMENDOLARE, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Calabria Citra; fourteen miles north-eaſt of Caſſano.

AMENDUS, in *Ancient Geography*, a town of Caria, ſuppoſed, by Martiniere, to be Myndus.

AMENEBURG, in *Geography*, a town of Germany, in the circle of the Lower Rhine, five miles eaſt-ſouth-eaſt of Marpurg, 48 north-north-eaſt of Mentz.

AMENIA, a town of Aſia Minor, belonging to the Chalybes, who inhabited the eaſtern part of Pontus.

AMENIA, in *Geography*, a thriving townſhip of Ducheſs County, New York, in America, ſix miles from Sharon, in Connecticut; containing 3078 inhabitants, of whom 383 are electors.

AMENORRHOEA, formed of *α priv.* μὴνες, the *menſes*, and ῥέω, to *flow*, in *Medicine*, is an abſence or deficiency of the *menſtrual* excretion in women, between the age of thirteen and forty-ſeven. See MENSES, OBSTRUCTION, and CHLOROSIS.

AMENTACEOUS, in *Botany*, a term applied to the flowers of certain trees and plants, which are compoſed of a vaſt number of *apices*, or *antheræ*, hanging down in form of a rope, ſuch as the hazel, &c. See CATKIN.

AMENTACEÆ denote one of the claſſes of plants in Linnæus's natural method of claſſification; and they are ſuch as bear catkins.

AMENTIA, in *Medicine*, is that deficiency of memory or reaſoning which conſtitutes an IDIOT. This lamentable malady is placed, by Dr. Cullen, under *nervous* diſeaſes affecting the *mind*; becauſe the mental deficiency is generally the moſt prominent ſymptom. In many inſtances, however, the bodily defects are equally conſpicuous, and we may conclude that the *cauſe* of the diſeaſe is always to be traced to ſome imperfect organization of the body, particularly the brain and head.

A degree of mental imbecility is ſometimes obſerved to follow violent *fevers* and *apoplectic* attacks; and this is the only kind from which we expect a patient to recover.

In theſe caſes the return of mental power is obſerved to be proportionable to that of the corporeal functions; and therefore

therefore to be promoted by the means employed in the treatment of theſe diſeaſes.

AMENTUM, in *Antiquity*, a leathern thong faſtened about the middle of a dart, or javelin, whereby, after caſting it at the enemy, it might be drawn back again to the owner. The amentum ſerved alſo to increaſe the force of the ſtroke; for which reaſon, ſome of their great men refuſed to uſe it, as confiding wholly in the natural ſtrength of their own arms. *Amentum* denoted alſo a leathern ſtring or latchet that bound their ſandals.

AMENTUM, in *Botany*, ſee CATKIN.

AMENY, in *Geography*, one of the Laccadive iſlands, ſituate in the Indian Sea. N. lat. 11° 37′. E. long. 72° 30′.

AMER, a river of Germany, which runs into the Neckar, one and one-half mile eaſt of Tubingen.

AMERADE, a kind of officers among the Saracens, anſwering to the governors of provinces among the Europeans.

The name is originally the ſame with that of *emir*.

AMERBACH, JOHN, in *Biography*, a learned printer, was born at Reutling, in Swabia, and acquired great reputation in the practice of his art at Baſil. The works of Auguſtin were very correctly printed, for the firſt time, at his preſs, in 1506. He begun an edition of Jerom, but died, in 1515, before it was finiſhed. We are indebted to Amerbach for the introduction of the beautiful and uſeful Roman type inſtead of the Gothic and Italian.

AMERCEMENT, or AMERCIAMENT, from Fr. *Merci*, in *Law*, a pecuniary puniſhment impoſed upon the offenders, at the diſcretion of the court; frequently alſo called *miſericordia*.

In the new Terms of the Law, *amercement* is ſaid to be properly a penalty aſſeſſed by the peers or equals of the party *amerced*, for an offence done; for which he puts himſelf upon the mercy of the lord.

There is this ſtated difference between fines and amercements; that fines are puniſhments certain, and determined by ſome ſtatutes; but amercements are arbitrary impoſitions, proportioned to the fault, and wholly at the mercy of the court.—Manwood, in his *Foreſt Law*, makes another difference; as if an amercement were a more eaſy and merciful penalty, and a fine a more ſharp and grievous one. If amercements were too grievous, releaſe might be ſued by an ancient writ called *moderata miſericordia*.

Fines alſo are impoſed and aſſeſſed by the court; amercements by the country: and no court can impoſe a fine, but a court of record; other courts can only amerce. 8 Rep. 39. 41. A town ſhall be amerced for the eſcape of a murderer in the day-time: and if the town be walled, it is ſaid it ſhall be ſubject to amercement, whether by day or night. 3 Inſt. 53.

By the ſtatute of *Magna Charta*, c. 14. a freeman is not to be amerced for a ſmall fault, but proportionable to the offence, and that by his peers. 9 Hen. III. c. 4.

Before this period amercements were often exceſſive, and they were impoſed on a thouſand different occaſions, not only for real crimes, but for trivial or imaginary offences, and on the moſt frivolous pretences; of courſe they were the ſources of infinite vexations to the ſubjects, as well as of great riches to the ſovereigns of England. They fell heavy not only on the common people, but upon the greateſt prelates, and moſt powerful barons of the kingdom. This gave occaſion to the above-mentioned article of the great charter, and to the rules founded upon it, which enacted, that no man ſhould have a larger amercement impoſed upon him than his circumſtances or perſonal eſtate would bear; ſaving to the landholder his contenement or land, to the trader his merchandize, and to the countryman his wainage, or team and inſtruments of huſbandry. In order to aſcertain which, the great charter alſo directs, that the amercement, which is always inflicted in general terms (*"ſit in miſericordia,"*) ſhall be ſet, *ponetur*, or reduced to a certainty, by the oath of good and lawful men of the neighbourhood, which method of liquidating the amercement to a preciſe ſum was uſually performed in the ſuperior courts by the aſſeſſment or aſſeerment of the coroner, a ſworn officer choſen by the neighbourhood, under the equity of the ſtatute Weſtm. 1. c. 18. and then the judges eſtreated them into the exchequer. But in the court leet and court baron it is ſtill performed by aſſeerors, or ſuitors ſworn to aſſeere, that is, tax and moderate the general amercement, according to the particular circumſtances of the offence and the offender. Amercements impoſed by the ſuperior courts on their own officers and miniſters were aſſeered by the judges themſelves; but when a pecuniary mulct was inflicted by them on a ſtranger, (not being party to any ſuit), it was then denominated a FINE; and the ancient practice was, when any ſuch fine was impoſed, to inquire by a jury, *quantum inde regi dare valeat per annum, ſalva ſuſtentatione ſua, et uxoris, et liberorum ſuorum*. And ſince the diſuſe of ſuch inqueſt, it is never uſual to aſſeſs a larger fine than a man is able to pay, without touching the implements of his livelihood; but to inflict corporal puniſhment, or a limited impriſonment, inſtead of ſuch fine as might amount to impriſonment for life. Hence it happens that fines in the king's court are frequently denominated ranſoms, becauſe the penalty otherwiſe falls upon a man's perſon, unleſs it be redeemed or ranſomed by a pecuniary fine; according to an ancient maxim, *qui non habet in crumena luat in corpore*. Yet, where any ſtatute ſpeaks both of fine and ranſom, it is holden, that the ranſom ſhould be treble to the fine at leaſt. Blackſt. Com. vol. iv. p. 380.

A court leet can amerce for public nuiſances only. 1 Saund. 135. For a fine and all amerciaments in a court leet, a diſtreſs is incident of common right: but for amerciament in a court baron, diſtreſs may not be taken but by preſcription. 11 Rep. 45. When amerciament is agreed on, the lord may have an action of debt, or diſtrain for it, and impound the diſtreſs, or ſell it at his pleaſure; but he cannot impriſon for it. 8 Rep. 41. 45.

There is alſo amercement in pleas in the courts of record, when a defendant delays to tender the thing demanded by the king's writs, on the firſt day. Co. Litt. 116. And in all perſonal actions without force, as in debt, detinue, &c. if the plaintiff be non-ſuited, barred, or his writ abate for matter of form, he ſhall be amerced; but if on judicial proceſs, founded on a judgment and record, the plaintiff be non-ſuited, barred, &c. he ſhall not be amerced. 1 Nelſ. Abr. 206. And an infant, if non-ſuited, is not to be amerced. Jenk. Cent. 258.

Amerciament royal, is uſed by ſome to denote a pecuniary puniſhment laid upon a ſheriff, coroner, or ſuch-like officer of the king, by juſtices, for ſome offence or abuſe in his office.

AMERI, in *Botany*. See INDIGOFERA.

AMERIA, in *Ancient Geography*, a diſtrict of Armenia, mentioned by Strabo (tom. ii. p. 835.) ſituate in the vicinity of Cabira, in which was a temple of the month Pharnacus, a number of prieſts or Hieroduli, and a ſacred territory, the fruits of which were appropriate to the pontifex. The

mouth Pharnacus, which was the deity denominated Lunus among the ancients, was held in ſuch veneration, that the oath by the fortune of the king and of the mount Pharnacus, was called the *royal oath*.

AMERIA, now AMELIA, a town of Italy, ſouth-weſt of Spoleto, founded, according to Cato, 964 years before the Perſian war, or 1135 years B. C. Auguſtus eſtabliſhed a colony in it. The celebrated Roſcius is ſaid to have been a native of this city. The whole of its territory was aſſigned by Auguſtus to the veteran ſoldiers.

AMERIA, in *Geography*, a town of Aſiatic Turkey, in Natolia, 72 miles eaſt of Kutaja. N. lat. 39° 25'. E. long. 32° 14'.

AMERICA, *General Hiſtory of*. Throughout the hiſtory of the world no event more curious, in the eye of the philoſopher, has happened than the diſcovery of the new continent, which, with its ſurrounding ſeas, forms a complete hemiſphere of our planet, whereof the ancients knew no more than a hundred and eighty degrees of longitude, which might even, by a ſtrict diſcuſſion, be reduced to a hundred and thirty; for, ſuch is the error of Ptolemy, that he ſhoves back a hundred and forty-eight degrees and more the eaſtern mouth of the Ganges, which, according to aſtronomical obſervations, taken by the moderns, is ſettled at about a hundred and eight: thus manifeſtly giving an overplus of forty degrees of longitude in the ſtatement of Ptolemy, who ſeems to have had no notion of any of the parts beyond what we denominate Cochinchina, which conſequently forms the eaſtern boundary of the world, as known to the ancients, as our firſt meridian is the boundary of the world to the weſt.

To pretend that the Phœnicians and the Carthaginians made the voyage to America is an opinion truly ridiculous, and no better ſupported on authentic documents than the ſtories related in our times of the pretended navigations of the Chineſe towards the ſhores of Mexico. It is well known, from inquiries made at Pekin, that the work wherein ſome traces of theſe navigations to the latitudes of Mexico were ſuppoſed to be found, is a romance to the full as groſs as the fictions related by Ælian, (Hiſt. Diverſ. lib. iii.) in regard to an imaginary country, entirely full of gold, and which has ſeemed to have a complete conformity with Peru, in the eyes of ſeveral of the learned, whoſe judgment was extremely confined. Notwithſtanding what Voſſius is pleaſed to ſay, in his commentaries on Pomponius Mela, and M. Huet, in his diſſertation on the commerce of the ancients, where he cites the *Annals of Ormus*, which nobody knows, it is certain that the Chineſe never took long voyages; and that in 1430 they had not any notion whatever of the iſland Formoſa, which is at no greater diſtance than eighteen leagues from their coaſt. If they had been in the practice of making long voyages, their ignorance in geography would not be ſo prodigious as it actually is at preſent, to ſuch a degree that they have never been able to lay down the map of China: accordingly, whenever they wanted a map of China, they have been obliged to employ Europeans, whoſe performances we are well acquainted with, and know them to fall very far ſhort of what poſitive geography has a right to demand concerning ſo vaſt a region as Aſia.

If any people in Europe in reality did frequent ſome parts of the coaſt of North America prior to the æra of the navigations of Columbus and Veſpucius, it muſt have been the Icelanders and Norwegians; ſince it cannot be diſputed that both the one and the other of theſe people had before the fifteenth century formed ſettlements in Greenland, which ſhould at preſent be reckoned as a part of the new continent. But here, we cannot avoid obſerving, that we ſhould never have been able to diſcover the centre of America, if no other way had been found for penetrating thither, than that of Greenland, by reaſon of the huge bodies of ice which at once prevent any great progreſs within land, and from making any conſiderable advances towards the pole. Beſides, the danger to be encountered in theſe high latitudes, the exceſſive ſeverity of the climate, the want of every ſpecies of ſuſtenance, and the little hope of meeting with any treaſures to counterbalance the arduous enterpriſe, would have been enough to diſhearten the moſt intrepid navigators. Chriſtopher Columbus, however, in 1492, diſcovered an eaſy paſſage; and, when we perceive him puſhing up as far as the 25th degree of north latitude, to fetch that eaſt wind which commonly prevails between the tropics, and afterwards proceeding in nearly a ſtraight line to the iſland of St. Domingo, we are almoſt tempted to believe that he had a previous intimation of that track; and therefore, the Spaniards, with a degree of ingratitude altogether monſtrous, endeavoured to deprive that great man, becauſe he was not born in Spain, of the credit of his diſcovery, by publiſhing on this occaſion the moſt puerile and contradictory fables. The truth of the matter is, that Columbus ſubmitted to be guided by one of his brothers, named Bartholomew, who was a geographer by profeſſion; and in drawing his maps of the world, ſuch as they were able to make them at that time, he was perpetually aſtoniſhed, that of three hundred and ſixty degrees of longitude, only a hundred and eighty at moſt were known; and, of courſe, there remained as much of the world to be diſcovered as had already been found out: and as it ſeemed by no means probable that the ocean could extend, without any interruption, over one entire hemiſphere, he maintained, that by keeping conſtantly to the weſt from the Canaries, they muſt infallibly come either to iſlands or to a continent. And in fact ſo it turned out. They firſt came to iſlands, and then to a continent, where every thing wore the face of ſuch extreme deſolation, that one cannot reflect upon it without amazement. It is by no means our intention here to follow the ancient ſtories, in which, to the credulity of childhood has been added the dreams of dotage. In theſe accounts whatever we meet with ſavours of the marvellous; nothing is examined into: it ſhall be our buſineſs, therefore, to endeavour at communicating to the reader clearer notions and juſter ideas.

Among the various populations diſperſed throughout the foreſts and deſerts of this newly diſcovered world, it is not poſſible to point out above two that had formed any ſort of political ſociety, the Mexicans and the Peruvians, and even their hiſtory is ſtuffed with fables. Beſides, their population muſt have been much lower than has been ſtated, ſince they had no iron inſtruments for felling the trees, nor for tilling the ground; they had no animal fit for drawing the plough, and the conſtruction of the plough itſelf was even unknown to them. It is eaſily conceived, that when the labour of the field muſt altogether be done with a wooden ſhovel, and by the hand, it is impoſſible to lay out much ground in agriculture: and without a regular agriculture, wherein the labour of animals concurs with that of mankind, no people can become numerous in any part of the world. It is, however, very ſurpriſing, that at the time of its diſcovery America poſſeſſed ſcarcely any animal fitted for tillage: the ox and the horſe were unknown, as well as the aſs, which was anciently employed in culture by ſeveral nations of our continent, as in Bœtica and Lybia, where the lightneſs of the

the ſoil, ſays Columella, (De Re Ruſt. lib. vii.) enabled this animal to ſupply the place of horſes and oxen. It is commonly thought that the American biſon might have been ſerviceable in tillage; but the biſon being of a rude untractable nature, it would have required a long ſeries of generations to tame him gradually for the purpoſes of huſbandry. Now this is what no one ever even thought of in America, where the people are both leſs induſtrious and leſs inventive than the inhabitants of our hemiſphere: their lazineſs and indolence particularly ſtruck the more attentive and ſagacious obſervers. In ſhort, the ſtupidity they evince on certain occaſions is ſuch, that they ſeem, according to the expreſſion of M. de la Condamine, to live in eternal infancy. (Voyage ſur le fleuve des Amazones.)

At the ſame time no irregularity has been noticed in their outward organs, unleſs we chuſe to except the abſolute defect of a beard, and of that down which perſons of both ſexes ſhould have on the chin, after arriving at the age of puberty. It is in vain to affirm that the germ of this ſoft down is deſtroyed or eradicated, ſince at a very advanced age, here and there ſome ſcattered hairs of it grow, which they commonly pluck up with nippers made of ſhells. Their ſtature differs not from that of others of our ſpecies in the temperate zones: for beyond the arctic circle, the tribe of Eſquimaux or Innuits, though of American deſcent, is compoſed of only ſhort people; becauſe the action of the extreme cold is hoſtile to the complete expanſion of the members; and the caſe is nearly the ſame with the inhabitants of Greenland, which is known to have been originally peopled by hordes of American race, of which the perfect agreement between the language of the Greenlanders and that of the Eſquimaux leaves no room to doubt.

Nothing but a blind fondneſs for the marvellous could have occaſioned the propagation of ſuch abſurd figments as thoſe relating to a gigantic race, found on the Magellanic ſhores, now cuſtomarily denominated Patagonia. The moſt ſenſible navigators, as Narbrough, (Voyage to the South Seas,) who have had communication with the Patagonians, deſcribe them to be of the ordinary ſtature of mankind, living by ſmall troops in thoſe immenſe regions, where the Engliſh, who traverſed them from one extremity to the other, from Cape Blanco to Buenos Ayres, ſaw not an inch of ground cultivated, nor the leaſt trace of tillage; inſomuch that the difficulty of finding the means of ſubſiſtence muſt have been exceedingly great, prior to the time of the diſcovery, and while there was not a horſe in exiſtence, ſince the fleſh of that animal is at preſent almoſt the ſole nouriſhment of the Patagonians who occupied the midland countries between the river de la Plata, and the 45th degree of ſouth latitude. Such is the extreme indolence of theſe ſavages, that they devour the very animals by means of which they might clear their deſerts, and at length put an end to that miſerable mode of exiſtence in which they are not a jot above the level of the beaſts under the guidance of inſtinct alone.

We ſhall not, as has been hitherto done, reckon among the particular and diſtinct races, thoſe Blaſards that are found in numbers by no means conſiderable at Coſta Rica, and the iſthmus of Darien, (Wafer's Deſcription of the Iſthmus of Darien, and Coreal Voyages, tom. i.) this being only a diſeaſe, or an accidental alteration in the temperament of the parents who produced theſe diſcoloured individuals, who are known to bear a great analogy with the white negroes, or the Dondos of Africa, and with the Kakerlakes of Aſia. The diſtemper in which theſe ſymptoms originate attacks more or leſs all the black or extremely ſwarthy people in the hotteſt climates of the globe. The pygmies, ſpoken of in an account tranſlated by M. Gomberville of the French academy, the himantopodes, or ſavages having the inflection of the knee turned backwards, and others that have but one leg, may be ranked in the ſame claſs with the Amazons, and the inhabitants of El Dorado, among the abſurdities which ſome travellers have been weak enough to believe, and vain enough to publiſh. All the monſtrous people that have been ſeen in the New World, were rendered ſo by artifice; ſuch as thoſe that have the head completely round, and are called bowl-heads, thoſe who have it flatted, and are denominated plagiocephali; in ſhort, ſuch as have it conical, or lengthened out, and are ſtyled macrocephali. Among a naked people, where the garments cannot be affected by faſhions, they influence the body itſelf, and produce thoſe various deformities which have been noticed among the ſavages, ſome ſhortening their neck, others piercing the cartilage of the noſe, the lips, the balls of the cheeks, others lengthening their ears, or cauſing their legs to ſwell by means of a ligature above the ankle.

It is not known, and it will ever be a matter of difficulty to trace the true ſource of the venereal diſeaſe with which the Americans were afflicted in the Weſt India iſlands, the Caribbees, at Florida, in Peru, and throughout a great part of Mexico: on this ſubject ſeveral curious conjectures have been thrown out, ſome of them ſufficiently ridiculous. It has been pretended, that the fleſh of the fiſh intoxicated with the cururu-ape, and the fleſh of the game killed with arrows poiſoned with a ſpecies of woodbine, called woorara, produced this contagion among them. But the ancient wild people of our continent poiſoned in the ſame manner their hunting weapons, without any conſequences in the leaſt degree prejudicial to their health; and it is a well-known fact, that the fiſhes killed in the ponds with the coccula orientalis officinarum, and that the fowls ſlain in ſome diſtricts of the Alps with knives rubbed over with ſuc de napel, afford a very wholeſome nutriment. Beſides, in the iſland of St. Domingo, where the venereal diſeaſe was extremely rife, the uſe of poiſoned darts was not in practice as among the Caribs and ſeveral tribes on the Terra Firma. Neither is it true, that the ſting of a ſerpent or lizard of the iguan tribe, or that the human fleſh eaten by theſe anthropophagi, engendered the venereal virus in the blood of the inhabitants of the New World. The hypotheſis of M. Aſtruc, as ſtated in the laſt edition of his great work "De Morbis Venereis," borders far more on probability than the fanciful opinions juſt mentioned; though this hypotheſis of that famous phyſician is by no means generally adopted. We ſhall content ourſelves with obſerving, that the venereal diſeaſe may have been a morbific affection in the temperament of the Americans, like the ſcurvy in the countries of the north: for, after all, we are not to imagine that this diſtemper made the ſame ravages in America as it did in Europe ſome time after its tranſplantation.

The almoſt total want of culture, the vaſt extent of the foreſts, the immenſe tract of country, the waters of the rivers exundated from their beds, the infinite number of ſwamps and lakes, together with the hoſt of inſects which are a natural conſequence from all theſe, rendered the climate of America inſalubrious in certain parts, and much colder than it might otherwiſe be expected, conſidering the relative latitude of its territory. The difference of temperature in the two hemiſpheres, under the ſame parallels, has been eſtimated at twelve degrees, and by a cloſer calculation, it might

might even be fixed at ſome degrees more. Now, theſe ſeveral cauſes operating conjointly muſt have had an influence on the conſtitution of the indigenous people, ſo as to produce ſome alteration in their faculties: accordingly, it is only to a want of penetration that we can aſcribe the little progreſs they had made in metallurgy, the firſt of all arts, as that without which the others fall, as it were, into a lethargy. It is well known that nature has not denied iron mines to America; and yet no nation of America, neither the Peruvians nor the Mexicans, poſſeſſed the ſecret of forging that metal; whereby they were deprived of many conveniences, by rendering it impoſſible for them to make regular falls of timber in their forefts, and to reſtrain the rivers within their beds. Their hatchets of ſtone could not enter the trunks of trees, except by the application at the ſame time of fire to them; ſo that they were forced to convey away all the parts reduced to coal, in order to prevent the flame from coming at the reſt. Their proceſs was nearly the ſame whenever they wanted to make barks of a ſingle piece, or cauldrons of wood for boiling their victuals, by afterwards caſting in red hot ſtones; for comparatively but few of the ſavages had the art of making veſſels of clay. The farther theſe methods were from perfection, the more time they required in the practice: therefore, in South America it was often obſerved, that men were employed for two whole months in felling three trees. To conclude, it will be eaſily imagined, that the more ſtationary populations, as the Mexicans and the Peruvians, notwithſtanding the want of iron, had acquired a degree of induſtry greatly ſuperior to the mechanical ſkill poſſeſſed by ſuch as were diſperſed by families, like the Worons, where they have not ſufficient reſources, ſays Dr. Bancroft, for procuring the moſt neceſſary part of clothing; and it is only with the reticulation found in the cocoa nut, or with ſome bark of trees, that they cover the organs of generation. Natural Hiſtory of Guiana.

Hence we are not to be ſurpriſed, that the New World contained ſo few inhabitants at the time of its diſcovery: for the ſavage life is repugnant to the multiplication of the ſpecies beyond what we ſhould at firſt ſight imagine; ſince the leſs the ſavages cultivate the ſoil, the more ground they want to live upon. In the northern tracts of America diſtricts of forty leagues have been travelled over in all directions, without meeting with a ſingle hut, or perceiving the ſmalleſt veſtige of a habitation. After a march of nine or ten days, keeping always the ſame courſe, the traveller has perhaps come up to a petty horde, or rather a family, ſeparated from the reſt of mankind, not only by mountains and deſerts, but alſo by its language differing from all known tongues. Nothing more ſtrongly proves the little communication then ſubſiſting between the Americans in general, than the incredible number of dialects ſpoken by the different tribes of ſavages. Even in Peru, where ſocial life had made ſome faint advances, a great variety of languages was nevertheleſs found, reciprocally incomprehenſible or unintelligible, and the emperor could not iſſue his commands to the greater part of his ſubjects, except by means of interpreters. It naturally occurs on this occaſion, that the ancient Germans, though diſtributed likewiſe in populations, ſeparated by veſt deſerts, yet ſpoke only one mother-tongue; and a perſon might, before the Auguſtan age, as well as at preſent, make himſelf tolerably well underſtood by means of the Tudeſque, from the centre of Belgium, to the banks of the Oder: whereas, in the New World, we need only, ſays Acoſta, to croſs a valley for hearing another jargon. De procur. Indorum ſalut.

The depopulation was perhaps ſtill greater in the more ſouthern parts of America than in the north, where the foreſts had uſurped every thing; ſo that much of the great game might propagate, and ſuſtain themſelves in them, and at the ſame time afford nouriſhment to the hunters; whereas in the Magellanic countries there are plains upwards of two hundred leagues in extent where no wood is ſeen, but only buſhes, briars, and noxious weeds. (Beſchreib. von Patagonien.) Whether it be that the quality of the briny or acid waters found there is repugnant to the propagation of foreſts, or that the ground there ſecretes depoſitions of gravelly and ſtony ſubſtances, from which the roots of large trees can derive no aliment. In ſhort, for forming ſome idea of the deſolation of the Magellanic regions, it will ſuffice to ſay, that the Engliſh, carried into ſlavery by the Patagonians, have often travelled, in the train of their barbarous maſters, for a whole fortnight together, before they came up with a few miſerable huts covered in with horſe hides. In the village that has been ſtyled the capital of Patagonia, and where the grand cacic reſided, they could reckon in 1741, no more than fourſcore perſons of both ſexes. Anſon's Voyages. Beſides, in the ſouthern degrees of latitude, there are low lands, one part whereof is marſhy, and the other annually overflowed, becauſe the rivers and torrents, which have not channels proportionate to their volume of water, deluge the country to immenſe diſtances on the acceſs of the rainy ſeaſon in the torrid zone. From Sierra Itatin to the extremity of the miſſion of the Moxes, about the fifteenth degree of ſouth latitude, through a ſpace extending upwards of three hundred leagues, are found either theſe ſwamps or thoſe lands where the inundations frequently drive the inhabitants up the mountains: accordingly there were ſeen but few, and they ſpoke thirty-nine languages, not one of which had any affinity with the reſt. Relation de la Miſſion des Moxes.

It is thought that the entire population of the New World, at the time of its diſcovery, might be forty millions; which falls ſhort of the ſixteenth part of the total amount of the human ſpecies, upon the computation of thoſe who give to our globe eight hundred millions of individuals. Yet it is ſuppoſed, that in dimenſion the new continent is nearly equal to the old one: however, it is of conſequence to obſerve, that the calculations of Templeman, Struyck, and ſeveral others, in regard to the ſurface of America, reduced to ſquare miles, are not entitled to much confidence, as the geographical maps are ſtill too defective for ſuch an operation; and it would ſcarcely be believed, that all the known maps contain an error of almoſt a hundred leagues in the longitude alone of ſome ſtations of Mexico, as that longitude has been lately determined by an eclipſe of the moon. But this is not all, inaſmuch as there is a tract of country beyond the Sioux and the Aſſenipoils; the commencement whereof towards the weſt is not known any more than where it terminates towards the north.

M. Buffon had already obſerved, that ſome Spaniſh authors muſt have been guilty of great exaggerations in what they relate concerning the number of perſons who, according to them, were found in Peru. But nothing more completely proves that theſe writers have exaggerated, than what we have mentioned of the ſmall quantity of ground rendered productive in this country, where Zarate himſelf agrees, that there exiſted only one place that had the aſpect of a town, and that town, ſays he, was Cuſco. (Hiſt. of the Conqueſt of Peru, book i. chap. 9.) Nay, ſo long ago as the year 1510, the court of Spain ſaw, that, to remedy the depopulation of the conquered provinces in America, no

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other means were left than to tranſport negroes thither, wherein the regular traffic began in 1516, and coſt enormous ſums: it is even computed that each African brought to the iſle of St. Domingo came to upwards of two hundred ducats, or more than two hundred chequins, at the rate that the Genoeſe merchants charged for them. The Spaniards have, doubtleſs, contrary to their own intereſt, deſtroyed a great number of Americans, both by the labour of the mines and by atrocious depredations; but it is no leſs certain, that countries whither the Spaniards never penetrated, as the parts adjacent to Hudſon's Bay, are ſtill more deſert than others that fell under the yoke of the Caſtilians.

We now conceive how great the difference in the fifteenth century, between the two hemiſpheres of our globe. In one, civil life was but juſt commencing; literature was utterly unknown: the very names of the ſciences had ſcarcely been heard: the generality of trades were wanting: tillage was in ſo rude a ſtate as hardly to deſerve the name of agriculture, ſince neither the plough nor the harrow had been invented, nor any animal trained to draw them: reaſon, which alone can dictate equitable laws, had not yet cauſed her voice to be heard: human blood was ſhed upon the altars; and even the Mexicans were ſtill in ſome reſpects anthropophagi; an epithet that may alſo be extended to the Peruvians, ſince, by the confeſſion of Garcilaſſo, who is by no means prone to calumniate them, they ſhed the blood of children on the *cancu*, or ſacred bread, if that name may be aſſigned to a paſte, kneaded, ſo as for fanatics to eat it in a kind of temples by way of honouring the deity of whom they had no knowledge. In our continent, on the other hand, ſocieties had ſo long been formed, that their origin is almoſt loſt in the darkneſs of antiquity, and the diſcovery of forged iron, ſo neceſſary and ſo unknown to the Americans, has been in uſe among the inhabitants of our hemiſphere from time immemorial. For, though the proceſs employed for obtaining the malleability of a metal ſo ſtubborn in its mineral ſtate be very complicated, yet M. de Mairan has clearly proved that the ſeveral æras, at which writers have pretended to fix this diſcovery, are to be regarded as fabulous. Lettres ſur la Chine.

It is impoſſible here to enter into a regular analyſis of the ſyſtems propoſed for explaining the cauſes of this difference between the two parts of the ſame globe. It is a ſecret of nature, on which the human mind becomes more and more confuſed in proportion as it obſtinately determines to fathom it. Nevertheleſs, thoſe phyſical viciſſitudes, the earthquakes, the volcanoes, the inundations, and peculiar cataſtrophes, whereof we, who live in the calm of the elements, have not a very accurate idea, may have had ſome influence in its production: and it is well known at preſent that the moſt violent ſhocks of earthquakes, which are ſometimes felt throughout the whole extent of the new continent, communicate no ſucceſſion at all to ours. Had it not been for the private advices received from different parts, we in Europe ſhould never have known that, on the 4th of April, 1768, the whole tract of America was ſhaken: whence we may infer, that anciently dreadful calamities may have happened, whereof the inhabitants of our hemiſphere, ſo far from feeling them, have not had the ſlighteſt intimation. Neither ſhould we, following the example of ſome of the learned, apply to the New World the prodigies found in the Timæus and the Critias of Plato, concerning the Atlantis ſunk by a torrent of rain that laſted only four and twenty hours. The baſis of this tradition was brought from Egypt, but Plato embelliſhed or diſfigured it by a number of allegories, ſome philoſophical and others puerile; ſuch as the victory obtained over the Atlantides by the Athenians, at a period when Athens was not yet in being: theſe anachroniſms occur ſo frequently in the writings of Plato, that it certainly was not without reaſon that the Greeks themſelves accuſed him of being unacquainted with the chronology of his country. Athen. lib. v. cap. 12 & 13. The great difficulty is to know whether the Egyptians, who were no mariners, and conſequently could be but little verſed in poſitive geography, had any accurate knowledge concerning a large iſland or a continent ſituate beyond the pillars of Hercules. Now it muſt be owned that this is not probable; but their prieſts, while ſtudying coſmography, might ſurmiſe that there were more portions of land diſperſed in the ocean than they had knowledge of. The leſs they knew, from the total want of navigation, the more natural it is that they ſhould have fallen on this conjecture; and eſpecially if it could be ſhewn that prior to the menſuration of the earth performed in Egypt by Eratoſthenes, under Euergetes, the prieſts had already an idea of the actual dimenſions of the globe. However this be, their doubts and their ſurmiſes concerning the exiſtence of ſome large tract of country, had no more relation to America in particular than to all other lands with which they were unacquainted; and the limits of the ancient world, preciſely as we have fixed them, remain invariably the ſame.

That the cataclyſm, or inundation of the Atlantis, rendered the ſea beyond the ſtraits of Gibraltar ſo muddy as to make it innavigable, as Plato affirms, is flatly contradicted by all experience from the voyage of Hanno to our own times. And yet M. Geſner, whoſe erudition is univerſally acknowledged, thought that the iſle of Ceres, ſpoken of in a poem of very high antiquity, attributed to Orpheus under the title of Αργοναυτικα, was a fragment of the Atlantis: but this iſle, which is deſcribed by its foreſts of pines, and particularly by the black clouds which ſurround it, has no where been found; ſo that it muſt have been ſwallowed up in the abyſs ſubſequent to the Argonautic expedition, even ſuppoſing, contrary to all probability, or rather contrary to poſſibility, that theſe Arganauts could have come from the Euxine into the Atlantic ocean, by conveying the ſhip Argo from the Boryſthenes into the Viſtula, to enable them afterwards to enter the Mediterranean by the columns of Hercules, as it is mentioned towards the end of that poem aſcribed to Orpheus; whence we may conclude, that there has been no ſparing of the marvellous, and that M. Geſner might have been leſs credulous without any impeachment of his prudence.

If we find any where to the weſt of us ſome traces of a continent converted into a multitude of iſles, it is doubtleſs in the Pacific ocean; and we ſhall not here repeat what the Preſident de Broſſe has advanced on this ſubject in his work, in which he treats of the navigations to the ſouthern parts.

As to thoſe who pretend that the human race has only of late found its way to America, by croſſing the ſea at Kamtſchatka, or the ſtraits of Tſchutſki, either upon the fields of ice or in canoes, they do not conſider that this opinion, beſides that it is extremely difficult of comprehenſion, has not the leaſt tendency to diminiſh the prodigy: for it would be ſurpriſing indeed that one-half of our planet ſhould have remained without inhabitants during thouſands of years, while the other half was peopled. What renders this opinion leſs probable is, that America is ſuppoſed in it to have had animals, ſince we cannot bring thoſe ſpecies of animals from the Old World which do not exiſt in it, as thoſe of the tapir, the glama, and the tajacu. Neither can we admit of a recent organization of matter for the hemiſphere oppoſite to ours: becauſe, independently of the accumulated difficulties in this

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hypotheſis, and which can by no means be ſolved, we ſhall obſerve, that the foſſil bones diſcovered in ſo many parts of America, and at ſuch ſmall depths, prove that certain ſpecies of animals, ſo far from having been recently organized, have been annihilated a long while ago. It is an indubitable fact, that when Chriſtopher Columbus arrived there, there exiſted neither in the iſlands nor in any province of the new continent quadrupeds of the firſt magnitude: there was neither the dromedary, the camel, the giraffe, the elephant, the rhinoceros, the horſe, nor the hippopotamos. Therefore the large bones that have been dug up have belonged to ſpecies extinct or deſtroyed ſome centuries anterior to the epocha of the diſcovery of that country; ſince the very tradition of them no longer ſubſiſted among the natives who had never ſo much as heard talk of any quadrupeds of larger ſize than thoſe found among them in 1492. Yet the molar tooth, in poſſeſſion of the late Abbé Chappe, who died in California, was eight pounds in weight; as we learn from the extract of the letter addreſſed to the academy of Paris by M. Alzate, who affirms, that at Mexico is ſtill preſerved the bone of a leg, the knob whereof is a foot in diameter. Some of the large ſpecies of the hippopotamos, ſuch as are found in Abyſſinia and on the ſhores of the Zaire, produce grinders weighing upwards of eight pounds; and yet it may be doubted whether there be any elephants having legs that contain parts of ſuch prodigious dimenſions as thoſe mentioned by M. Alzate, whoſe account, however, may not be abſolutely exempt from exaggeration. The ſame may be ſaid of the dimenſions given by Father Torrubia, in his pretended Gigantology, to ſome fragments of ſkeletons dug up in America, and which are are at preſent pretty generally to be ſeen in the cabinets of Europe. The late Mr. Hunter, who made this ſubject his particular ſtudy, thought that they belonged to carnivorous animals; and it was not till after he had gone through a long courſe of comparative anatomy, that he delivered this opinion to the Royal Society of London. [Phil. Tranſact. for the year 1768.] But if this were true, nature muſt have acted upon a contrary plan in America to what ſhe has followed in our continent, where all the terreſtrial quadrupeds of the firſt magnitude are frugivorous and not carnivorous. It is a miſtake in Proſper Alpinus and M. Maillet, to imagine that the hippopotamos is ſarcophagous or carnivorous. The reaſon whereof ſeems to be the difficulty that carnivorous animals of the firſt magnitude would have had in finding ſuſtenance, and that at all times; whereas the vegetables immediately ſpring up, and in ſuch abundance, as to be more than ſufficient for the nouriſhment of frugivorous beaſts of the moſt enormous bulk: accordingly, the opinion of thoſe who attribute theſe relics to zoophagous genera is ſcarcely probable. In vain were the ſavages who dwell on the banks of the Ohio interrogated concerning their notions about the huge bones that were found on the borders of that river in 1738; they threw no more light on the ſubject than the inhabitants of Siberia do on the diſcovery of the foſſil ivory of their country, which ſome of them conſider as the ſpoils of giants, and others as the remains of an animal living under ground, which they call *mammuht*, a being more worthy of appearing in the mythology of the north than in the nomenclature of natural hiſtory. [See Tooke's View of the Ruſſian Empire, vol. i. p. 26.] Nevertheleſs M. Bertrand, that ſagacious obſerver, who traverſed Pennſylvania and a great part of North America, aſſures us, that ſome ſavages, on ſeeing oyſter-ſhells found in the chain of the Blue Mountains, reaching from Canada to Carolina, ſaid that it was not ſurpriſing to find ſhells about the Blue Mountains, ſince they knew that in days of yore the ſea had ſurrounded them with its waters.

This relation is founded on the tradition univerſally diſſeminated among all the tribes of America, from the ſtraits of Magellan as far as Canada. They affirm, that in former times the low lands of their continent were ſubmerged, which obliged their anceſtors to retire to the heights. It is not without ſome degree of aſtoniſhment that we read in Acoſta, that in his time traces ſtrongly marked of that inundation were ſtill ſeen in ſeveral places: "Certe in novo orbe ingentis cujuſdam exundationis non obſcura monumenta a peritis notantur." [De Natura Nov. Orb.]

However this be, we are unable to explain how all the populations of America had ſo little commerce and connection with each other, as is proved from the multiplicity of languages in uſe among them, otherwiſe than by admitting that their manner of living by the chace or by the fiſhery not only prevented them from uniting, but even obliged them to retreat from each other. Accordingly, it has been ſeen, that when diſtinct tribes have come ſo near as to intercept the game, it kindles national wars, which only terminate in the deſtruction or the retreat of the weaker or leſs courageous tribe. Handfuls of men there diſpute for the poſſeſſion of immenſe deſerts; and the enemies are often at the diſtance of above a hundred leagues aſunder: but a hundred leagues are nothing to hunters, who, in the ſearch of game, or in the diſtant purſuit of it, always meet in ſome part or other. The difficulty of fixing boundaries, which is very great even among ſedentary nations, is much greater among hordes who roam from foreſts to foreſts, and yet pretend to be the abſolute proprietors of diſtricts which they only run over.

Such nations as were really fiſhers, or ichthyophagi, exiſted only in the northermoſt regions of the New World: for, though we find between the tropics ſavages who are much addicted to fiſhing, they nevertheleſs plant ſeveral feet of manioc around their huts. But throughout America this culture, as well as that of the maize, was the buſineſs of women, and the reaſon of it is very eaſy to diſcover; but little of it was cultivated, ſo that this employment was not regarded as the principal occupation. Many hunters have even been diſcovered, as well in the ſouth as in the north, who followed no ſpecies of cultivation, living ſolely on game. As it happened that they were more ſucceſsful at ſome ſeaſons than at others, they could only preſerve their meat by broiling it: for the nations diſperſed towards the centre of the continent had not the ſlighteſt knowledge of ſalt; but almoſt all thoſe who dwelt in the torrid zone, and even at the extremities of the temperate zones towards the equator, made great uſe of pimento (capſicum annuum) or other herbs as hot; and this they were taught by nature. We ſhould here obſerve, that the phyſicians of Europe have generally been and are ſtill in an error in regard to ſpices. In burning climes great and continual uſe of them is neceſſary to aid digeſtion, and reſtore to the bowels the heat which they loſe by a too copious tranſpiration. Thus travellers inform us that thoſe ſavages of Guiana, who ſprinkle ſo much pepper over their victuals as to excoriate the tongues of perſons not accuſtomed to it, conſtantly enjoy a more confirmed ſtate of health than the other people of the country, as the Acoquas and the Moroux, who cannot always procure pimento in ſufficient quantities. Even in Europe we ſee how neceſſary this ſpice is to the Spaniards, who ſow whole fields with it as we ſow barley: in ſhort, it is well known that, in proportion as the heat of the climate augments, it has been found all over Aſia and Africa that the conſumption of ſpices has augmented in a direct ratio with that heat.

Among the hunting nations of the New World different compoſitions, to which we commonly give the name of nutritive powders or condenſed aliments, have been diſcovered, which

which they expreſsly reduce to a ſmall compaſs, in order that they may be able the more eaſily to convey them when they are to take a long courſe through the deſerts, where the ground, often covered with ſnow to the height of two or three feet, affords no reſources except what proceed from the game, which are very uncertain, becauſe many animals then keep cloſe to their coverts, which are ſometimes in places at a great diſtance from thoſe in which they are in queſt of them. Moreover, we gather, from various accounts, and even from ſome paſſages in hiſtory, that the generality of ambulatory nations of our continent have had or ſtill have ſimilar practices: the ſavages of Great Britany compoſed a kind of theſe paſtes with karemyle, which is ſuppoſed to be the tubercules of the magion, called by the country folks wild vetches, though in fact it is a *lathyrus*. By ſwallowing a ball of this drug the Bretons were enabled to diſpenſe with all other aliment for an entire day. [Dio Caſſius, in Sever.] The caſe is nearly the ſame with the green powder, in uſe among the ſavages diſperſed along the river Suſquehanna, which falls into Cheſapeak Bay: it will ſuffice here to obſerve, that this ſubſtance is compoſed of torrefied maize, which forms the principal ingredient, roots of angelica and ſalt. It may be conjectured, however, that theſe barbarians, before they had any communication with the colonies of Europe, employed no ſalt in the compoſition, as it cannot add much to the alimentary properties.

As to the method of procuring fire, it was the ſame throughout the whole extent of the New World, from Patagonia to Greenland; that is, by rubbing pieces of hard wood againſt other very dry pieces, ſo long and ſo forcibly till they emitted ſparks or kindled into a flame. It is true, that among certain populations to the north of California, they had the method of inſerting a kind of pivot in the hole of a very thick plank; and by the circular friction produced the ſame effect with that above mentioned. [Muller, Reiſe und Entdeckungen von den Ruſſen.] It ſhould ſeem as if it were inſtinct alone, or, if the expreſſion may be allowed, the innate induſtry of man, that taught him this practice: ſo that, on this ſuppoſition, what ſome accounts relate concerning the inhabitants of the Marianes, the Philippines, Los Jordenas, and the Amicuanes, who were ignorant, as they pretend, of the ſecret of procuring fire, muſt be entirely without foundation. And if we find ſimilar facts in the geographers of antiquity, as Pomponius Mela, in regard to certain tribes of Africa, it is neceſſary we ſhould know that this author drew his information from the relations of Eudoxus, whom Strabo deſcribes as an impoſtor, who, in order to have it believed that he had doubled the Cape of Good Hope, takes the liberty of telling abundance of falſehoods. It appears, from the hiſtory of China, and particularly from the cuſtom ſtill ſubſiſting among the Kamtſhadales, the Siberians, and even among the Ruſſian peaſants, that the method of cauſing wood to take fire by friction muſt have been common in our continent prior to the knowledge of ſteel and of pyrites: the heat felt by ſavage man in his hands on rubbing them taught him the art.

As there were in America a very great number of petty nations, of which ſome were more deeply ſunk in barbariſm than the reſt, and in a total ignorance of all that conſtitutes the rational animal, it is extremely difficult to diſtinguiſh accurately the cuſtoms adopted only by ſome particular tribes from the practices generally followed. There are travellers who have thought that none of the ſavages of the New World had the ſmalleſt idea of inceſt, at leaſt in the collateral line, and that brothers indiſcriminately married their ſiſters, or cohabited with them without marriage; which gave occaſion to ſome perſons to imagine that both the phyſical and moral faculties of thoſe ſavages muſt have undergone an alteration, ſince it is thought that it is with mankind as with domeſtic animals, whereof ſome become ſtunted by inceſtuous copulations; a circumſtance that has pointed the neceſſity of mixing or croſſing the races, for the purpoſe of maintaining the vigour and perpetuating the beauty of them. It is evident, from experiments recently made on a ſingle ſpecies, that the degeneracy is greater and more rapid by a ſucceſſion of copulations in the collateral than in the direct line; a reſult which certainly would not have been expected. However, according to the "Lettres Edifiantes," and the accounts of fathers Lafiteau and Gumilla [Mœurs des Sauvages & Hiſtoire d'Orenoque], it is certain that there exiſted ſeveral tribes in America, among whom marriage was not contracted even in the third degree of parentage; ſo that it cannot be ſaid that the conjunctions which we term illicit, or inceſtuous, were in general practice there, as they undoubtedly were among the Caribs and ſeveral others. Garcilaſſo likewiſe relates [Hiſtoire des Incas] that the grand cacics, or the emperors of Peru, by a curious ſort of polygamy, married their ſiſters and their couſin-germans at the ſame time. He adds, indeed, p. 68. tom. ii. that this cuſtom extended not to the people; but it is a fact that ſeems to us almoſt impoſſible to explain. However, we ought not to give implicit faith to all that we read in Garcilaſſo touching the legiſlation of the Peruvians; beſides, he agrees that, among the hordes of this country, where the authority of the grand cacic or emperor was unſettled, as among the Antis, "marriage was unknown; when nature inſpired them with deſires chance gave them a mate, taking whatever woman they met; their daughters, their ſiſters, their mothers, were indifferent to them; theſe laſt, however, were more excepted. In another canton," he adds, "the mothers kept their daughters with extreme care, and when they married them, *elles les defloroient en public de leurs propres mains, pour montrer qu'elles les avoient bien gardées*," tom. i. p. 14. This laſt cuſtom, if true, would appear ſtill more aſtoniſhing than the inceſt, which muſt have really been in vogue among the petty hordes, compoſed of not above 130 perſons, ſuch as are at preſent ſeen in the foreſts of America, than among the more numerous tribes; and eſpecially if we reflect on the multiplicity of languages reciprocally unintelligible, which prevented theſe petty hordes from procuring wives from their neighbours.

It ſhould here be remarked, that what we have mentioned on the ſubject of the degeneracy that may ariſe from inceſtuous copulations to the human race, as well as to ſeveral ſpecies of animals, is nothing more than a bare ſuppoſition. The truth is, that we are not at preſent, nor are likely ſoon to be, ſufficiently informed on a ſubject of ſuch importance, for being able to ſpeak on it with confidence; for it would be to no purpoſe here to cite the example of ſome nations of antiquity, particularly that of the Egyptians, whoſe laws, which are thought to be the beſt known, are often the leaſt underſtood. The Greeks, who wrote on the hiſtory of Egypt after the death of Alexander, might eaſily have confounded the ſanctions of a foreign code, adopted under the dynaſty of the Lagides, with the ſanctions of the national code, wherein we, who have made it our particular ſtudy, have not been able to find any ſatisfactory proof of the law that is conjectured to have exiſted there prior to the time of the conqueſt of the Macedonians; but a more ample diſcuſſion of this matter would here be certainly out of place. What convinces us, however, that we ought not to inſiſt on the neceſſity of croſſing the races in regard to mankind, as we do when ſpeaking of the domeſtic animals, is, that the Circaſſians and the Mingrelians conſtitute a people who never mingle with any other, and with whom the degrees of conſanguinity that prevent marriage are extremely contracted;

tracted; and yet their blood is generally known to be the beſt in the world, at leaſt in the fair ſex; and it is by no means credible that the men there are as ugly as is pretended by the Chevalier d'Arvieu, in his Voyages au Levant, whoſe teſtimony is in direct oppoſition to M. Chardin, who had been upon the ſpot, whereas M. d'Arvieu never was. On the other hand, the Samoyedes, who intermix neither with the Laplanders nor with the Ruſſians, compoſe a people extremely mean and ill-favoured, and abſolutely beardleſs, although we know, beyond all doubt, from the obſervations of M. Klingſtædt, that the Samoyedes never contract inceſtuous marriages, as has been aſſerted by ſome writers who have been very ill informed.

In the climate of America there may exiſt ſome particular cauſes why certain ſpecies of animals are ſmaller than the analogous races of our continent; ſuch as wolves, bears, lynxes, and ſome others. It is likewiſe in the qualities of the ſoil, of the air, of the nouriſhment that M. Kalm thinks we ſhould ſeek the origin of that baſtardiſement that follows among the cattle tranſplanted from Europe into the Engliſh colonies on the main land, from the fortieth degree of latitude to the extremity of Canada. [Hiſt. Nat. & Civ. de la Pennſylvanie.] And the ſame thing is obſerved in the northern parts of Ruſſia. As to ſavage man, the coarſeneſs of food, and the little inclination he has to labour with his hands, render him leſs robuſt than we ſhould be diſpoſed to believe, were we ignorant that it is the habit of work that principally fortifies the muſcles and nerves of the arm, as the habit of hunting enables the Americans to ſuſtain long marches: and it was probably this that determined M. Fourmont to give thoſe nations the appellation of running nations, [Reflexions Critiques,] though they neither run nor hunt, except when forced to it by the moſt preſſing neceſſity. For while they have any proviſion of fleſh preſerved by broiling after their manner, they remain day and night lying at length in their huts, which neceſſity alone ever forces them to leave; and it is well known at preſent, from repeated obſervations collected in different regions, that all ſavages in general have ſo great a propenſity to idleneſs, that it forms one of the characteriſtics that moſt diſtinguiſh them from civilized people. To this ſhameful vice muſt be added an inſatiable thirſt for ſpirituous or fermented liquors, and then we ſhall have a tolerably juſt idea of all the exceſſes whereof theſe barbarians are capable. Thoſe who imagine that extreme intemperance in drink prevails only among people ſituated in cold climates are much miſtaken, ſince we learn from all accounts, that in the hotteſt as well as in the coldeſt climates, the Americans are as furiouſly addicted to intoxication, as often as they can find opportunity, and they would find an opportunity if they were leſs indolent. But, as they cultivate maize and manioc only in very ſmall quantities, the primary ſubſtance from which inflammatory liquor is extracted is frequently wanting to them; for we know that the caouin, the pivoré, the chica, and other factitious beverages of that nature are moſtly drawn from the flour of maize and caſſave. The hordes that abſolutely cultivate nothing at all, as the Moxes, the Patagonians, and numberleſs others, employ roots, blackberries, and other wild fruits, for giving a taſte to the water, and communicating to it an inebriating quality; which is very eaſily done by means of the fermentation which comes on of itſelf. It is ſuppoſed that the cold and phlegmatic temperament of the Americans conducts them more than other men to thoſe exceſſes, which may be termed, with M. Monteſquieu, a national intoxication: the liquors, however, which they brew themſelves are not by far ſo deſtructive to their health as the brandy ſold to them by the Europeans, making as much havoc among them as the ſmall-pox, which the Europeans likewiſe carried with them into the New World, where it is particularly fatal to ſuch of the ſavages as go naked, becauſe their epidermis, and their mucous texture being always expoſed to the air become thick, and their pores are ſtill more cloſed by the greaſy and oily colours with which they ſmear the whole body, to defend it from the ſtings of the inſects, ſwarming in multitudes, beyond all imagination, in the foreſts and uncultivated places: and it is the perſecution they undergo from the maringuins and muſketoes that has alſo taught them the uſe of ſmoking tobacco.

The ancient accounts talk much of the extreme old age to which the Americans attain; but it is now well known that groſs exaggerations have ſlipt into theſe narratives, and have probably given encouragement to that ridiculous impoſtor that appeared in Europe under the name of Hultazob, attempting to paſs for an American cacic 500 years old. It has been remarked by us, and Dr. Bancroft made the ſame obſervation at Guiana in 1766, that it is impoſſible to know exactly the age of ſavages, becauſe ſome are totally deſtitute of numerical words, and with others the numerical words are ſcarcely carried as far as three; they have no regiſters, nor any thing that can ſupply the place of them; and, for want of calendars, they are often ignorant not only of the day, but even the year of their nativity. In general they live to the uſual term with the reſt of the ſpecies, at leaſt in the northern countries: for the heat between the tropics, by exciting a continual perſpiration in the body, there abridges the courſe or the dream of life. Nothing is more true, however, than that almoſt all the American women bring forth without pain and with extreme facility; ſo that it ſcarcely ever happens that any die in childbirth, or from the conſequences of it: hiſtories relate, that before the arrival of Pizarro and Almagro they had never heard of midwives at Peru. Hence it has been ſurmiſed, that this effect was only owing to a particular configuration of the organs, and likewiſe to that want of ſenſibility obſerved among the Americans, of which ſtriking inſtances are found in the relations of travellers. Almoſt 200 years had elapſed before the method employed by the female ſavages for faſtening the umbilical cord of their children came to our knowledge: it is a great miſtake to pretend that they tie it, and then to add that it is a practice pointed out by nature to all the nations in the world. They do not tie it, but apply a burning coal to it, which carries off one part, and the other ſhrivels up to ſuch a degree that it can never afterwards open. If nature has taught a method of proceſs in this reſpect, it muſt be confeſſed that it is a difficult matter to diſtinguiſh it from thoſe which ſhe has not taught.

Among the Americans very few individuals have been found maimed or deformed from their birth; and the reaſon is, becauſe, like the Lacedæmonians, they had the barbarity to deſtroy ſuch children as by a vicious organization, or ſome natural deformity, were incapable of procuring themſelves a livelihood from the fiſhery or the chace. Beſides, as the ſavages have no arts, ſo neither have they the diſeaſes incident to artizans, and never diſlocate their limbs in raiſing edifices or managing machines. The long journies that pregnant women are obliged to take, ſometimes occaſion them to miſcarry, but it ſeldom happens that the violence of the movement maims the infant in the womb. The abſolute deficiency of all kinds of domeſtic cattle, and of courſe the total want of all milky diet, is the reaſon that the American women keep their babes a long time at the breaſt; and that when they are delivered of twins, they ſacrifice that which appears to them the weakeſt of the two: a monſtrous practice, but introduced among petty roving nations, where the

the men never take any burden that might encumber them in the chace.

Nothing is more ſurpriſing than the obſervations that are found in the memoirs of ſome travellers concerning the ſtupidity of the American children they have attempted to teach. Maregrave aſſerts [Comment. ad Hiſt. Braſiliæ], that in proportion as they approach the term of adoleſcence their capacities ſeem to contract. The miſerable ſtate to which we know that education is reduced in the colonies of South America, that is to ſay, among the Portugueſe and Spaniards, might induce us to ſuppoſe that the ignorance of the maſters may be ſufficient to occaſion that of the ſcholars; but we have not ſeen that even the profeſſors of the univerſity of Cambridge in New England have yet formed the minds of any young Americans, ſo far as to enable them to produce them in the literary world. We ſhall here only remark, that, in order to aſcertain how far the intellectual faculties of the native Americans are extenſive or confined, we ought to take their children while yet in the cradle, and conduct their education with great gentleneſs and patience; for after theſe children have contracted, during a number of years, the barbarous or ſavage manners of their parents, it is extremely difficult to efface from their minds thoſe impreſſions that have ſtruck the deeper root from their being the firſt. Beſides, the experiment ſhould not be confined to two or three ſubjects, but extended to a great number, ſince even in Europe, out of ſuch multitudes of children as are put to ſtudy from their earlieſt years, ſuch a ſmall number of reaſonable men are obtained, and a ſtill ſmaller of enlightened perſons. Is it, however, from a few merchants of America, from a few adventurers, guided in all their actions by the moſt ſordid avarice, that we are to look for theſe arduous attempts? Alas, we ſhould form no ſuch expectations!

There would be no need to mention the Creoles, as their hiſtory is not neceſſarily connected with that of the natives of the new continent, were it not expedient to obſerve, that, even granting that Thomas Gage and Coreal, or the traveller who has borrowed this name, have groſsly exaggerated in their accounts of the imbecility or rather brutalization of the Spaniards born in the Weſt Indies; [Deſcript. & Voy. aux Indes occident.] it is nevertheleſs true, that theſe Creoles have been generally ſuppoſed to have undergone ſome alteration from the nature of the climate; and that being a misfortune and not a crime, Father Fejoo ought to have been a little more candid in what he has written in their juſtification, ſince it ſhould ſeem that he never would have thought of vindicating them had he not conceived that the glory of the Spaniſh name was concerned. Such prejudices, however, are unworthy of a philoſopher, in whoſe ſight the glory of all the nations in the world ſhould be as nothing, when put in the balance againſt truth. Readers of any penetration will eaſily perceive that it was neither to envy nor to any private reſentment againſt the Spaniards that what has been ſeen of the alteration brought on in the temperament of their Creoles is to be aſcribed, ſince to the full as much has been ſaid of the Europeans, eſtabliſhed in the North of America, as any one may convince himſelf by reading the hiſtory of Pennſylvania, which we have already had occaſion to cite. If the Creoles had written works capable of immortalizing their name in the republic of letters, they would not have been in want of the pen and the inflated ſtyle of Jerome Fejoo to make their apology, which they alone could, and they alone ought to have done. Neither was it from want of time that they neglected it, ſince Coreal, who has depicted them, as we obſerved, in ſuch unfavourable colours, ſailed for America in 1666. In ſhort, the farther culture proceeds in the interior of the New World, by draining the moraſſes, by felling the timber, and clearing the woods, the more alſo will the climate change and ſoften; which is a neceſſary conſequence, obſervable from year to year; and that we may here fix exactly the period of the firſt obſervation made in this reſpect, we ſhall remark, that in the laſt edition of the Recherches philoſophiques ſur les Americains, there is a copy of a letter, by which it appears, that ſo long ago as the year 1677, this change of climate was already perceived, at leaſt in the Engliſh colonies, which every one knows to have been the moſt pertinaciouſly bent on tilling and ameliorating the ground, on which the ſavages beſtowed hardly any care; they expected all from nature, and nothing from their own induſtry. It is certainly a grand miſtake to ſuppoſe that the abundance of game, of fiſh, and of fruits obtained without culture, retarded the progreſs of civilized life throughout almoſt the whole extent of America; to the northern point of Labrador, and all along the coaſts of Hudſon's bay, from Munk harbour to Churchill river, the ſterility is extreme and incredible. Now, the ſmall bands of the human ſpecies that have been met there, are as ſavage, at leaſt, as thoſe that roam at the centre of Brazil, of Guiana, and all along the Maragnon and the Oroonoko, where are found more alimentary plants, more game, more fiſh, and where the ice never prevents fiſhing in the rivers. On the contrary, it appears, that the poſſeſſion of a grain ſo eaſily raiſed and multiplied as the maize, might have induced the Americans, in ſome provinces, to leave off the ambulatory life, and forego the chace, which renders the heart of man hard and pitileſs. It is, however, very certain, that ſome of thoſe tribes who poſſeſſed the ſeed of the maize, were ſtill anthropophagi, as the Caribs of the main land, who were ſeen in 1764, to eat the fleſh of the Maroons that had revolted againſt the Dutch, in their ſettlements on the Berbice. (Naturgeſchiehte von Guiana, § 161.) Nevertheleſs it is known to be a fact, that theſe barbarians, of whom we are now ſpeaking, cultivate not only the manioc, but alſo the piſang, *muſa paradiſiaca*; and unhappily they are not the only ones among the Americans, who, without being compelled to it by any ſpecies of dearth, have defiled their tables, by ſerving on them pieces of human fleſh, roaſted on large wooden ſpits, or boiled in marabouts.

There is no difficulty in ſuppoſing that ſome travellers may have exaggerated the number of theſe man-eating hordes; but it is undoubtedly true that they have been found in the ſouth, in the north, and between the tropics. The Atacapas of Louiſiana, who, in 1719, ate up a Frenchman, named Charleville, dwell at the diſtance of more than eight hundred leagues from the diſtrict of the Caribs, in huts between the ſhores of the Eſſequibo and the Oroonoko; and thence again it is neceſſary to make an immenſe journey into the continent to arrive at the Encavellados or long-haired blacks, who likewiſe roaſt their priſoners; ſo that this ſpecies of barbariſm is common to ſuch nations as cannot have borrowed their manners from one another, nor have been corrupted to ſuch a degree by the force of example.

It is not ſurpriſing that, in the immenſe quantity of particulars ſupplied by the accounts concerning the religious practices of the Americans, ſome falſehoods ſhould have ſlipped in, whereof ſome are already perfectly known, and others will be ſo in proportion as travellers ſhall become more enlightened than the generality have hitherto been of thoſe who have ſpoken of the different parts of the New World; monks and people who had no pretenſions to philoſophy, in any ſenſe that this term can be underſtood, have taken upon them to write things that ſenſible perſons have repented that

they ever read. We ſhall only illuſtrate this obſervation by one fact which will ſuffice for enabling the reader to form a judgment on many others. It has been aſſerted that ſeveral ſavages of the ſouthern provinces worſhipped a gourd or pumpkin; now let us examine into the matter a little. Juſt as the pretended ſorcerers of Lapland make uſe of a magical drum which they beat in order to drive away the devil whenever they think him lodged in the body of ſome perſon whom they have not been able to cure by the uſe of their ordinary remedies; ſo ſome conjurers of Florida employ a gourd, which, after extracting the pulp, they fill with pebbles; ſo that on ſhaking it a noiſe is produced that may be heard to a conſiderable diſtance during the night. It is natural enough that the ſavages who are not initiated into the jugglery, ſhould entertain various fancies concerning this myſterious inſtrument, not unmixed with ſome degree of dread; accordingly they do not venture to touch or even to approach it; and this is the whole of the affair about the adoration of the gourd. It is to no purpoſe to interrogate theſe barbarians on the ſubject of practices ſo groſs, and many others infinitely more ſuperſtitious; the poverty of their language, of which the dictionary might be compriſed in a ſingle page, forbids all explanation. We know that even the Peruvians, though united in ſome ſort of political ſociety, had not yet invented terms for expreſſing either metaphyſical beings, or the moral qualities which moſt diſtinguiſh mankind from brutes, as juſtice, gratitude, and mercy. Theſe qualities were in the number of things that had no name; virtue itſelf had none in that country on which ſo many exaggerations have been beſtowed. Now, among the petty wandering hordes, the paucity of words is ſtill incomparably greater, to ſuch a degree that every ſpecies of elucidation on matters of morality and metaphyſics is utterly impoſſible.

They are certainly miſtaken who imagine that among ſavages religion is extremely ſimple, extremely pure, and that its corruptions increaſe in proportion as the people make farther advances in civilization. The truth is, that both ſavages and civilized people equally plunge into horrid and cruel ſuperſtitions, when not under the reſtraints of ſound reaſon; and, if even the profeſſion of Chriſtianity was unable to prevent the Spaniards from aſſaſſinating their brethren to the glory of God, in the grand ſquare of Madrid, it is a plain proof how neceſſary it is that the reaſonable ſervice of Chriſtianity ſhould be well underſtood. Now, it would be flying in the face of our own judgment to imagine there is much philoſophy among ſavages, who likewiſe celebrate *auto da fés* in their way, and indeed unhappily to a great exceſs among the Antis, where were found huge earthen vaſes filled with the dried carcaſes of children, who had been ſacrificed to ſtatues; and they were ſacrificed in this manner, whenever the Antis celebrated an act of faith. As to thoſe who among the ſavages of America are called *loyés*, *jametyes*, *piays*, *angekottes*, *javas*, *tikarangui*, and *autmons*, they ſhould more properly be denominated phyſicians than prieſts, as they are generally called; it is true, they are wont to accompany the medicines they adminiſter to the ſick, with fantaſtical practices, which they think adapted to calm or to expel the evil principle, to whom they ſeem to aſcribe all the diſorders that attack the human body. Inſtead of idly reaſoning on the theology of theſe pretended prieſts, it would be acting far more wiſely to engage them by preſents and a generous treatment to communicate to us the characters of certain plants whereof they make great uſe in their medicaments; for we are not acquainted with the fiftieth part of the vegetables that ſome of theſe practitioners in pharmacy carry always about them in little bags, and in which the whole of their medical knowledge conſiſts. But the miſſionaries, who conſidered theſe American jugglers as their rivals, perſecuted them with fury; and even whenever they have occaſion to mention them in their relations, they ſtill load them with abuſe, which diſguſts us as much as the barbarous dulneſs of the ſtyle in which theſe accounts are written, and the prodigies, manifeſtly falſe, which they affirm to be true. There has been no want of miſſionaries in America, but we have rarely ſeen among them enlightened and charitable men, taking a ſincere concern in the miſeries of the ſavages, and employing ſome means to relieve them. It may ſafely be advanced, that properly ſpeaking, it is only the Quakers who have ſettled in the New World, without committing crying acts of injuſtice and ſhocking enormities. As to the Spaniards, had we no information from other quarters, we might be tempted to believe that Las Caſas was ſtriving to palliate their crimes, by rendering them abſolutely incredible. He has the aſſurance to ſay, in a treatiſe entitled, *De la deſtruction de las Indias Occidentales ſuer los Caſtellanos*, and inſerted in the collection of his works, printed at Barcelona, that in forty years his countrymen maſſacred fifty millions of Indians. This, however, is a groſs exaggeration; and the reaſon of his committing it to paper was, that Las Caſas wanted to eſtabliſh in America an order half-military and half-eccleſiaſtical; his ambition afterwards led him to aſpire at being grand maſter of this order, and ſo to raiſe a prodigious tribute in ſilver from the Americans. To convince the court of the utility of the project, which would have been uſeful only to himſelf, he ſwelled the number of murdered Indians to that extravagant amount.

Nevertheleſs, it is an undoubted fact, that the Spaniards cauſed a great number of ſavages to be torn to pieces by large hounds and a ſpecies of maſtiffs or bull-dogs, brought into Europe about the time of the Alanes; they likewiſe occaſioned the death of vaſt numbers more of theſe poor wretches in the mine, in the pearl-fiſheries, and under the weight of burdens that could only be tranſported on men's ſhoulders, becauſe throughout the whole extent of the eaſtern coaſt of the new continent no beaſt of burden or of draught was found; and it was only at Peru that any glamas were ſeen. In ſhort, they exerciſed innumerable cruelties on the caciques and chiefs of hordes whom they ſuſpected of having concealed any ſilver or gold; no diſcipline was obſerved in their ſmall parties, compoſed of thieves, and commanded by men who deſerved capital puniſhment for their crimes, and had moſtly been taken from the dregs of the people. It is an indiſputable fact, that both Almagro and Pizarro could neither read nor write. Theſe two adventurers were at the head of a hundred and ſeventy foot-ſoldiers, a number of bull-dogs, and a monk named La Valle Viridi, whom Almagro afterwards cauſed to be beat to death with the but end of muſkets, in the iſland of Puna. Such was the army that marched againſt the Peruvians; as to that which went to the attack of the Mexicans, under the conduct of Cortez, it conſiſted of fifteen cavaliers and five hundred infantry at the utmoſt. Now we may form ſome idea of the horrors theſe ſeven hundred and thirty-nine murderers muſt have committed at Peru and at Mexico; we may likewiſe get a notion of the ravages committed in the iſland of St. Domingo. But it is an inſult to common ſenſe to aſſert that they ſlaughtered fifty millions of inhabitants. Thoſe who give credit to ſuch extravagant aſſertions, doubtleſs, have no proper conception of ſo great a number of mankind; all Germany, Holland, the Low Countries, with France and Spain taken together,

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do not at the preſent day contain fifty millions of people. Yet if we except the interior of Spain, the earth there is tolerably well cultivated, and that by the labour of animals, combined with that of the huſbandman. In America nothing was cultivated by the labour of animals; accordingly we ſee from the journals of the Spaniards themſelves, that it frequently happened that they marched for five or ſix days in Peru without coming to a ſingle habitation. In the expedition to Canella, we are told by Juraba, that they made no uſe of their ſwords but in hewing the briars and brambles, to clear their paſſage acroſs the moſt frightful deſert that can be imagined. In the heart of Paraguay and Guiana, whither the little Spaniſh armies never penetrated, and of courſe committed none of the ravages that have been imputed to them, at firſt only foreſts were diſcovered, and afterwards foreſts again or petty tribes were found, often at the diſtance of a hundred leagues from one another. It is apparent from all that the Jeſuits have publiſhed concerning the eſtabliſhment of their miſſions, how difficult it was to bring together ſavages in countries more extenſive than France, and where the land is better than in Peru, and not inferior to that of Mexico. If we would obtain an idea of the ſtate of the New World at the time of its diſcovery, we muſt doubtleſs ſtudy the accounts, but at the ſame time we ſhould employ a nice diſcernment and a critical ſeverity for removing the falſehoods and prodigies with which they ſwarm; compilers without taſte or judgment, pick up all they find in the journals of travellers, and thus form diſguſting romances, which have but too much increaſed in our days, becauſe it is much eaſier to write without reflecting, than with care and meditation.

The thinneſs of the population of America, and the want of courage in its inhabitants, are the true cauſes of the rapidity of the conqueſts made there; one half of the world fell, as it were, in an inſtant, under the yoke of the other. Thoſe who pretend that fire-arms alone decided the victory, are greatly miſtaken; ſince with thoſe arms it has never yet been practicable to ſubdue the centre of Africa. The ancient Batavians and the Germans were for the moſt part naked; they had neither helmet nor cuiraſs; they had not even iron enough for barbing all their javelins; yet thoſe men, ſupported by their valour, often fought with advantage againſt ſoldiers in coats of mail, helmets, and in ſhort armed with inſtruments no leſs murderous than the pilum was of the Roman infantry. If, therefore, America had been peopled by natives as warlike as theſe Germans and Batavi, ſeven or eight hundred men would never have conquered from them two empires in a month. Nor can it be ſaid that the band commanded by Pizarro was ſupported by auxiliary troops, ſince, at the battle of Caxamalca, the Spaniards alone engaged the army of the emperor Atahualpa, and the event proved that Pizarro had no need of auxiliary forces.

It is not to be denied that by a local diſpoſition extremely remarkable, all the great rivers, namely, La Plata, the Maragnon, the Oroonoko, the river of the north, the Miſſiſſippi, the St. Lawrence, have their mouths at the eaſtern ſhore, where the Europeans muſt make their firſt landing; ſo that by going up theſe rivers they penetrated without difficulty into the heart of the continent; whereas the ſituation, as is well known, is quite different of Peru and Mexico, that is to ſay, on the weſtern ſhore; and they cannot otherwiſe be attacked than by troops already fatigued by the long marches they have made in the interior of the country.

Whatever was the cauſe of it, the New World was ſuch a deſert, that the Europeans might have eſtabliſhed themſelves there without deſtroying any tribe of the natives: and, as they would have given the Americans iron, arts, trades, horſes, oxen, and breeds of all the other domeſtic animals of which they were deſtitute, that would have been in ſome ſort a compenſation for the ſoil of which they would have taken poſſeſſion. Some civilians are known to maintain that the hunting tribes of America were not the right owners of the ſoil; becauſe, according to Grotius and Lauterbach, the property of a country cannot be acquired by hunting in it, by cutting wood or drawing water there; nothing but the preciſe demarcation of limits, and the intention of cultivating, or culture already begun, can eſtabliſh the poſſeſſion. We take the liberty, however, to differ widely from this opinion, and think that the hunting nations of America were well authoriſed to aſſert that they were, as has been obſerved above, the abſolute owners of the ſoil; becauſe, in their method of living, the chace is equivalent to culture; and the conſtruction of their huts is a title againſt which Grotius, Lauterbach, Titius, and all the civilians of Europe, cannot be appealed to without rendering the appellant ridiculous. It is allowed, that in places where there was already ſome ſort of culture, the right was ſtill more incontrovertibly founded; and it is exceedingly hard to conceive how it could ever come into the head of pope Alexander VI. to grant, by a bull of the year 1493, the whole of the continent, with all the iſlands of America, to the king of Spain. Yet he did not think he was diſpoſing of uncultivated and uninhabited regions, ſince he ſpecifies in his donation both towns and caſtles, *civitates & caſtra in perpetuum, tenore præſentium, donamus.* It may be replied, that this act was only ridiculous: yes, it is preciſely, becauſe it was ridiculous that it ought not to have been made, to avoid giving room to weak minds to imagine that the ſovereign pontiffs have contributed as much as lay in their power to all the depredations and to all the maſſacres that the Spaniards have committed in America, where they cited this bull of Alexander VI. whenever they poignarded a cacic and uſurped a province. The court of Rome ſhould have ſolemnly repealed this *act of donation*, at leaſt after the death of Alexander VI.; but unfortunately we cannot find that it ever thought of taking this ſtep in favour of religion.

Another remarkable circumſtance is, that ſome divines maintained, in the 16th century, that the Americans were not men; and it was not merely the want of a beard, and the nudity of the ſavages, that led them to adopt the ſentiment, but the accounts they received concerning the anthropophagi, or the cannibals. This is manifeſt by a letter ſtill extant of Lullus: the weſtern Indians, ſays he, have nothing of the reaſonable animal except the maſk; they ſcarcely know how to ſpeak, and are not acquainted either with honour, or modeſty, or probity; no ferocious animal is ſo ferocious as they; they devour one another, tear their enemies into morſels, ſuck their blood, and always have enemies; for wars are eternal among them, and their vengeance knows no bounds. The Spaniards who frequent them, continues he, become inſenſibly as perverſe, as malicious, as atrocious as themſelves, whether it be from the force of example, or whether it proceeds from the influence of the climate: *adeo corrumpuntur illic mores, ſive id accidat exemplo incolarum, ſive cæli natura.* There is no reaſon, however, to think that the climate has any influence in this matter; ſince we have already obſerved, that in the hotteſt countries, as under the equator, and in the coldeſt, as beyond the fiftieth degree, we have alike ſeen barbarians devour their priſoners, and celebrate in horrible ſongs the memory of their anceſtors, who feaſted in like manner at ſimilar banquets.

Lullus, and the divines above mentioned, muſt have been totally ignorant that the eating of human fleſh was likewiſe extremely common among the ancient ſavages of our continent: becauſe, when man is not enlightened by the ſciences, when neither his hand nor his heart is reſtrained by law, he every where falls into the ſame exceſſes. But, in cloſing this article, we ſhall repeat, that it will be for ever a matter of aſtoniſhment, that in one entire hemiſphere of our globe there was not the leaſt idea of the ſciences in the year 1492, ſo that the human mind was there upwards of 3000 years behind hand. Even at this day there is not, throughout the whole extent of the New World, one American population that is free, and on the point of gaining inſtruction in literature; for the Indians of the miſſions have nothing to do with the ſubject; ſince all concurs to ſhew that they are rather converted into fanatical ſlaves than reduced to a ſtate of humanity.

In regard to the firſt people of America, and whence they came to recite the various opinions that have been advanced would lead us greatly beyond our purpoſe. The ſubject has been copiouſly and elaborately inveſtigated by the abbé Clavigero and Dr. Robertſon, and we may reaſonably content ourſelves with the reſult of their inquiries. The latter, after recapitulating and diſcuſſing the moſt plauſible opinions on the ſubject, comes to the following concluſions: 1. That America was not peopled by any nation from the ancient continent, which had made any conſiderable progreſs in civilization; becauſe, when America was firſt diſcovered, its inhabitants were unacquainted with the neceſſary arts of life, which are the firſt eſſays of the human mind toward improvement; and if they had ever been acquainted with them, for inſtance, with the plough, the loom, and the forge, their utility would have been ſo great and obvious, that it is impoſſible they ſhould have been loſt. Therefore the anceſtors of the firſt ſettlers in America were uncivilized, and unacquainted with the neceſſary arts of life.

2. America could not have been peopled by any colony from the more ſouthern nations of the ancient continent; becauſe none of the rude tribes of theſe parts poſſeſſed enterpriſe, ingenuity, or power, ſufficient to undertake ſuch a diſtant voyage; but more eſpecially becauſe that, in all America, there is not an animal, tame or wild, which properly belongs to the warm or temperate countries of the eaſtern continent.

In ſhort, from theſe and ſeveral other arguments, he thinks it reaſonable to conclude, that the progenitors of all the American nations, from Cape Horn to the ſouthern limits of Labrador, from the ſimilarity of their aſpect, colour, &c. migrated from the north-eaſt parts of Aſia: and that the nations that inhabit Labrador, Eſquimaux, and the parts adjacent, from their unlikeneſs to the American nations, and their reſemblance to the northern Europeans, came over from the north-weſt parts of Europe. Hiſt. of America, vol. ii. p. 22, &c.

On the other hand, the abbé Clavigero, a native of America, and a later writer than Dr. Robertſon, is of opinion, that there remains no other ſolution to this intricate queſtion than by admitting an ancient union between the equinoctial countries of America and thoſe of Africa, and a connection of the northern countries of America with Europe on the eaſt and Aſia on the weſt; ſo that there has probably been a period ſince the flood when there was but one continent. The beaſts of cold climates paſſed over the northern iſthmuſſes which perhaps connected Europe, America, and Aſia; and the animals and reptiles peculiar to hot countries paſſed over the iſthmus that connected South America with Africa; for, from various reaſons, he is induced to believe, that there was formerly a tract of land uniting the eaſternmoſt part of Brazil to the weſternmoſt part of Africa: and that all the tract of land may be ſunk by ſome violent agitation of nature, leaving only ſome traces of it in that chain of iſlands whereof Cape de Verd, Fernandez, De Norona, Aſcenſion, and St. Matthew iſlands make a part; and alſo in thoſe numerous ſand-banks diſcovered by different navigators, and particularly by de Buache, who founded that ſea with great accuracy. Theſe iſlands and ſand-banks may probably have been the moſt elevated parts of that immerged iſthmus. In like manner it is probable that the north-weſtern part of America was joined to the north-eaſtern part of Aſia by a neck of land which has been ſunk or waſhed away; and the north-eaſtern parts of America to the north-weſtern parts of Europe, by Greenland, Iceland, &c.

On the whole, we cannot but believe that the quadrupeds and reptiles of the New World paſſed thither by land, and by different routes, from the old continent. All other ſuppoſitions are ſubject to enormous difficulties; and, though this be not without ſome, yet they are not altogether unſurmountable. The moſt formidable is the ſuppoſition of an earthquake, ſo violent as to ſubmerge a tract of land of more than 1500 miles in length, which, according to our hypotheſis, united Africa and South America. We do not, however, aſcribe this ſtupendous revolution to a ſingle ſhock; it may have been effected by a ſucceſſion of earthquakes. It is well known that theſe convulſions are common in the climates where we ſuppoſe this iſthmus to have been. Neither is it impoſſible, nor even improbable, that ſuch an effect ſhould be produced by earthquakes; nor is hiſtory by any means deſtitute of examples to our purpoſe. The earthquake that was felt in Canada, in 1663, overturned a chain of freeſtone mountains upwards of 300 miles in length, converting the whole of that immenſe tract into one entire plain. And how prodigious muſt have been the convulſion occaſioned by thoſe extraordinary earthquakes recorded in the hiſtories of America, when the world was thought to be on the verge of diſſolution!

It may farther be objected to this ſyſtem, continues the abbé, that if beaſts traverſed by land from one continent to the other, it will be no eaſy matter to aſſign a cauſe why ſome ſpecies paſſed thither without leaving a ſingle individual behind them on the old continent; and, on the contrary, that ſome entire ſpecies ſhould remain in the old continent, and not a ſingle individual of them emigrate to America. But this objection operates with equal force againſt every other opinion, excepting that which employs angels in tranſporting beaſts. Suppoſing, however, that it did not, we have a ſatisfactory anſwer to it. All the quadrupeds of the earth are not yet known; we cannot, therefore, affirm how many are in the one which are not in the other continent. The knowledge of the beſt informed zoologiſts is very imperfect, and they differ among themſelves. The count de Buffon enumerates only two hundred ſpecies of quadrupeds. Bomare, who wrote a ſhort time after him, makes them amount to 265; but to ſay how many more there may be, and of what kinds, until we have explored the interior regions of Africa, a great part of Tartary, the country of the Amazons, the vaſt territory weſt of the Miſſiſſippi, and various other unexplored and extenſive countries, which, together conſtitute a great proportion of the entire globe, would be mere conjecture. No argument, therefore, can be inferred from the difference of the animals in the two continents againſt our ſyſtem, till the animals in theſe unexplored regions ſhall have been examined. Abbé Clavigero's Hiſt. of Mexico, vol. ii. diſſ. 1.

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We have dwelt the longer on this article, as it muſt be highly intereſting to every inquiſitive mind, and the diſcuſſion of it is blended with much uſeful information.

AMERICA, in *Geography*, or the New World, or the Weſt Indies, is one of the four quarters of the globe, bordered by the ocean, diſcovered by Chriſtopher Columbus, a Genoeſe, in 1492, and denominated America, from Americus Veſputius, a Florentine, who landed, in 1497, on that part of the continent, ſituated to the ſouth of the equator; after which it fell principally under the dominion of the Spaniards, the Engliſh, the French, the Portugueſe, and the Dutch. It is divided into north and ſouth by the gulf of Mexico and the ſtraights of Panama. North America, as far as it is known, extends from the 11th degree of latitude, or 7° 30′, as marked in the map of Lacruz, to the 75th, or, as others ſtate it, to the 72d. Its principal countries are Mexico, California, Louiſiana, Virginia, Canada, Newfoundland, the iſlands of Cuba, St. Domingo, and the Antilles. South America reaches from the 12th degree of north to the 60th degree of ſouth latitude, or, if the ſtrait of Magalhaens be the limit, to the 54th: its countries are, Terra Firma, Peru, Paraguay, Chili, Terra Magellanica, the Brazils, and the country of the Amazons. America, in length from N. lat. 72° to S. lat. 54°, comprehends 126°, or 7560 geographical miles, or in Britiſh miles about 8800. The greateſt breadth of South America from Cape Blanco weſt, to that of St. Roque eaſt, is 48°, or 2880 geographical miles; but in the North, from the promontory of Alaſka to the moſt eaſtern point of Labrador, or even of Greenland, a third part muſt be added. Suppoſing the breadth of North America to be 3840 geographical miles, the average breadth will be about 3360 geographical miles, or nearly 4000 Britiſh miles. This extenſive continent lies between the Pacific ocean on the weſt, and the Atlantic on the eaſt, and is ſaid to contain upwards of fourteen million of ſquare miles.

SOUTH AMERICA, the population of which is eſtimated at about 13,000,000, is an extenſive peninſula, connected with North America by the iſthmus of Darien, and divided between Spain, Portugal, France, Holland, and the Aborigines, as follows:

Spaniſh Dominions, computed at more than 5000 geographical miles, and containing about 9,000,000 inhabitants.	*Chief Towns.*
Terra Firma,	Panama and Carthagena.
Peru,	Lima.
Chili,	St. Jago.
Paraguay,	Buenos Ayres.
Portugueſe, equal, probably in extent to the Spaniſh.	
Brazil,	St. Salvador.
French.	
Cayenne,	Caen.
Dutch.	
Surinam,	Paramaribo.
Aborigines.	
Amazonia.	
Patagonia.	

The climate of TERRA FIRMA, eſpecially in the northern parts, is extremely hot and ſultry during the whole year. From the month of May to the end of November, the ſeaſon, called Winter by the inhabitants, is almoſt a continual ſucceſſion of thunder, rain, and tempeſts; the clouds precipitating the rain with ſuch impetuoſity, that the low lands exhibit the appearance of an ocean. Great part of the country is of conſequence almoſt continually flooded; and this, together with the exceſſive heat, ſo impregnates the air with vapours, that in many provinces, particularly about Papayan and Portobello, it is extremely unwholeſome. The ſoil of this country is very different; the inland parts being exceedingly rich and fertile, while the coaſts are ſandy and barren. It is impoſſible to view, without admiration, the perpetual verdure of the woods, the luxuriancy of the plains, and the towering height of the mountains. This country produces corn, ſugar, tobacco, and fruits of all kinds; the moſt remarkable is that of the manzanillo tree: it bears a fruit reſembling an apple, but which, under this appearance, contains the moſt ſubtile poiſon. The bean of Carthagena is the fruit of a ſpecies of willow, about the bigneſs of a bean, and is an excellent remedy for the bite of the moſt venomous ſerpents, which are very frequent all over this country. Among the natural merchandize of Terra Firma, the pearls found on the coaſt, particularly in the bay of Panama, are not the leaſt conſiderable. An immenſe number of Negro ſlaves are employed in fiſhing for theſe, and have arrived at a wonderful dexterity in the occupation. They are ſometimes, however, devoured by ſharks while they dive to the bottom, or are cruſhed againſt the ſhelves of the rocks. This country was called Terra Firma, on account of its being the firſt part of the continent which was diſcovered, all the lands found previous to this being iſlands.

From the ſituation of PERU, which is within the torrid zone, one would ſuppoſe it to be uninhabitable; but the Andes, thoſe lofty mountains, being on one ſide, and the South ſea on the other, it is not ſo prodigiouſly hot as tropical countries in general are; and in ſome parts it is diſagreeably cold. In one part are mountains of a ſtupendous height and magnitude, having their ſummits covered with ſnow; on the other, volcanos flaming within, while their tops, chaſms, and apertures are involved in ice. The plains are temperate, the beaches and vallies hot; and laſtly, according to the diſpoſition of the country, its high or low ſituation, we find all the various gradations of temperature between the extremes of heat and cold. It is remarkable, that in ſome places it never rains, a defect ſupplied by a dew that falls every night, and ſufficiently refreſhes the vegetable creation; but in Quito they have prodigious rains, attended by dreadful ſtorms of thunder and lightning. In the inland parts of Peru, and by the banks of the rivers, the ſoil is uſually very fertile; but along the ſea-coaſt it is a barren ſand.

The climate of CHILI is one of the moſt delightful in the world, being a medium between the intenſe heats of the torrid and the piercing colds of the frigid zones. Along the coaſt of the Pacific ocean, they enjoy a fine temperate air, and a clear, ſerene ſky moſt part of the year; but ſometimes the winds that blow from the mountains in Winter are exceedingly ſharp. There are few places in this extenſive country where the ſoil is not exuberantly rich; and were its natural advantages ſeconded by the induſtry of the inhabitants, Chili would be the moſt popular kingdom in America.

Some parts of PARAGUAY, ſituated as it is, muſt be extremely hot by reaſon of the almoſt vertical influence of the ſolar rays; while diſtricts muſt be pleaſant and delightful. The heat is in ſome meaſure, however, mitigated by the gentle breezes, which generally begin at about nine or ten in the morning, and continue the greateſt part of the day. Some tracts of the country are very mountainous; but in many others are found extenſive and beautiful plains, where the ſoil is very rich, producing cotton, tobacco, and the valuable herb called paragua, together with a variety of fruits. Here are alſo extremely rich paſtures, in which are bred

ſuch

ſuch herds of cattle, that it is ſaid, the hides are the only part exported, while the fleſh is left to be devoured by the ravenous beaſts of the wilderneſs. Not long ſince a horſe might be purchaſed here for one dollar, and an ox, choſen out of ſeveral hundreds, for a ſtill more trifling ſum.

The climate of *Brazil*, or BRASIL, has been deſcribed by two eminent naturaliſts, Piſo and Maregrave, who made their obſervations with a philoſophical accuracy, and deſcribe it as temperate and mild, when compared with that of Africa; imputing this circumſtance chiefly to the refreſhing wind that blows continually from the ſea. The air is not only cool, but chilly through the night, ſo that the natives kindle a fire every evening in their huts. As the rivers in this country annually overflow their banks, leaving a ſort of ſlime upon the lands; the ſoil here is therefore amazingly rich. The vegetable productions are Indian corn, ſugar-canes, tobacco, indigo, hides, ipecacuanha, balſam, Brazil-wood, which is of a red colour, hard and dry, and is chiefly uſed in dyeing, though not the red of the beſt kind. Here is alſo the ſuſtic, of uſe in dyeing yellow, and a beautiful ſpeckled wood employed in cabinet work. They have five different ſorts of palm trees, ſome curious ebony, and a great variety of cotton trees. This country abounds in horned cattle, which are hunted for their hides alone, 20,000 being ſent annually into Europe. Deer, hares, and other game are likewiſe in great plenty. Amongſt the wild beaſts found here, are tigers, porcupines, jamiveras, and a fierce animal ſomewhat reſembling a greyhound; monkies, ſloths, and the torpiraſſu, a creature between a bull and an aſs, but without horns and entirely harmleſs; the fleſh is very good, and has the flavour of beef. The country abounds with a numberleſs variety of fowl, both wild and tame; and among them turkies, fine white hens and ducks: alſo plenty of fiſh, inſects, and ſerpents.

Of CAYENNE, the land along the coaſt is very low, and greatly ſubject to inundations during the rainy ſeaſon, from the multitude of rivers which ruſh down from the mountains with great impetuoſity. Here the atmoſphere is ſultry, moiſt, and unwholeſome, eſpecially where the woods are not cleared away; but on the higher parts, where the trees are cut down, and the ground is laid out in plantations, the air is more healthy, and greatly tempered by the ſea breezes. The ſoil in many parts is rich and fertile, producing ſugar, tobacco, maize, fruits, and other neceſſaries of life.

In the months of September, October, and November, the climate of SURINAM is unhealthy, particularly to ſtrangers. The common diſeaſes are putrid and other fevers, the dry belly-ach and the dropſy. About a hundred miles within land from the ſea, a quite different ſoil is ſeen, a hilly country, a pure, dry, wholeſome air, where a fire ſometimes would not be diſagreeable. Along the coaſt the water is brackiſh and unwholeſome, the air damp and ſultry. The thermometer ranges from 75° to 90° throughout the year. A north-eaſt breeze never fails to blow from about nine in the morning through the day, in the hotteſt ſeaſons. As the days and nights throughout the year are very nearly of equal length, the air can never become extremely heated, nor the inhabitants ſo greatly incommoded by the heat, as thoſe who live at a greater diſtance from the equator. The ſeaſons formerly were divided regularly into rainy and dry; of late years, however, ſo much dependence cannot be placed upon them, owing, probably, to the country being more cleared, by which means a free paſſage is opened for the air and vapours.

The air in AMAZONIA is cooler than might be expected, conſidering it as ſituated in the torrid zone. This is partly owing to the heavy rains which occaſion the rivers to overflow for one half of the year, and partly to the hazineſs of the weather, which obſcures the ſun great part of the time he is above the horizon. During the rainy ſeaſon the country is ſubject to dreadful ſtorms of thunder and lightning. The ſoil is extremely fertile, producing cocoa-nuts, ananas, plantains, and a great variety of tropical fruits; cedar, redwood, pak, ebony, logwood, and many other ſorts of dying wood, together with tobacco, ſugar-canes, cotton, potatoes, balſam, honey, &c. The woods abound with tigers, wild boars, buffaloes, deer, and game of various kinds. The rivers and lakes teem with fiſh. Here are alſo ſea-cows and turtles; but the crocodiles and water-ſerpents render fiſhing a dangerous employment.

The climate is ſaid to be much colder in PATAGONIA than in the north under the ſame parallels of latitude; a circumſtance aſcribed to its being in the vicinity of the Andes, which croſs it, and are covered with eternal ſnow. It is almoſt impoſſible to ſay what the ſoil would produce, it not being at all cultivated by the natives. The northern parts are covered with wood, among which is an inexhauſtible fund of large timber: but towards the ſouth it is ſaid not to produce a ſingle tree big enough to be of uſe to mechanics. There are, however, good paſtures which give food to incredible numbers of horned-cattle and horſes, firſt carried thither by the Spaniards, and ſince increaſed to an amazing degree.

NORTH AMERICA, bounded on the eaſt by the Atlantic, and on the weſt by the Pacific ocean, extends on the ſouth to the vicinity of Panama; the province of Veragua being univerſally conſidered as part of North America. According to the maps of Lopez, a chain of mountains runs north and ſouth, called Sierras de Canatagua, and terminates in the point of Higuera; which, dividing the provinces of Panama and Veragua, forms a natural boundary between North and South America. Its northern limit is not preciſely aſcertained; but from 72° N. lat., aſſumed as the northern limit, to 7° 30′, the ſouthern boundary, there will be an interval of 64½°, or 3870 geographical miles, ſomewhat more than 4500 Britiſh. Its breadth is very different in different parts.—Thoſe parts of North America not inhabited by Indians, belong (if we include Greenland) to Denmark, Great Britain, the American States, and Spain. Spain claims Eaſt and Weſt Florida, with the whole tract weſt of the Miſſiſſippi, and ſouth of the northern boundaries of Louiſiana, New Mexico, and California. Great Britain claims all the country inhabited by Europeans, lying north and eaſt of the United States, except Greenland, which belongs to Denmark. The remaining part forms the territory of the fifteen United States; the particular countries and provinces whereof are exhibited in the following view:

	Inhabitants.	*Chief Towns.*
To Denmark belongs Greenland, containing -	10,000	New Herrnhut.
Britiſh Provinces.		
New Britain, -	not known.	
Upper Canada, -	20,000	Kingſton, Detroit, Niagara.
Lower Canada, -	130,000	Quebec, Montreal.
Cape Breton iſland, -	1000	Sydney, Louiſburg.
New Brunſwick, Nova Scotia,	35,000	Frederick-town. Halifax.
St. John's iſland, in 1783, -	5000	Charlotte-town.
Newfoundland iſland,	7000	Placentia, St. John's.

UNITED STATES OF AMERICA.

	Inhabitants.	*Chief Towns.*
Vermont, -	85,539	Windſor. Rutland.
New Hampſhire	141,885	Portſmouth, Concord.
Maſſachuſetts }	387,787	Boſton, Salem, Newbury-port
Diſtrict of Maine }	96 540	Portland, Hallowell.
Rhode iſland, -	68,825	Newport, Providence.
Connecticut, -	237,946	Newhaven, Hartford.
New York, -	340,120	New York, Albany.
New Jerſey, -	184,139	Trenton, Burlington, Brunſwick.
Pennſylvania,	434,373	Philadelphia, Lancaſter.
Delaware, -	59,094	Dover, Wilmington, Newcaſtle.
Maryland, -	319,728	Annapolis, Baltimore.
Virginia, -	747,610	Richmond, Peterſburg, Norfolk.
Kentucky, -	73,677	Lexington.
North Carolina,	393,751	Newbern; Edenton, Halifax.
South Carolina,	249,073	Charleſton, Columbia.
Georgia, -	82,548	Savannah, Auguſta.
Territory S. of Ohio,	35,691	Abingdon.
Territory N.W. of Ohio, }		Marietta.

Belonging to SPAIN.

Eaſt Florida,	Auguſtine.
Weſt Florida,	Penſacola.
Louiſiana, (ceded to the United States)	New Orleans.
New Mexico,	Santa Fée.
California,	St. Juan.
Mexico, or New Spain,	Mexico.

NORTH AMERICA, in *Hiſtory*. America was originally peopled by uncivilized nations, who lived moſtly by hunting and fiſhing. The Europeans who firſt viſited theſe ſhores, treating the natives as wild beaſts of the foreſt, which have no property in the woods where they roam, planted the ſtandard of their reſpective maſters wherever they happened firſt to land, and in their names claimed the country by *right of diſcovery*. Prior to any ſettlement in North America, titles of this kind were ſet up by the Engliſh, French, Spaniſh, and Dutch navigators, who came hither for the purpoſe of fiſhing and trading with the natives. Slight as ſuch titles were, they afterwards became cauſes of contention between the European nations. The ſubjects of different princes often laid claim to the ſame tract of country, becauſe both had diſcovered the ſame river or promontory, or becauſe the extent of their reſpective claims was undetermined.

While the ſettlements in this vaſt uncultivated country were inconſiderable and ſcattered, and the trade of it confined to the bartering of a few trinkets for furs, a trade carried on by a ſmall number of adventurers, the interference of claims produced no important controverſy, either among the ſettlers or the nations of Europe. But in proportion to the progreſs of population and the growth of the American trade, the jealouſies of the nations which had made early diſcoveries and ſettlements on this coaſt were alarmed; ancient claims were revived; and each power took meaſures to extend and ſecure its own poſſeſſions at the expence of a rival.

By the treaty of Utrecht, in 1713, the Engliſh claimed a right of cutting logwood in the bay of Campeachy in South America. In the exerciſe of this right the Engliſh merchants had frequent opportunities of carrying on a contraband trade with the Spaniſh ſettlements on the continent. To remedy this evil the Spaniards reſolved to annihilate a claim which, though often acknowledged, had never been clearly aſcertained. To effect this deſign they captured the Engliſh veſſels which they found along the Spaniſh main; and many of the Britiſh ſubjects were doomed to work in the mines of Potoſi.

Repeated ſeverities of this kind at length, in 1739, occaſioned a war between England and Spain, which terminated in 1748 by the treaty of peace ſigned at Aix-la-Chapelle, in which reſtitution was made on both ſides of all places taken during the war.

Peace, however, was of ſhort duration. The French poſſeſſed Canada, and had made conſiderable ſettlements in Florida, claiming the country on both ſides the Miſſiſſippi by right of diſcovery. To ſecure and extend their claims they conſtructed a line of forts from Canada to Florida. They had ſecured the important paſs at Niagara, and erected a fort at the junction of Allegany and Monongahela rivers, called Fort du Queſne. They took pains to ſecure the friendſhip and aſſiſtance of the natives; encroachments were made upon the Engliſh poſſeſſions, and mutual injuries ſucceeded. The diſputes among the ſettlers in America, and the meaſures taken by the French to command all the trade of the river St. Lawrence on the north, and of the Miſſiſſippi on the ſouth, excited a jealouſy in the Engliſh nation, which ſoon broke forth in open war. This war was carried on with various ſucceſs, till a deciſive blow, which proved fatal to the intereſts of the French in America, put an end to it in 1762. This was the defeat of the French army, and the capture of Quebec, by the brave general Wolfe. That hero was ſlain at the beginning of the action on the plains of Abram, and M. Montcalm, the French commander, likewiſe loſt his life. The loſs of Quebec was ſoon followed by the ſurrender of Montreal to general Amherſt, and Canada has remained ever ſince in poſſeſſion of the Engliſh.

In 1763, a definitive treaty of peace was concluded at Paris between Great Britain, France, and Spain, by which the Engliſh ceded to the French ſeveral iſlands which they had taken from them in the Weſt Indies, but were confirmed in the poſſeſſion of all North America on this ſide the Miſſiſſippi, except the iſland of Orleans.

No ſooner was peace concluded than the Britiſh parliament adopted the plan of taxing the colonies; and, to juſtify their attempts, declared that the money to be raiſed was to be appropriated to defray the expence of defending them in the late war. The firſt attempt to raiſe a revenue in America appeared in the memorable *ſtamp act*, paſſed March 22, 1765, whereby it was enacted, that certain inſtruments in writing, as bills, bonds, &c. ſhould not be valid in law, unleſs drawn on ſtamped paper, on which a duty was laid.

Immediately as this act was publiſhed in America it raiſed a general alarm. The people were filled with apprehenſions at an act which they ſuppoſed to be an attack on their conſtitutional rights. The colonies therefore petitioned the king and parliament for a redreſs of the grievance, and at the ſame time entered into aſſociations for the purpoſe of preventing the importation and uſe of Britiſh manufactures until the obnoxious act ſhould be repealed. This ſpirited and unanimous oppoſition of the Americans produced the deſired effect; and on the 18th of March, 1766, the ſtamp act was repealed. The news of the repeal was received in the colonies with univerſal joy, and the trade between them and Great Britain was renewed on the moſt liberal footing.

The parliament, however, by repealing this act, ſo odious to their American brethren, by no means intended to lay aſide the ſcheme of raiſing a revenue in the colonies, but merely to alter the mode. Accordingly, the next year they paſſed an act, impoſing a certain duty on glaſs, tea, paper, and painters' colours; articles which were much wanted, and not manufactured in America. This act, as might reaſonably

have been expected after what had passed, kindled the refentment of the Americans, and excited a general oppofition to the meafure, fo that parliament thought it adviseable, in 1770, to take off thefe duties, except three pence a pound on tea. Neverthelefs this duty, however trifling, kept alive the jealoufy of the coloniſts, and their oppofition to parliamentary taxation continued increafing from day to day.

It will be eafily conceived that the inconvenience of paying the duty was not the fole nor even principal caufe of the oppofition; it was the *principle*, which, once admitted, would have fubjected the colonies to unlimited parliamentary taxation, without the privilege of being reprefented. The *right*, abſtractedly confidered, was denied; and the ſlighteſt attempt to juſtify the claim by precedent was uniformly refifted. Nor could the Americans be deceived as to the views of parliament; for the repeal of the ſtamp act had been accompanied with an unequivocal declaration, that "the parliament had a right to make laws of fufficient validity to bind the colonies in all cafes whatfoever."

The colonies, therefore, entered into meafures for encouraging their own manufactures and home productions, and for retrenching the ufe of foreign fuperfluities, while the importation of tea was prohibited. In the royal and proprietary governments, and in Maſſachuſetts, the governors and people were in a ſtate of continual warfare. Aſſemblies were repeatedly called and fuddenly diffolved; employing the time while fitting in ſtating grievances and framing remonſtrances. As if to inflame thefe difcontents an act of parliament was paſſed, ordaining, that the governors and judges ſhould receive their falaries of the crown; thus rendering them independent on the provincial aſſemblies, and removeable only at the pleafure of the king. Thefe proceedings, with many others of a fimilar tendency, could not fail to produce a rupture.

In 1773, the ſpirit of the Americans broke out into open violence. The Gafpee, an armed fchooner belonging to his Britannic Majeſty, had been ſtationed at Providence, in Rhode Iſland, to prevent fmuggling. The vigilance of the commander irritated the inhabitants to fuch a degree, that about 200 armed men boarded the veſſel under favour of the night, compelled the officers and crew to go aſhore, and fet fire to the fchooner. A reward of 500l. offered by government for apprehending any of the perfons concerned in this daring act, produced no effectual difcovery.

The refolution of the colonies not to import or confume any tea, having, in a great meafure, deprived the Engliſh government of a revenue from this quarter, the parliament formed a fcheme of introducing tea into America under cover of the Eaſt India Company. For this purpofe an act was paſſed, empowering the company to export all forts of teas, duty free, to any place whatever. The company departed from their ufual mode of tranfacting bufinefs, and became their own exporters. Several ſhips were freighted with teas, and fent to the American colonies, and factors were appointed to receive and to difpofe of their cargoes.

The Americans, determined to oppofe the revenue fyſtem of the Engliſh parliament in every poſſible ſhape, confidered the attempt of the Eaſt India Company to evade the refolutions of the colonies, and difpofe of teas in America, as an indirect mode of taxation, fanctioned by the authority of parliament. The peopled aſſembled in various places, and, in the large commercial towns, took meafures to prevent the landing of the teas. In Maſſachuſetts they in like manner viewed the tea as a vehicle of an unconſtitutional tax, and as infeparably aſſociated with it. To avoid the one they refolved to deſtroy the other. About 17 perfons, dreſſed as Indians, repaired to the tea ſhips, broke open 342 cheſts of tea, and, without doing any other damage, difcharged their contents into the water.

No fooner did the tidings of this deſtruction of the tea reach Great Britain than the parliament determined to puniſh that devoted town. A bill was brought in and paſſed, to "difcontinue the landing and difcharging, lading and ſhipping of goods, wares, and merchandizes at the town of Boſton, or within the harbour." This act, paſſed March 25, 1774, and called the Boſton port bill, threw the inhabitants into the greateſt conſternation. The town of Boſton paſſed a refolution expreſſing their fenfe of this oppreſſive meafure, and a defire that all the colonies would concur to ſtop all importations from Great Britain. Moſt of them entered into ſpirited refolutions on this occafion, to unite with Maſſachufetts in a firm oppofition to the unconſtitutional meafures of parliament.

But the port bill was not the only act that alarmed the apprehenfions of the Americans. Determined to compel the province of Maſſachufetts to fubmit to their laws, parliament paſſed an act for "the better regulating the government in the province of Maſſachufetts Bay." The object of this act was to alter the government as it ſtood on the charter of King William, and to make the ſheriffs and judges dependent on the king, and removeable at his will and pleafure.

This act was foon followed by another, which ordained, that any perfon indicted for murder, or other capital offence, committed in aiding the magiſtrates in executing the laws, might be fent by the governor, either to any other colony, or to Great Britain, for his trial.

This was ſhortly after fucceeded by the Quebec bill, which enlarged the bounds of that province, and granted many privileges to the Roman catholics. The view of this act was to fecure the attachment of that province to the crown of England, and prevent its joining the colonies in their reſiſtance to the laws of parliament.

All thefe ſteps, however, far from intimidating, rather exaſperated the Americans, by confirming them in their former apprehenfions of the evil defigns of government, and ferved only to unite the colonies in a more determined oppofition. A correfpondence of opinion, in refpect to thefe acts, produced an uniformity of proceedings in the colonies. The people generally concurred in the propofition for holding a congrefs, in order to concert meafures for the prefervation of their rights. Deputies were accordingly appointed, and met at Philadelphia on the 26th of October, 1774.

Preparations now began to be made to oppofe by force the execution of thefe acts of parliament. The militia of the country were trained to the ufe of arms; great encouragement was given to the manufacture of gun-powder, and meafures were taken to obtain all kinds of military ſtores. At Lexington the firſt blood was fpilt in the war; a war which fevered America from the Britiſh empire. Here was opened the firſt fcene of the great drama, which, in its progrefs, exhibited the moſt illuſtrious characters and events, and clofed with a revolution equally glorious for the actors, and important in its confequences to mankind.

In July, congrefs publiſhed their declaration of independence, which feparated America from Great Britain. This grand event took place 284 years after the difcovery of America by Columbus; 166 from the firſt effectual eſtabliſhment in Virginia, and 156 from the firſt eſtabliſhment of Plymouth in Maſſachufetts, which were the earlieſt Engliſh fettlements in America.

On the 30th of November, 1782, the proviſional articles of peace and reconciliation, between Great Britain and the American ſtates, were figned at Paris; whereby the former acknowledged the independence and fovereignty of the United

United States of America. Theſe articles were ratified by a definitive treaty, September 3, 1783. Thus ended a long and arduous conflict, in which Great Britain expended near a hundred millions of money, with a hundred thouſand lives, and gained nothing. America endured every cruelty and diſtreſs from her enemies, loſt many lives and much treaſure, but delivered herſelf from a foreign dominion, and eſtabliſhed a rank among the nations of the earth. Holland acknowledged the independence of the United States of America on the 19th of April, 1782; Sweden February 5, 1783; Denmark the 25th of February; Spain in March, and Ruſſia in July, of the ſame year. On the 30th of April, 1789, George Waſhington was inaugurated preſident of the United States of America, in the city of New York.

Hitherto the deliberations of the Union have been marked with wiſdom, and the meaſures they have adopted have been productive of great national proſperity.

To conclude, the United States, and indeed all parts of North America, ſeem to have been formed by nature for the moſt intimate union; as it may truly be affirmed, that no part of the world is ſo well watered with ſprings, rivulets, rivers, and lakes, as the territory of the United States. By means of theſe various ſtreams and bodies of water, the whole country is checquered into iſlands and peninſulas. The facilities of navigation render the communication between the ports of Georgia and New Hampſhire far more expeditious and practicable than between thoſe of Provence and Picardy in France, Cornwall and Caithneſs in Great Britain, or Gallicia and Catalonia in Spain. The canals opening between Suſquehanna and Delaware, between Paſquetank and Elizabeth rivers, in Virginia, and between the Schuylkil and Suſquehanna, will form a communication from the Carolinas to the weſtern counties of Pennſylvania and New York. The improvement of the Patomak will give a paſſage from the ſouthern ſtates to the weſtern parts of Virginia, Maryland, Pennſylvania, and even to the lakes. From Detroit to Alexandria, on the Patomak, 607 miles, are only two carrying places, which together do not exceed the diſtance of 40 miles. The canals of Delaware and Cheſapeak will open the communication from South Carolina to New Jerſey, Delaware, the moſt populous parts of Pennſylvania, and the midland counties of New York. Were theſe, and the canal between Aſhley and Cooper rivers, in South Carolina, the canals in the northern parts of the ſtate of New York, and thoſe of Maſſachuſetts and New Hampſhire, all opened, and many of them are in great forwardneſs, North America would thereby be converted into a cluſter of large and fertile iſlands, communicating eaſily with each other, at little expence, and in many inſtances without the uncertainty or danger of the ſeas.

From the numerous competitions in every branch of buſineſs in Europe, ſucceſs in any purſuit may be looked upon in the ſame light as a prize in a lottery. But the caſe is widely different in America. Here is room enough for every human talent and virtue to expand and flouriſh. This is ſo invariably true that it is generally believed there is not an inſtance to be found of an induſtrious, frugal, prudent European, with ſober manners, who has not been ſucceſsful in buſineſs in that country.

American *Earth Nut*, in *Botany*. See Arachis.

American *Graſs*. See Agrostis.

AMERICANA, in *Entomology*, a ſpecies of Chrysomela that inhabits America; a variety of it is found in the ſouth of France. The general colour is greeniſh gold, with five ſanguineous red lines upon the wing caſes. Fab. & Gmel. Feeds on the lavandula. A red ſpot on the head is a ſecondary diſtinction of this ſpecies.

AMERICANORUM, a ſpecies of Apis, deſcribed by Fabricius as a native of North America. It is hairy and black; anterior part of the thorax yellow; abdomen yellow, black at the end. Fab. Spec. Inſ. Obs. Fabricius, in his laſt work, "Entomologia Syſtematica," gives the apis americanorum preciſely the ſame ſpecific character as he had previouſly aſſigned to apis africana, ſo that at preſent they are both deſcribed as "hirſuta nigra, thoracis dorſo flavo, abdomine virеſcente: ſegmento primo flavo." To increaſe the confuſion, the lateſt editor of the "Linnæan Syſt. Nat." Gmelin, adopts the ſame error; apis africana, p. 2780, and apis americanorum, p. 2784, and the deſcription in the Spec. Inſ. of Fab. is only added as a ſynonym to the latter. It is probable they are both the ſame ſpecies.

AMERICIMA, in *Zoology*, a name given by ſome early naturaliſts to a ſmall kind of lizard found in Braſil. The preciſe ſpecies is uncertain; it is ſaid to be very ſmall; not above three fingers breadth long, and of the thickneſs of a ſwan's quill. Its body appears ſquare; its whole back is covered by deep grey ſcales; its head, legs, and ſides with brown ones; and its tail with blue. It is very gloſſy, the legs extremely ſlender, and it is generally eſteemed poiſonous.

AMERIGO, or Americus Vespucius. See Vespucci.

AMERIMNUM, or Amerimnon, in *Botany*, a genus of the *diadelphia decandria* claſs and order, of the natural order of *papilionaceæ* or *leguminoſæ*; the characters of which are, that the *calyx* is a one-leafed perianthium, tube bell-ſhaped, five-toothed, the teeth ſharp; the *corolla* papilionaceous, ſtandard with an oblong claw, roundiſh heart-ſhaped, expanding and convex, wings lanceolate, ſhorter than the ſtandard, and keel ſhort; the ſtamina have 10 filaments conjoined, anthers roundiſh; the *piſtillum* has a germ pedicelled, oblong, compreſſed leafy, varicoſe, with lateral veins, within woody, not gaping; cells diſpoſed longitudinally within; the *ſeeds* ſolitary, kidney-ſhaped, thicker at the baſe, appendicled at the top. There are two ſpecies, *viz.* 1. A. Brownei, "unarmed, with leaves petioled, alternate, ſubcordate-ovate; racemes compound, axillary, and lateral." This ſhrub riſes commonly to the height of ten feet, and ſupports itſelf on other ſhrubs. It is a native of Carthagena, Jamaica, and Domingo. 2. A. *Ebenus*, prickly A. or Jamaica ebony, pterocarpus feſſilifolius of Lin. p. buxifolius of Murray and Aiton, aſpalathus ebenus of Lin. Spec. and Reich. brya of Browne Jamaic. ſpartium arboreſcens of Miller and Sloane; "ſpiny, with leaves ſubſeſſile, aggregate, obovate-oblong, and peduncles two-flowered." This is common in Jamaica and ſeveral other parts of the Weſt Indies, where the wood is cut, and ſent into England under the name of ebony, though the true ebony is a native of the eaſtern country, and of a different genus. This wood is of a fine greeniſh brown colour, and admits of poliſhing well, ſo that it is much valued by the inſtrument makers; and it is of a very hard durable nature. Dr. Browne ſays, that the trunk ſeldom exceeds three or four inches in diameter; that the ſlender branches being very tough and flexible are uſed for riding ſwitches, and kept at all the wharfs about Kingſton to ſcourge the refractory ſlaves.

This ſpecies may be propagated by ſeeds procured from its native country. The ſeeds ſhould be ſown in pots filled with light freſh earth early in the ſpring, and plunged into a hot bed of tanners' bark, or placed in tan under pots. In about ſix weeks the plants will appear, and being very tender ſhould be carefully treated; air ſhould be admitted to them in warm weather, and they ſhould be often refreſhed with water. In five or ſix weeks more they ſhould be tranſplanted into ſeparate pots filled with light rich earth, and plunged again into the hot-bed, ſhading them from the ſun till they have taken root; they ſhould then have air every day in warm weather, and water once in two or three days, and in cold nights covered with glaſſes. In this hot-bed they may remain till autumn,

when they ſhould be removed into the ſtove, and plunged into the bark bed. Thoſe whoſe roots have filled the pot ſhould be removed into thoſe of a larger ſize. In winter the plant ſhould be kept warm, and have but little water, eſpecially in cold weather; and their leaves, when they contract filth, ſhould be cleared by waſhing them with a ſponge, otherwiſe the plants will not thrive. Theſe tender plants will not live in the open air in this country, even in the warmeſt ſeaſon; they muſt therefore be conſtantly kept in the ſtove or bark bed, and allowed much air in ſummer when the weather is warm; and when they have acquired ſtrength, they may be expoſed for three months in a warm ſituation in the ſummer. Martyn's Miller.

AMERINÆ, in *Entomology*, a ſpecies of CYNIPS, that forms unequal galls at the ends of the branches of the ſweet willow (ſalix pentandria). It is black except the legs, which are pale. Linnæus.

AMERIOLA, in *Ancient Geography*, a town of Latium, mentioned by Pliny; but not now exiſting.

AMERQUE, in *Geography*, a city of Mauritania, three leagues from the river Egnile, in the province of Habat, anſwering, according to Marmol, to the ancient Tocoloſida.

AMERSBURY, in *Geography*. See AMBRESBURY.

AMERSFORT, a town of the Netherlands, in the province of Utrecht, ſituate in a fertile and pleaſant country on the river Ems. The objects moſt worthy of notice in this town are the town-houſe, the triangular grand palace, the public walks planted with trees, and the great church dedicated to St. George. In its vicinity is the mountain called Amersfort berg, on which trees are planted in a kind of vitta, which reaches to Utrecht. The Ems becomes navigable at this town; and all the goods formerly brought out of Germany by Heſſian waggons, and conſigned to Amſterdam, were ſhipped at this port. A manufacture of dimity and bombazine has been eſtabliſhed in this place. Its trade in beer, rum, and tobacco is now decayed. It is 11 leagues eaſt-ſouth-eaſt from Amſterdam, and $5\frac{1}{2}$ north-eaſt from Utrecht. N. lat. 52° 12′. E. long. 5° 4′.

AMERSHAM. See AGMONDESHAM.

AMERUTHA, or AMERYTHA, in *Ancient Geography*, a village of Upper Galilee, mentioned by Joſephus, who fortified it againſt the Romans, probably the ſame as Meroth, which terminates Upper Galilee weſtward.

AMES, JOSEPH, in *Biography*, an induſtrious antiquarian, was originally a ſhip-chandler in Wapping, and acquired reputation at an advanced period of life by his ſtudy of antiquities. His "Typographical Antiquities," or Hiſtorical Account of Printing in England, with Memoirs of our ancient Printers, and a Regiſter of the Books printed by them from 1471 to 1600, with an Appendix concerning Printing in Scotland and Ireland to the year 1749, 4to. is a book well known and often cited. This work was conſiderably augmented, both in the memoirs and number of books, by Mr. William Herbert, and printed in three volumes, 4to. in 1785. Mr. Ames alſo publiſhed in 8vo. "A Liſt of Engliſh Heads engraved and mezzotinto;" and he drew up the "Parentalia" from Mr. Wren's papers. He was ſecretary to the ſociety of antiquarians, and died in 1759. Nichols's Anecdotes of Bowyer.

AMES, WILLIAM, an Engliſh divine, and a famous controverſial writer, was deſcended from an ancient family in Norfolk, and was born in 1576. He was educated at Chriſt's college, Cambridge, under Mr. William Perkins, from whom he probably imbibed the calviniſtical and puritanical ſentiments that diſtinguiſhed his writings. Whilſt he was fellow of his college he preached a ſermon about 1610-11, in which he inveighed with great vehemence againſt cards and dice, as the invention of the devil. By this mode of preaching he gave ſuch offence, that he withdrew from the univerſity in order to avoid expulſion. In the ſame year he publiſhed his "Puritaniſmus Anglicanus," in which he contraſts the principles and conduct of the puritans againſt thoſe of other perſons with a ſpirit and language equally illiberal and offenſive. No other alternative remained, according to his ſtatement, but either "to ſuppreſs epiſcopacy, or to bring back the pope from hell." Mr. Ames, ſoon after leaving Cambridge, removed to Holland, and officiated as miniſter to the Engliſh church at the Hague. In 1613, he began his controverſy with Grevinchovius, miniſter at Rotterdam, on the doctrines of election and reprobation, and it was continued from the preſs. The reputation he thus acquired induced the ſtates of Frieſland to invite him to the theological chair in the univerſity of Franeker; and he continued in this reſpectable ſtation for twelve years. In 1618, he attended the ſynod of Dort, and from time to time communicated information to the ambaſſador of king James of the debates of this aſſembly. From Franeker he removed to Rotterdam, where he preached to a congregation of his own countrymen; and where, after being for ſome time afflicted with an aſthma, he died in 1633. In the laſt year of his life he wrote his "Freſh Suit againſt Ceremonies;" but it was not publiſhed till after his death.

He was eſteemed a learned divine, an excellent caſuiſt, a rigid Calviniſt in doctrine, and a zealous advocate for the independent form of church diſcipline. His writings were numerous, both in Latin and Engliſh; moſt of them were printed abroad; and the principal of them, beſides thoſe already mentioned, are the following: "Diſceptatio Scholaſtica inter N. Grevinchovium and G. Amelium," 8vo.; "Diſputatio Altera," 8vo. "Coronis ad Collationem Hagienſem," 12mo. written againſt the Arminians; "Medulla Theologica," 12mo.; "De Incarnatione Verbi," 8vo. againſt the Socinians; "Bellarminus enervatus," 8vo. againſt the Papiſts; "De Conſcientia," 12mo. and in Engliſh under the title of "A Treatiſe on Conſcience," 4to. "Antiſynodalia," 12mo. againſt the Remonſtrants; "Demonſtratio Logicæ Veræ," 12mo.; "Diſputatio Theologica," againſt Metaphyſics; "Technometria," 8vo. on the purpoſe and bound of Arts; "Reply to Biſhop Morton on Ceremonies," and other tracts in the ſame controverſy; "Chriſtianæ Catecheſeos Sciographia;" and "Lectiones in Pſalmos Davidis," 8vo. a poſthumous work, dedicated to the magiſtracy of Rotterdam by Hugh Peters, the colleague of Ames in the Engliſh church of Amſterdam. Neal's Hiſt. Purit. vol. i. p. 579. Biog. Brit.

AMESA, in *Ancient Geography*, a river of Africa in Numidia.

AMESTRATUS, a city of Sicily, called Mutiſtratus by Polybius, Muſtraton by Diodorus Siculus, and Amaſtra by Silius Italicus; now Miſtretta, in the Val di Demona, on the river Haleſus. The inhabitants are called by Cicero (in Verrem) Ameſtratini. It was a ſtrong fort of the Carthaginians, beſieged by the Romans for ſeven months with great loſs, and, after another ſiege, taken and razed.

AMESTRIS, in *Entomology*, a ſpecies of PAPILIO, with angular indented wings, above black, with rufous and blue lunated marks; beneath obſcure. Fab. & Gmel.—Inhabits India. The anterior wings are black, with two rufous ſpots, and two blue ſpots in the middle of each: behind theſe a ſtreak of reddiſh lunules, which terminates in two white ſpots at the anterior margin, and along the exterior margin a ſtreak of blue lunated marks. Underſide entirely brown, waved with black ſtreaks, and a row of cinereous points. Fabricius.

AMETHYST, in *Mineralogy*. This ſtone was well known to the Greeks and Romans, from whom it obtained the

the name αμεθυστος, amethyſtus, from α and μεθυσος, *non vinoſus*, becauſe, according to Pliny, its colour was ſimilar to, but not ſo deep as that of wine; hence, by the abſurd doctrine of ſympathies, it came to be eſteemed as an antidote againſt drunkenneſs.

There are two kinds of amethyſts, the oriental and common. The oriental amethyſt is of a reddiſh or yellowiſh violet colour; and in hardneſs, in the form of its cryſtals, and in ſhort in every phyſical and chemical property, except that of colour, is the ſame as the ruby, the ſapphire, and oriental topaz, being a mere variety of CORUNDUM. It is a rare gem, and is very ſeldom brought to Europe. By being heated it loſes its colour, and becomes perfectly tranſparent, and of great brilliancy, ſo as to be ſcarcely diſtinguiſhed from the diamond; ſo nearly indeed does it reſemble this precious ſtone, as to be occaſionally ſubſtituted for it in jewellers work. De Boot, in his Hiſtoria Gemmarum, mentions an amethyſt, thus rendered colourleſs, eſtimated at 200 rix-dollars, which being cut to the ſame pattern, and ſet in a ſimilar manner as a diamond of the value of 18,000 gold crowns, ſo nearly equalled it in luſtre that he could not tell the difference between them.

The common amethyſt is cryſtallized QUARTZ, or rock cryſtal, tinged naturally of a full violet colour; its properties and characters will therefore be mentioned under the article QUARTZ. The common amethyſt, like th oriental, loſes its colour in the fire, but is at the ſame time ſpoiled by being rendered of an opaque white, owing to a multitude of minute cracks. The beſt European amethyſts come from the vicinity of Carthagena in Spain.

To imitate the amethyſt in paſte or glaſs, take ten pounds of clear glaſs or paſte, made without manganeſe, and fuſe it down with one ounce and a half of black manganeſe, and one dram of zaffer. The proceſs recommended by Porta is one dram of Manganeſe to one pound of frit. Neri's receipt is totally erroneous as to the proportion of colouring matter. He recommends to each pound of glaſs an ounce of colour compoſed of eleven parts manganeſe and one part zaffer, which would produce a deep black glaſs. Weidenmann Handbuch der Mineralogie. De Boot. Hiſt. Gemmarum, lib. ii. c. 32. Plinii Hiſt. Nat. lib. xxxvii. c. 40. Neri, Art de la Verrerie, c. 48. Handmaid to the Arts, vol. ii. p. 308.

AMETHYST, in *Heraldry*, ſignifies the purple colour in the coat of a nobleman, which, in gentlemen's eſcutcheons below that degree, is called *purpure*, and in thoſe of ſovereign princes, *Mercury*.

AMETHYSTEA, *amethyſt*, ſo called from the amethyſtine colours of the flowers, in *Botany*, a genus of the *diandria monogynia* claſs, of the natural order of *verticillatæ* and *labiatæ* of Juſſieu; the characters are, that the *calyx* is a perianthium one-leafed, tube bell-ſhaped, angular, ſemiquinquefid, ſubequal, acuminate and permanent; the *corolla* is one-petalled, ringent, little longer than the calyx, border five-parted and ſubequal; upper lip erect, rounded, concave, two-parted, gaping, lower three-parted, the ſides rounded, erect, ſhorter, the middle quite entire, concave, the length of the upper lip; the *ſtamina* have filaments filiform, approximating under the upper lip and longer than it, anthers ſimple and roundiſh; the *piſtillum* is a quadrifid germ, ſtyle ſize of the ſtamens, ſtigmas two and acute; no *pericarpium*, but the calyx becomes more bell-ſhaped and ſpreading; the *ſeeds* are four, ſhorter than the calyx, obtuſe, and angular within. There is one ſpecies, *viz.* A. *cærulea*, mountain upright A, which is a native of the mountains in Siberia, from whence the ſeeds were ſent to the Imperial garden at Peterſburgh, and in 1759 to Chelſea garden, where the plants annually produce ſeeds.

It is annual, and hath an upright ſtalk, which riſes about a foot high, and towards the top puts out two or three ſmall lateral branches; theſe are garniſhed with ſmall trifid leaves, ſawed on their edges, and of a very dark green colour; at the extremity of the branches the flowers are produced in ſmall umbels; theſe are of a fine blue colour, as are alſo the upper part of the branches, and the leaves immediately under the umbel; ſo that though the flowers are ſmall, yet from their colour with that of the upper part of their ſtalks, the plants make a pretty appearance during their continuance in flower. If the ſeeds of this plant are ſown in Autumn, or are permitted to ſcatter, the plants will come up early in the following Spring, and theſe will flower in the beginning of June; but thoſe ſown in the Spring will not flower until July. The beſt time for ſowing is Autumn. The flowers have an agreeable ſmell.

When the plants come up they will require no other care than to keep them clean from weeds, and where they are too cloſe to thin them, for they do not thrive when tranſplanted; the ſeeds, therefore, ſhould be ſown where they are to remain.

AMETHYSTINE is applied, in *Antiquity*, to a kind of purple garment dyed of the hue of *amethyſt*.

In this ſenſe *amethyſtine* differed from *Tyrian*, as well as from *hyacinthine* purple, being a kind of medium between both.

AMETHYSTINA, in *Entomology*, a ſpecies of CHRYSOMELA. Above blue-violet, beneath green and violet. Shells with ſcattered hollow dots.—Thorax large, antennæ ſhort and black. Fabricius.

AMETHYSTINUS, in *Conchology*, a ſpecies of VENUS, deſcribed by Argenville; it is of an ovate ſhape, and violet colour, with perpendicular ſtriæ: about two inches in length, and nearly the ſame in breadth.—Native place unknown. Gmelin.

AMETHYSTINUS, in *Entomology*, is likewiſe the ſpecific name of an inſect of the APIS genus: it is nearly naked, black: wings violet. A native of the Eaſt Indies. Fabricius.

AMETHYSTINUS, a ſpecies of CARABUS, that inhabits Cayenne; the wing-caſes and abdomen are blue: the head and thorax ſhining, bronze.—The antennæ are hairy, ferruginous at the baſe: wing-caſes ſtreaked. Fabricius.

AMETHYSTINUS, in *Ornithology*, a ſpecies of TROCHILUS, or humming bird, found in Cayenne; its colours are chiefly green gold variegated beneath with grey and brown; throat amethyſtine blue: tail forked. Gmelin. Size of the red-throated humming-bird, T. Colubris. Linn.—Trochilus amethyſtinus is le petit oiſeau-mouche à queue fourchue & l'amethyſte, of Buffon, and amethyſtine humming-bird of Latham.

AMETZ, in *Geography*, a town of France, in the department of Moſelle, and chief place of a canton in the diſtrict of Longwy, three leagues weſt-north-weſt of Thionville, and three ſouth eaſt of Longwy.

AMEVILLE, a town of Savoy, in the valley of Aoſta, near the Doria, two miles weſt of Aoſta.

AMEWELL, a populous town of America, in Hunterſdown county, New Jerſey; containing 5201 inhabitants, of whom 283 are ſlaves.

AMGAILA, or AMGAILAM, in the *Materia Medica of the Ancients*, a name given by Avicenna and others to a plant ſometimes called ACANTHA *Arabica*, and *Amicantha* by the Greeks; the roots of which were called *bunkon*, and much uſed in medicine by the Arabian phyſicians.

The amgaila, called alſo *fucaha*, or *zucahai*, is deſcribed as a prickly herb, having roots like thoſe of the cyprus, formed of ſeveral joints or knots. They were uſed in ſtomachic and cardiac compoſitions, and were choſen by their lightneſs and good ſmell.

AMGINSKAIA, in *Geography*, a town and fortreſs of Ruſſia, ſituate on the river Amba, 100 miles ſouth-eaſt of Yakutſk.

AMHARA, a kingdom of Abyſſinia, ſituate between the two rivers Baſhilo and Geſhen, occupying almoſt the central part of the country; and having Begemder to the north, to the weſt the Nile and the kingdom of Gojam, to the ſouth Walaka, and to the eaſtward Angot, about N. lat. 11° and E. long. 39°. The length from eaſt to weſt is about 120 miles, and its breadth ſomewhat more than 40. It is a very mountainous country, full of nobility: the men are reckoned the handſomeſt as well as the braveſt in Abyſſinia. With the ordinary arms, the lance and the ſhield, they are thought to be ſuperior to double the number of any other ſoldiers in the kingdom. The dignity of this province derives acceſſion from the high mountain of Geſhen, or the graſſy mountain, on which the king's ſons were formerly impriſoned, till they were ſurpriſed and murdered there in the Adelan war. Ludolf enumerates 36 provinces in this kingdom. The Amharic dialect was ſubſtituted for the ancient Ethiopic or Geez, in common uſe and converſation; after the reſtoration of the royal family from their long baniſhment in Shoa. This was denominated the king's or royal language, becauſe it was introduced by the ſovereigns of the country, when they were called to the government from their exile in the rocks of Amhara, and extended in the court and camp over the whole kingdom. With the ſanction of this origin and authority it obtained an aſcendency over all other dialects, and even over the ancient Ethiopic language itſelf. It differs from the Ethiopic both in conſtruction and grammar; and ſeven new characters were added to anſwer the pronunciation of this new language, which is very difficult both to be written and learned. But no book was ever yet written in any other language but the Geez. Although the Amharic dialect be the court language, the Ethiopic retains its original dignity, not only in their books, but in their worſhip, and alſo in the king's letters patent, and commiſſions which are diſpatched in his council. Mr. Bruce ſays, there is an old law in the country, handed down by tradition only, that if any one ſhould attempt to tranſlate the holy Scripture into Amharic, or any other language, he ſhould have his throat cut after the manner in which they kill ſheep, his family ſhould be ſent into ſlavery, and his houſe razed to the ground: and the awe of this law was a great obſtacle to his obtaining thoſe tranſlations of the Song of Solomon, which he propoſed as ſpecimens of the different languages of thoſe diſtinct nations. The dialects of the neighbouring kingdoms, though they differ from one another, approach the neareſt to the Amharic.

Ludolf has written a ſhort eſſay towards a dictionary and grammar of the Amharic. See Ludolf's Hiſt. Æthiop. p. 78. and Bruce's Travels, vol. i. p. 425.

AMHERST, one of the MAGDALEN iſles in the gulf of St. Lawrence.

AMHERST, a county of Virginia in North America, lies between the blue ridge and the tide waters, on the north of James river, and contains 13,703 inhabitants, including 5296 ſlaves.

AMHERST, a townſhip in Cumberland county, Nova Scotia, ſituate on Chignecto baſon, on the ſouth ſide of La Planch river, and on the rivers Napan and Macon. The town was ſettled by North Iriſh, Yorkſhire, and New England people.

AMHERST, the ſhire town of Hilſborough county in New Hampſhire, is a town of ſome note, formerly *Souhegan Weſt*, and was originally granted from Maſſachuſetts. It has 2369 inhabitants, and was incorporated in 1762. The Aurean academy was founded here in 1790. This townſhip was formerly much infeſted by wolves, but they were driven away with diſmal howlings by inceſſant firing of guns and beating of drums for a whole day, and they have never ſince done any miſchief in the town. Amherſt lies on a northern branch of Souhegan river, which falls into Merrimack river, and is 60 miles weſt of Portſmouth, and 53 north-weſt of Boſton. N. lat. 42° 54'. W. long. 71° 33'.

AMHURST, NICHOLAS, in *Biography*, an Engliſh poet and political writer of the eighteenth century, was born at Marden in Kent, received his grammatical education at Merchant Taylors' School, and removed to St. John's college, Oxford, whence he was expelled for miſconduct. He attributes his expulſion to the liberality of his ſentiments, and his attachment to the principles of the revolution and of the Hanoverian ſucceſſion. Hence he took occaſion to ſatirize the learning and diſcipline of the univerſity of Oxford, and to expoſe the character of ſome of its moſt reſpectable members, in a poem, entitled "Oculus Britanniæ," and publiſhed in 1724; and in his "Terræ Filius," a work blending abuſe and ſcurrility with a conſiderable portion of wit. It had been an ancient cuſtom in the univerſity, at public acts, for a perſon under the denomination of "terræ filius," to mount the roſtrum, and divert a crowd of ſpectators with a merry oration in the *Feſcennino* manner, interſperſed with ſecret hiſtory, raillery, and ſarcaſm, as the circumſtances of the times ſupplied matter; and on this cuſtom the title of this latter work was founded. It was originally written in 1721, came out twice a week in periodical papers, and contained fifty numbers. When Mr. Amhurſt quitted Oxford he ſettled in London as a writer by profeſſion. He firſt publiſhed a volume of Miſcellanies on a variety of ſubjects, both ſacred and profane. He afterwards publiſhed a poem, entitled, "The Convocation," in five cantos, which is a kind of ſatire againſt all the writers who had oppoſed Biſhop Hoadly, in the famous Bangorian controverſy. He alſo tranſlated Mr. Addiſon's Reſurrection, and ſome other of his Latin poems. But his principal literary undertaking was the political paper called "The Craftſman," which was written againſt Sir Robert Walpole's miniſtry, and was carried on for a number of years with great ſpirit and ſucceſs. In the execution of this work, and in the effect which it produced, he was aſſiſted by Lord Bolingbroke and Mr. Pulteney, and probably by other leaders of the oppoſition. In 1737 there appeared in this publication an ironical letter, ridiculing the act that had juſt paſſed for licenſing plays, in conſequence of which Mr. Amhurſt was arreſted and confined, but the proſecution was dropped. He was at length totally deſerted by his party, when they made their terms with the crown: and his death happened ſoon after, *viz.* in April, 1742. We ſhall cloſe this article with Mr. Ralph's reflection on the ſubject. "Poor Amhurſt! after having been the leader of his party for the beſt part of twenty years together, was as much forgotten in the famous compromiſe of 1742 as if he had never been born! And when he died of what is called a broken heart, which happened a few months afterwards, became indebted to the charity of a bookſeller for a grave, not to be traced *now*, becauſe *then* no otherwiſe to be diſtinguiſhed than by the freſhneſs of the turf, borrowed from the next common to cover it." This anecdote furniſhes an inſtructive leſſon to men of literary talents, and teaches them to form, as the baſis of their proſpects of reputation and happineſs, a character for integrity, diſcretion, and virtue. Biog. Brit.

AMIA, in *Ichthyology*, a ſpecies of SCOMBER, briefly characterized by Linnæus, as having the laſt ray of the dorſal fin longer than the reſt, "pinnæ dorſalis poſterioris radio ultimo longiore." Linn. — Country unknown.

AMIABLE, or AMICABLE *numbers*, in *Arithmetic*, denote pairs of numbers which are mutually equal to the whole ſum of each others aliquot parts. Such are the numbers 284, 220, the aliquot parts of which, with their ſums, are as follows, *viz.*

Of 220, 1, 2, 4, 5, 10, 11, 20, 22, 44, 55, 110,——
——————————————————their ſum is 284;

Of 284, 1, 2, 4, 71, 142,——————and their ſum is 220.

The ſecond pair of amicable numbers are 17296, and 18416, which have the ſame property.

The third pair of ſuch numbers are 9363584 and 9437056.

Schooten, § 9, of his "Exercitationes Mathematicæ," found out theſe three pairs, and called them *amicable* numbers; though the properties of ſuch numbers had been before treated of by Rudolphus, Des Cartes, and others. Schooten, after Des Cartes, gives the following rule for inveſtigating theſe numbers. Aſſume the number 2, or ſome power of 2, ſuch that if 1 be ſubtracted from each of theſe three following quantities, *viz.* 3 times the aſſumed number, 6 times the ſaid number, and 18 times the ſquare of the ſame number, the three remainders may be all prime numbers; then the laſt prime number being multiplied by double the aſſumed number, the product will be one of the amicable numbers ſought, and the ſum of its aliquot parts will be the other. Thus, let $a=2$, and n be ſome integer number, ſuch that $3a^n-1$ and $6a^n-1$ and $18a^{2n}-1$ be all 3 prime numbers; then will $\overline{18a^{2n}-1} \times 2a^n$ be one of the amicable numbers: and the ſum of its aliquot parts is the other.

AMIANTHINITE of Kirwan, in *Mineralogy*. See Strahlstein.

AMIANTHUS, or Mountain Flax, in *Mineralogy*, Αμιανθος, Gr. *Amianthus. Byſſus montanus. Linum montan. Lana montan. Linum incombuſtibile. Lapis Cyprinus*, Lat. *Amianth. Bergflachs. Federweiſs*, Germ. *Berglin*, Sweed. *Bierghor*, Dan. *Amianth Kölen*, Hung. *Amiant*, Ruſſ. *Lin foſſile. Amianth.* Fr. *Amianto. Fior di pietra.* Ital. *Talcum aſbeſtus amianthus*, Werner.

The colour of amianthus is generally greeniſh or ſilvery white, approaching to mountain green, more rarely yelloviſh white, olive, or leek green, ochre yellow, or pale fleſh red.

It occurs uſually amorphous, but ſometimes in ſmall ſeparate bundles. Its luſtre varies from glimmering to ſlightly ſhining, and is either weak-pearly or ſilken.

Its fracture is fine, and for the moſt part alſo ſtrait, and even fibrous, rarely curved. It flies, when broken, into long ſplintery fragments.

It is found uſually ſlightly tranſparent, but often opaque. Is ſoft enough to be ſcratched by the nail, and is conſiderably elaſtic. It has a ſoft, ſomewhat greaſy feel.

The ſpecific gravity of amianthus, according to Muſchenbroeck, is 2.444. According to Briſſon, before it has abſorbed water, it varies from 0.9088 to 2.3134; after abſorption it is from 1.5662 to 2.3803.

This mineral is principally met with in pot-ſtone or ſerpentine rocks, either diſperſed through them as a conſtituent part, or accumulated in their clefts and crevices unmixed with any other ſubſtance. The Tarentaiſe, in Savoy, furniſhes the pureſt and moſt beautiful. It is alſo met with in Corſica, the Iſle of Elba, and Crete; near Zoblitz in Saxony, Salberg, and Swartwick in Sweden; in Cornwall and the iſle of Angleſea in England, and at Portſoy in Scotland.

A filament of the Tarentaiſe amianthus, when expoſed to the flame of the blow-pipe, melts into an opaque globule, which becomes dark-coloured by the continued action of the flame. It diſſolves quietly in borax and microcoſmic ſalt, and effervesces with carbonated ſoda. If expoſed in an earthen crucible to a high heat it melts into a denſe ſcoria, ſtrongly adherent to the bottom of the veſſel, of a yellowiſh grey colour, but almoſt white where it is in contact with the crucible, which laſt is in ſome degree penetrated and corroded. The ſurface of this ſcoria is overſpread with cryſtalline

needles croſſing each other in all directions, or radiating from a common centre; ſimilar acicular cryſtals are diffuſed through the ſubſtance of the maſs. Theſe needles are a little thicker than a hair, and when viewed by a magnifier, appear perfectly tranſparent, of a quadrangular, priſmatic figure, whoſe angles and faces are remarkably brilliant and well defined; whereas, the filaments of the amianthus, in its natural ſtate, are much too fine to allow of their form being determined even by a very powerful lens. This ſcoria, on expoſure to a greater heat, changes into a green glaſs, incapable of cryſtallizing, and which, in a ſhort time, paſſes through the crucible. A ſpecimen of greyiſh white amianthus afforded Mr. Kirwan, at 162°.5 Wedgewood, a greeniſh black, perfectly compact glaſs. A ſpecimen of amianthus from Greenland, according to Klaproth's experiments, being incloſed in a charcoal crucible, and expoſed to the full heat of a porcelain furnace, fuſed into a ſcoria of a dirty pearl grey, covered externally with ſmall grains of iron; its fracture ſhewed a dull, finely porous texture, inlaid with ſeparate, gloſſy particles.

The action of the mineral acids on amianthus is very feeble; the nitric and ſulphuric take up no more than three or four per cent.; the nitro-muriatic, in the proportion of ten parts to one of the foſſil, diſſolves about 12 per cent. conſiſting of lime, magneſia, and a little barytes.

Carbonated potaſh, even aſſiſted by ignition, is equally ineffiacious with the acids in decompoſing this ſubſtance. The Tarantaiſe amianthus, mixed with four parts of pure ſalt of tartar, and ignited for two hours, only afforded 12 per cent. of matter ſoluble in ſulphuric acid.

The real ſolvent of this refractory mineral is cauſtic potaſh, as appears from Bergman, who, by mixing equal parts of amianthus, carbonated potaſh, and charcoal, and igniting them for two hours, obtained a maſs perfectly ſoluble in nitro-muriatic acid. This eminent chemiſt was not, indeed, aware that the addition of charcoal rendered his alkali cauſtic, the reaſon of his uſing charcoal being to decompoſe the ſulphat of barytes, to which he attributes the extraordinary refractorineſs of this ſubſtance.

The Tarentaiſe amianthus, according to Bergman, is compoſed of

Sulphated barytes	6.
Carbonated Lime	6.9
Carbonated Magneſia	18.6
Alumine	3.3
Silex	64.
Oxyd of iron	1.2
	100.0

That of Swartwick contains—

Carbonated Lime	13.9
Carbonated Magneſia	17.2
Alumine	2.7
Silex	64.
Oxyd of iron	2.2
	100.0

That of Corias in Auſtria yields—

Carbonated Lime	10.5
Carbonated Magneſia	12.9
Alumine	3.3
Silex	72.
Oxyd of iron	1.3
	100.0

It is rather ſingular that ſulphated barytes ſhould have been found in the Tarentaiſe amianthus, as this earthy ſalt does not once occur among the analyſes of the Swediſh or Auſtrian

Auſtrian ſpecimens, or among thoſe of aſbeſtus, ſteatite, and other minerals that have the neareſt analogy to the amianthus; it is therefore greatly to be wiſhed that ſome able chemiſt, in poſſeſſion of the modern improved means of analyſis, would undertake afreſh the examination of this mineral.

Amianthus is often confounded with the more flexible kinds of Asbestus, to which it bears a near reſemblance in external characters and chemical compoſition. Its fibres are, however, for the moſt part, more diſtinct and flexible than thoſe of aſbeſtus; it is more fuſible *per ſe*, and is conſiderably leſs acted upon by acids.

The fibrous texture of amianthus, its incombuſtibility, and the little alteration that it undergoes even in a ſtrong heat, were early noticed, eſpecially among the eaſtern nations; and methods were found out of drawing the fibres into thread, and afterwards weaving it into cloth: this, when dirtied with greaſe or other inflammable matter, was cleaned by throwing it into a bright fire; the ſtains were burnt out, and the cloth was then removed, but little altered in its properties, and of a dazzling white; hence it obtained from the Greeks the name of Αμιαντος (undefiled.) In the rich and luxurious times of the Roman empire, this incombuſtible cloth was purchaſed at an enormous price, for the purpoſe of wrapping up the bodies of the dead previouſly to their being laid on the funeral pile, that the aſhes of the corpſe might not be ſcattered and mixed with thoſe of the wood. This practice was indeed probably confined to a few of the richeſt families, but of its reality there can be no doubt, eſpecially ſince a funeral urn was diſcovered in 1702 at Rome, near the Porta Nævia, in which there was a ſcull and other calcined bones, together with a quantity of aſhes incloſed in a cloth of amianthus nine Roman Palms long, and about ſeven palms wide. This intereſting relic of antiquity was depoſited, by order of pope Clement XI. in the Vatican library.

The diſuſe of burning the dead occaſioned the manufacture of amianthine cloth to be neglected, and at length entirely forgotten in Europe; but though it has ceaſed to be an article of neceſſity or luxury, yet the method of its preparation has occaſionally attracted the notice of travellers, and occupied the time of the curious. Marco Polo aſſerts, that in the eaſt the mineral is gently bruiſed in a mortar to ſeparate the fibres, and, being waſhed till the water comes off clear, is dried and then manufactured as flax or wool. Ciampini of Rome, in 1691, and then Mahudel, after many trials, publiſhed the following as the beſt way of preparing the incombuſtible cloth. Having previouſly ſteeped the amianthus in warm water, divide its fibres by gently rubbing them with the fingers, ſo as to looſen and ſeparate all the extraneous matters, then pour on repeatedly very hot water, as long as it continues to be in the leaſt diſcoloured. Nothing will now be left but the long fibres, which are to be carefully dried in the ſun. The bundles of threads are to be carded by very fine cards, and the long filaments thus obtained are to be ſteeped in oil to render them more flexible. A ſmall quantity of cotton or wool is to be mixed, and by means of a thin ſpindle the whole is to be drawn into thread, taking care that the amianthus may in every part be the principal material. The cloth being then woven in the uſual manner, is to be placed in a clear charcoal fire to burn off the cotton and oil, when the whole remaining tiſſue will be pure white amianthus. The ſhorter fibres that are incapable of being woven have been ſometimes made into paper; the proceſs of which is the ſame as that employed for common paper, except that a greater proportion of paſte or ſize is required: after having been once made red hot, however, the paper becomes bibulous and brittle. For written documents of great importance, it might be worth while to be at extraordinary expence for incombuſtible paper and indelible ink; the former of theſe may be prepared from the longer fibres of amianthus, ſo as to be much leſs brittle than when the ſhorter ones are alone made uſe of; and for the ink the following receipt will be perfectly efficacious. Take one part of ſulphat of iron (green vitriol) and two parts of alum, diſſolve them together in warm water, and then add pearl-aſh as long as any precipitate takes place; boil the mixture, and throw it on a filter, allow the precipitate to drain after being waſhed with warm water, and, while yet ſoft, diſſolve it in diſtilled vinegar; uſe this moderately concentrated for ink, and the characters, after combuſtion, will be of a yelloviſh brown colour, and ſufficiently legible.

Amianthus threads are alſo ſometimes uſed as perpetual wicks for lamps; they, however, occaſionally require cleaning from the ſoot that collects about them; and in the hotteſt part of the flame the fibres are apt to run together, in a ſtate of ſemifuſion, ſo as to prevent the due ſupply of oil. Weidenmann, Handbuch der Mineral. p. 465. Lenz. Verſuch, &c. vol. i. p. 371. Ciampiani, de Incombuſtibili Lino, Romæ, 1691. Mahudel de Lino Incombuſt. Mem. de l'Acad. des Inſcriptions, vol. vi. Bruckmann. Hiſt. Nat. curioſa Lapidis τυ ασβεστυ, Brunſvigæ, 1727. Kirwan's Mineralogy, vol. i. Klaproth's Analytical Eſſays. Bergmann, on Aſbeſtine Earth, Eſſ. vol. iii. p. 181. Sauſſure, Voyages dans les Alpes, § 113. and following, § 1914. Bomare, Dict. d'Hiſt. Nat. article Amiante.

AMIATUS, in *Entomology*, a ſpecies of Hesperia. Wings entire, black, poſterior margin yellow: head and tail red. Inhabits America. The antennæ hooked, black: wings uniformly black, except the yellow margin, body black, head and tail red. Fabricius.

AMIAZ *Iſland*, in *Geography*, lies on the coaſt of Brazil, in which the city of Santos is ſituated, and hence it is called the gulf or bay of Santos. St. Vincent's is in another part of the ſame iſland, and before both there is good anchoring.

AMICABLE *benches*, *ſcamma amicabilia*, in *Antiquity*, are generally ſuppoſed to denote the ſeats in the Roman courts, whereon the advocates were placed. Some think that theſe had but little title to the denomination of *amicable*, and therefore will have the word to be here uſed for the benches whereon the *aſſeſſors*, or thoſe called *judices pedanei*, were placed.

Amicable *compounder*, *amicabilis compoſitor*, is uſed by ſome ancient law-writers for an arbitrator.

Amicable, or *amiable compounder*, among the French, is a perſon who acts the part of a common friend, to reconcile two merchants or traders who have diſputes, or are at law together. He differs from the *arbiter*, in that, in order to make the two diſputants agree, he often prevails upon both to give up ſome part of their right or claim, which an arbiter, who performs the functions of a judge, is not, it ſeems, at liberty to do.

Amicable *Numbers*. See Amiable.

Amicable *ſociety*. See Assurance.

AMICIA. See Almucium.

AMICITIA.—*Tenure in* Amicitia, is applied in *Ancient Writers* to land granted freely, and of mere good will, to be enjoyed at the diſcretion of the donor.

AMICLÆ, or Ad Lantulas, now *Portella*, in *Ancient Geography*, a town of Italy between Terracina and Foretti.

AMICONI, Jacopo, in *Biography*, a painter of hiſtory and groteſque, is ſuppoſed to have been born in the territory belonging to the republic of Venice, to have ſtudied the art of painting for ſome years at Venice, and to have completed himſelf in his profeſſion at Rome. The livelineſs of his imagination,

imagination, the readineſs of his invention, and the freedom of his hand, ſoon recommended him to the public eſteem, and he found encouragement and employment in moſt of the courts of Europe. He is ſaid to have poſſeſſed many of the accompliſhments of a good painter; but though his merit in many reſpects muſt be allowed, and his drawing is generally correct, yet his colouring is much too cold, too pale, and, as it is termed by the artiſts, too mealy. His compoſitions are well known in this kingdom, and many of his pictures are admitted into the collections of the firſt nobility; but nevertheleſs few particulars of his life have been aſcertained. Pilkington.

AMICTUS, in our *Ancient Writers*, the uppermoſt of the ſix garments, worn by prieſts; the others are *alba*, *cingulum*, *ſtola*, *manipulus*, and *planeta*. It was tied round the neck, *Ne inde ad linguam tranſeat mendacium*; and covered the breaſt and heart, *Ne vanitates cogitet*.

This garment is otherwiſe called *anabolagium*; ſometimes *amblolagium*, *anagolagium*, and *humerale*. In ancient Engliſh writers it is called *amitte*.

The amict is alſo worn by deacons, ſub-deacons, and *acoluthi*, when they officiate at the altar.

The prieſts and deacons, in ſome dioceſes, wear amicts on their heads from All-ſaints to Eaſter; though, by the canons, they be expreſsly forbid to wear the amict without ſome conſiderable occaſion.

Mr. Thiers aſſerts, that the uſe of amicts was introduced into the Latin church before the twelfth century. Dom. de Vert maintains the contrary, chiefly from a figure of St. Firmin, firſt biſhop of Amiens, ſuppoſed to have ſuffered martyrdom towards the beginning of the ſeventh century, whereon he is repreſented in his pontifical habit, with the amict on his head.

AMICTUS, in Roman *Antiquity*, denotes any upper garment worn over the tunica.

AMICU, in *Geography*, a lake in the province of Cumana, South America, whoſe waters run ſoutherly through Parima river, into the Amazon.

AMICULATUS, in *Conchology*, a ſpecies of CHITON, that inhabits the Kurile iſlands. Shells of eight valves, kidney ſhaped, and very brittle. External covering a ſcabrous coriaceous membrane.—Length ſix inches. Gmelin.

AMICULUM, in *Antiquity*, denoted an upper garment worn by the women. The amiculum is ſaid to have differed from the *palla*; but wherein the preciſe difference lay does not appear. An amiculum was alſo in uſe among the men. This ſeems to have been the ſame with the *chlamys*, or *paludamentum*.

AMICUS, or AMICONESOS, in *Ancient Geography*, an iſland of the Red Sea, according to Ptolemy. Amicus was the epithet of Hercules among the ancients, and hence it is ſaid was derived the name of this iſland. This is probably the ſame with the *Amicuſia* of Steph. Byz.

AMICUS *Curiæ*, in *Law*. If a judge is doubtful, or miſtaken in matter of law, a ſtander-by may inform the court, as amicus curiæ. 2 Co. Inſt. 178. Any one as amicus curiæ may move to quaſh a vicious indictment; for if there were a trial and verdict, judgment muſt be arreſted. Comberb. 13.

AMID AMID, in *Geography*, a ridge of mountains in Abyſſinia, lying behind the two ridges of Litchambara and Aformaſha, commence behind Samſeen, in the ſouth-weſt part of the province of Maitſha, and become high only from the mountain of Adama; reſembling in their ſhape the former ridges, and embracing them in a large curve, like a creſcent. Between Amid Amid and the ridge of Litchambara is the deep valley known by the name of St. George, through the middle of which runs the river Jemma, the ſources of which are in the mountains of Amid Amid. This triple ridge of mountains, diſpoſed behind one another in the form of three concentric circles, ſuggeſt an idea that they are the MOUNTAINS *of the moon*, or the *montes lunæ* of antiquity, at the foot of which the Nile was ſaid to riſe. Amid Amid may perhaps exceed half a mile in height; they certainly are not three quarters of a mile, and fall much ſhort of the fabulous height aſcribed to them by Kircher. Theſe mountains have excellent ſoil, and are every where covered with fine paſture; but as this unfortunate country has been for ages the theatre of war, the inhabitants have only ploughed and ſown the top of them, out of the reach of enemies or marching armies. On the middle of the mountain are villages built of a white ſort of graſs, which makes them conſpicuous at a great diſtance; the bottom is altogether graſs, where their cattle feed conſtantly under their view; and upon any alarm, they are driven up to the top of the mountains, ſo as to be out of danger. The hail lies often upon the top of Amid Amid for hours, but ſnow was never ſeen in this country; nor have they in the Amharic dialect any word by which to expreſs it. The hail, nevertheleſs, which frequently occured at Gondar, even when the ſun was vertical, happened only when the wind blew directly from Amid Amid. Bruce's Travels, vol. iii. p. 583, &c.

AMID, or AMIDA, in *Ancient Geography*, a famous city of Meſopotamia, was ſituated in a fertile plain, watered by the natural and artificial channels of the Tigris, one ſtream of which bent in a ſemicircular form round the eaſtern part of the city. It was alſo called Conſtantia, in honour of the emperor Conſtantius, who fortified it with ſtrong walls and lofty towers. It was provided with an arſenal of military engines, and the ordinary garriſon had been reinforced to the amount of ſeven legions, when the place was inveſted by the arms of Sapor, king of Perſia. The operations of this ſiege are minutely deſcribed by Ammianus Marcellinus (xix. 1—9.) who himſelf acted an honourable part in the defence of it, and eſcaped with difficulty when the place was ſtormed by the Perſians. After a very obſtinate combat between the aſſailants and the beſieged, Amida was betrayed by the treachery of a deſerter, who pointed out to the Barbarians a ſecret and neglected ſtaircaſe, ſcooped out of the rock that hangs over the ſtream of the Tigris. But this ſtratagem failed, and Sapor was under the neceſſity of recurring to the ſlower but more certain operations of a regular ſiege, in the conduct of which he was inſtructed by the ſkill of the Roman deſerters. His works, artfully and laboriouſly conſtructed, were more than once deſtroyed by the fire of the Romans; but at length the ſtrength of the garriſon, waſted by the ſword and by diſeaſe, was exhauſted and conſtrained to yield to the fury of the aſſault. The ſoldiers, the citizens and their wives, all of them who had not time to eſcape through the oppoſite gate, were involved by the conquerors in a promiſcuous maſſacre. The ſiege, however, laſted 73 days, and 30,000 of the veterans of Sapor fell under the walls of Amida. Conſtantius, the emperor, is ſaid to have wept over its ruins. When the inhabitants of Niſibis were reduced to the neceſſity of leaving their own city, in conſequence of Jovian's treaty with the Perſians, they retired to a new-built quarter of Amida; and this city, with the reinforcement of a very conſiderable colony, ſoon recovered its former ſplendour, and became the capital of Meſopotamia. In the year 501 it again ſuſtained a long and deſtructive ſiege; and after three months it was taken by Cabades, Cavades, or Kobad, the Perſian king. Moſt of the inhabitants were put to the ſword, and the town was pillaged. It was again in 505, reſtored to the

Romans, on condition of their paying to the king of Perſia 50 talents. Upon the decline of the Roman empire, it reverted to the Perſians; from them it was transferred to the Saracens; and it is now poſſeſſed by the Turks. Amida aſſumes in modern times the provincial appellation of Diarbekir, and is alſo called by the Turks *Kara-amed*; the epithet *kara* being derived from the blackneſs of the ſtone which compoſes the ſtony and ancient wall of Amida.

AMIDA, in *Mythology*, a god worſhipped by the Japaneſe, who has many temples erected to him in the iſland of Japan, of which the principal is at Jeddo. They ſuppoſe that he flouriſhed many thouſand years ago, and that after a life of voluntary mortification and auſterity, and of ſignal miracles and exemplary virtue, extended to 1000 or 2000 years, he paſſed by a voluntary death to another ſtate, where he was advanced to the dignity of a god. The Japaneſe have ſuch a confidence in their idol Amida, that they hope to attain eternal felicity by the frequent invocation of his name. One of the figures of this idol is repreſented at Rome.

Cano, the ſon of Amida, is likewiſe held in great veneration, and has a ſtately temple near the city of Meaco, in which are 1000 images or ſtatues of him, beautifully carved and regularly arranged.

AMID-SHIPS, a *nautical* term, denoting the middle of a ſhip, either with regard to her length or breadth.

AMIENS, in *Geography*, a city of France, and capital of the department of the Somme; before the revolution it was the capital of Picardy, and the ſee of a biſhop, the ſuffragan of the archbiſhop of Rheims. It is ſituated in a plain, on the river Somme, which paſſes through it in three diſtinct channels, that afterwards unite; and may be ſeen at a great diſtance, decorated with a number of lofty towers, among which the cathedral commands peculiar notice. This is an elegant Gothic edifice, beautifully proportioned and delicately wrought; and the nave is particularly admired. It has many other collegiate, parochial, and public buildings, and an academy of arts and ſciences founded in 1750. It is defended by a citadel and ramparts, on which are planted trees, which form a pleaſant walk. The river Somme is navigable to the town. The houſes are well built in the old taſte; and the number of inhabitants has been reckoned between 40 and 50,000. Tinſeau (Statiſtical view of France,) eſtimates them at 40,289. Its 4 cantons contain 45,157; its whole territory includes 100 kiliometres and 12 communes. The commerce of Amiens has been very conſiderable, particularly in woollen ſtuffs, camlets, and ſhags. It has alſo been famous for its ſoap-manufacture.

Amiens, in Latin *Ambianum* and *Samarobriva*, is a place of great antiquity. It appears from Cæſar's account in his Commentaries to have been one of the principal cities of Gaul; he held a general aſſembly of the Gauls in it, and committed it to the guard of a legion. Cicero refers to it in ſeveral parts of his epiſtles as a place of note; and Ammianus Marcellinus (lib. xv. c. 27.) mentions it as "a city eminent among others." It was enlarged by the emperors Antoninus and Marcus Aurelius; and it was the place in which Conſtantine, Conſtans, Julian, and other emperors frequently reſided. The earldom of Amiens, comprehending a great part of the territory of the Ambiani, and ſince called Picardy, was formerly conferred by the kings on the biſhops of this city. Philip Auguſtus, in 1193, annexed it to the crown. The ſtates of France were ſummoned at Amiens by Lewis XI. in 1264, on the appeal made to him by Henry III. and the barons of England; and the appeal was decided in favour of Henry. Charles VII. granted it to Philip the Good, duke of Burgundy, in 1435; and Lewis XI. reunited it to the crown in 1477. Amiens was taken by the Spaniards in 1597, by the following ſtratagem. Soldiers, diſguiſed like peaſants, conducted a cart, loaded with nuts, and let a bag of them fall juſt as the gates were opened. Whilſt the men in garriſon were buſily employed in gathering up the nuts, the Spaniards entered in a body, and made themſelves maſters of the city. Henry IV. however, retook it in the ſame year. Amiens is diſtinguiſhed as the native place of Voiture, Rohault, Du Cange, and Greſſet. It has lately, *viz.* in 1802, acquired celebrity by the negociation, which terminated the war between England and France, and other belligerent powers, and by the ſignature of the definitive treaty, by the plenipotentiaries of the four contracting parties, Spain, Holland, France, and Great Britain, on the 27th of March, which eſtabliſhed peace. Amiens is ſituated in N. lat. 49° 53′ 58″, and E. long. 2° 17′ 56″.

AMIESTES, in *Commerce*, cotton cloths which come from the Eaſt-Indies.

AMIGONI, Octavio, in *Biography*, a painter of hiſtory and portrait, was born at Breſcia, in 1605, and was a diſciple of Antonio Gandino. His expreſſion, and taſte of deſign, were very remarkable and very elegant; and his compoſitions, executed with a free, firm, and maſterly touch, and with figures as large as life, were much applauded in ſeveral parts of Italy. Pilkington.

AMILICHUS, in *Ancient Geography*, a river of Greece, in Achaia, ſituate to the north-weſt.

AMILICTI, in the Chaldaic *Theology*, denote a kind of intellectual powers, or perſons in the divine hierarchy. The amilicti are repreſented as three in number, and conſtitute one of the triads, in the third order of the hierarchy.

AMILO, in *Ancient Geography*, a river of Mauritania, mentioned by Pliny.

AMILOS, or Amilus, a town of Arcadia, to the north-weſt of Orchomane.

AMILPAS, in *Geography*, two volcanoes in the province of Guatimala, in New Spain, near the mountains of Soconuſco.

AMINEI, in *Ancient Geography*, a people of Theſſaly, who, according to Ariſtotle, tranſported their vines into Italy, whence the expreſſion *amineæ vites*.

AMINEL, in *Geography*, a ſmall town of Africa, in Barbary, ſituate on the eaſtern ſide of the kingdom of Tripoli.

AMINIUS, in *Ancient Geography*, a river in the ſouthern part of Arcadia, which runs from north-eaſt to ſouth-eaſt into the Heliſſus.

AMIRANTE, a great officer in Spain, anſwering to the lord high-admiral in England.

Amirante, or Carnibaco Bay, in *Geography*, a large bay on the north coaſt of the iſthmus of Darien, and near the limits of North and South America. It is in the province of Veragua, on the north-weſt of the Toro channel and bay of Conception, from which it is ſeparated only by a congeries of rocks, which lie in the ocean, near the coaſt. N lat. 9° 5′. W. long. 82° 30′.

Amirante Islands. See Almirante.

AMISENUS Sinus, *gulf of Amiſenus*, in *Ancient Geography*, a gulf or bay of the Euxine ſea, ſituate to the eaſt of the mouth of the Halys, on the coaſt of the kingdom of Pontus; ſo called from the town of Amiſus.

AMISIA. See Ems.

AMISS *Drawing*. See Drawing.

AMISSA Lex. See Lex.

AMISSEN or Misseren, in *Geography*, a point on the gold coaſt of Africa, eaſt of Cormantine, between it and Dajou or Tagu, near the rough point. N. lat. 5°. E. long. 1° 10′.

AMISTOWES, a town of Bohemia, in the circle of Konigingratz, 10 miles weſt-ſouth-weſt of Biezow.

AMISUS,

AMISUS, in *Ancient Geography*, a conſiderable city of Aſia Minor, in the kingdom of Pontus, was ſituated on the coaſt of the Euxine ſea, near the mouth of the Halys and Iris, founded by the Mileſians, and peopled alſo by a colony of Athenians. It was at firſt a free city, like the other Greek cities in Aſia, but afterwards ſubdued by Pharnaces, king of Pontus, and made the metropolis of his kingdom. Pliny ſays, that it maintained its republican and popular form, till it was conquered by the Perſians; but Alexander reſtored its liberty, of which it was deprived by the king of Pontus. It was in extent the largeſt city of the kingdom, except Sinope. Mithridates had a palace in this city, and it was adorned with temples and many magnificent buildings, when Lucullus took it. Its inhabitants were maſſacred by Pharnaces, the ſon of Mithridates; but it was retaken by Cæſar, and made a free city.

AMITERNUM, a town of Italy, north-eaſt of Rome, in the country of the Sabines, ſituate, according to Strabo, on the declivity of a mountain, and having, in his time, the remains of a theatre and a temple. It was taken by Sp. Carvilius, in the year of Rome 460, and ſubſiſted to the time of the conteſt between the Guelphs and Gibellines, when it ſunk under the town of Aquila, newly erected by the emperor. It was famous as the native place of the hiſtorian Salluſt. Some remains of it are ſtill diſcernible near S. Vittorino and the ſprings of the Aternus.

AMITHOSCUTA, a country of Arabia Felix, according to Pliny.

AMITIENSES, a people of Etruria, according to Pliny.

AMITTERE *legem terræ*, a law-phraſe, ſignifying the forfeiture of the right of ſwearing in any court or cauſe; or the becoming infamous.

This is the puniſhment of a champion overcome, or yielding in the combat: of jurors found guilty in a writ of attaint; and of perſons outlawed. Vide Glanvil. lib. ii. and ſee the ſtat. 5 Eliz. cap. 9. againſt *perjury*.

AMIXOCORES, in *Geography*, a people of America, in Brazil, near the country of Rio-Janeiro.

AM-KAS, in *Hiſtory*, a name given to a ſpacious ſaloon in the palace of the great Mogul, where he gives audience to his ſubjects; and where he appears on ſolemn feſtivals with extraordinary magnificence. His throne is ſupported by ſix large ſteps of maſſy gold, ſet with rubies, emeralds, and diamonds; and eſtimated at 60,000,000l.

AMLAK, in *Geography*, one of the Fox iſlands, at the diſtance of about 15 verſts from ATCHAK, and nearly of the ſame ſize. It has a harbour on its ſouth ſide. It lies in about N. lat. 52° 30′. W. long. 173° 30′.

AMLAMGODE River is on the ſouthweſt-coaſt of the iſland of Ceylon, between Barberin iſland on the north-weſt, and Regama point on the ſouth-eaſt, about eleven leagues diſtant. It is not navigable: it is known by a garden of cocoa trees.

AMLET. See Omelet.

AMLING, Carl. Guſtav. Ab, in *Biography*, a painter and engraver, was born at Nuremberg, in 1651, and learned the art of engraving from Francis de Poilly, whoſe ſtyle he imitated but never equalled. He chiefly excelled in portraits, and failed in hiſtorical ſubjects. He was engraver to the duke of Bavaria, and died in 1702. Among his portraits are "Maximilian Emanuel," elector of Bavaria, a large upright plate, eſteemed as one of his beſt; and among his hiſtorical ſubjects are "the hiſtory of the emperor Otho," from the tapeſtries at Munich, in 13 plates, and "the Four Seaſons," from the ſame tapeſtries. Strutt.

AMLWCH, in *Geography*, a ſmall village in the iſland of Angleſea, adjoining to the mines of the Paris mountain, and raiſed into eminence by the works and wealth which they occaſion. The two great proprietors of theſe mines, Lord Uxbridge and Mr. Hughes, have adorned this village with two elegant houſes for their occaſional reſidence, one called the Mona, and the other the Paris Lodge. The little port of Amlwch is placed in a ſmall cove, among the cliffs, about half a mile below the village, and is admirably formed for receiving and arranging the ſeveral veſſels which are employed in the copper and brimſtone trade. It often alſo affords a ſafe haven to thoſe ſhips, which, in their paſſage from Ireland, are driven to the north-eaſt, round the point of Holyhead, and cannot make that harbour.

AMMA, in *Ancient Geography*, *Lemma*, a river of Swiſſerland, which runs into the Aar, near Soleure.

Amma, a town of Aſia, in Paleſtine, belonging to the tribe of Aſer; called, by Jerom, Amma.

Amma, in *Middle Age Writers*, denotes a ſpiritual mother. In this ſenſe, the word was chiefly underſtood of an abbeſs, or ſuperior of a nunnery.

Amma, or Hamma, from *αμμα*, *vinculum*, in *Surgery*, a technical term, denoting the bandage employed to ſuſtain ruptures or herniæ. This important inſtrument will be more properly deſcribed under the article Hernia, which ſee.

AMMÆA, in *Ancient Geography*, a town of Meſopotamia, near the Euphrates, towards the Perſian gulf, according to Ptolemy.

AMMÆDARA, a town of Africa Propria, in that part called by Ptolemy Numidia Nova.

AMMAENSIA Juga, a name given by Pliny to the mountains of Luſitania.

AMMAITTIA, a town of Aſia, in Aſſyria.

AMMAN, or Amana, a town of Aſia, in Arabia; it was the principal town of the Ammonites, and called alſo Rabbath.

Amman, in the German and Belgic *Policy*, denotes a judge who has the cognizance of civil cauſes.

The word is alſo written *amant*. Thus it occurs in writers on the French officers, where it ſtands for a notary, or parochial officer, who draws acts or inſtruments.

Amman, John Conrad, in *Biography*, was born at Schaffhauſen, in Swiſſerland, graduated at Baſil in 1687, and practiſed phyſic at Amſterdam, towards the cloſe of the 17th and beginning of the 18th centuries. He applied himſelf with particular attention to the diſcovery of a method of teaching perſons born deaf and dumb to ſpeak; and from obſerving the motions of the lips and mouths of perſons addreſſing them, to underſtand their meaning. In this art he attained great perfection, and many perſons born with thoſe defects, were reſtored to ſociety, through his ſkill and perſeverance. In the year 1692, he publiſhed an account of the proceſs by which this was effected, firſt in Dutch, under the title of "Surdus Loquens;" and in 1702, in Latin, adding to the title, "Seu Diſſertatio de Loquela:" Opus, Haller ſays, vere aureum; no material addition having been made to his directions, which are now every where practiſed, by perſons profeſſing that art. The work has always been held in high eſtimation, has been tranſlated into moſt of the European languages, and paſſed through numerous editions. Haller Bibl. Med. pract. et Chirurg.

Amman, John, ſon of Conrad, alſo doctor in medicine, ſettled in Peterſburgh, where he gave lectures in botany. He publiſhed "Icones et deſcriptiones ſtirpium rariarum Ruthenicarum." Petropoli, 1739, 4to.

The figures were principally taken from a collection of dried ſpecimens of plants, preſerved at the Imperial academy, Peterſburgh. Eloy Dictionaire Hiſtor. de la Med.

Amman, Paul, was born at Breſlaw, Auguſt 1634. After finiſhing his ſchool education, he travelled for improvement over various parts of Germany, Holland, and England. In October 1662, he was admitted doctor in medicine at Leipſic, and in ſucceſſion, profeſſor of medicine, botany and phyſiology in the ſame univerſity, in which offices he acquired conſiderable reputation. He died, February 4th. 1691.

Haller gives a long liſt of diſſertations publiſhed by him, but his principal works are, "Ammanni parzenenſis ad docentes occupata," 1673, 12mo.; "Praxis vulnerum lethalium ſex decadibus Hiſtoriarum rariarum, Franco," 1701, 8vo. For the titles of his other works, ſee Haller's Bib. Med. Pract.

Amman, or Ammon, Jost or Jodocus, a deſigner and engraver, was born at Zurich, in Switzerland, A. D. 1539, reſided at Nuremberg, and died there in 1591. He was an indefatigable artiſt, and poſſeſſed conſiderable merit as an engraver. The number of his deſigns and plates is very great. His engravings were chiefly on wood, and are much ſuperior to thoſe on copper. Although he does not manifeſt much invention, his figures are well proportioned; and his animals are touched with great ſpirit. His manner of engraving is ſaid to have been neat and decided. Among his performances we may ſelect his "πανοπλια, omnium liberalium mechanicarum et ſedentarium artium genera continens, &c." Francof, 1564, amounting to 115 prints, and exhibiting the different artiſts and tradeſmen in their reſpective employments. He alſo engraved in wood ſome detached pieces, and on copper "The Illuſtrious Women," beginning with Eve; a ſet of "Figures of Warriors," 1590; "The Four Seaſons and the Four Elements," 1569. Strutt.

Amman John, an artiſt and bookſeller, lived at Hanau, in Germany, about the year 1640. A ſet of ſmall wooden cuts, repreſenting "the Paſſion of our bleſſed Saviour," executed very much in the ſtyle of the former artiſt, and publiſhed at Amſterdam, with Latin verſes, in 1623, is reckoned to poſſeſs a conſiderable ſhare of merit. Strutt.

AMMANATI, Bartholomeo, a celebrated ſculptor and architect, was born at Florence, in 1511, and ſtudied ſculpture in his native town under Bandinelli, and at Venice under Sanſovino. He deſigned the porticoes of the Pitti palace, and the bridge Della Trinita, at Florence, which is accounted one of the moſt beautiful works, ſince the revival of the arts. At Rome he built the palace Ruſpoli, and the noble front of the Roman college. On his return to Florence he expended his wealth in building the church of San Giavanino, belonging to the Jeſuits, in which he was interred. Ammanati's large work "La Citta," comprehends the deſigns of all the public buildings neceſſary in a capital city. He died either in 1586 or 1592. His wife, Laura Battiferi, was diſtinguiſhed for her poetical productions, of which a collection was printed at Florence, in 1560. Nouv. Dict. Hiſt.

AMMANNIA, named by Houſtoun in honour of J. Amman, in *Botany*, a genus of the *tetrandria monogynia* claſs and order, of the natural order of *calycanthemæ* and *ſalicariæ* of Juſſieu; its characters are, that the *calyx* is a perianthium bell ſhaped, oblong, erect, with eight ſtreaks and folds, quadrangular, eight-toothed, teeth alternate bent in, and permanent; *corolla* none, or four-petalled, petals vertically ovate, ſpreading, inſerted into the calyx; the *ſtamina* have filaments, (four or eight) briſtly, the length of the calyx into which they are inſerted, anthers twin; the *piſtillum* is a germ ſubovate, large and ſuperior, ſtyle ſimple, very ſhort, and ſtigma headed; the *pericarpium* is a roundiſh, four-celled capſule (berry) covered with the calyx; the *ſeeds* are numerous and ſmall. There are ſeven ſpecies, viz. 1. A *latifolia*, ſinardia of Brown. Jamaic. aparines of Sloane Jamaic. A. purpurea of La Marck, or broad-leaved A. "with leaves half-ſtem-claſping, ſquare ſtalk, and erect branches." This ſpecies grows about a foot and a half high, with leaves long, narrow and triangular, as long as the ſtem, of a pale green colour; and the flowers proceed in cluſters from the joints where the leaves adhere. It is a native of moiſt places in Jamaica, whence the ſeeds were ſent about 1731 by Dr. Houſtoun to England, and from Chelſea they have been diſtributed to moſt of the botanic gardens in Europe. 2. A. *ramoſior*, ludwigia of Clayt. Virg. branching A. "with leaves half-ſtem-claſping, ſtalk ſquare, and ſpreading branches." This is an annual plant, and grows naturally in Virginia and Carolina; riſes about a foot high, with red ſucculent ſtalks, putting out ſide branches, oppoſite, round, and ſimple, the flowers are produced ſingle from the axils on the lower part of the branches, and toward the top in cluſters; they have little beauty; cultivated in 1759, and preſerved for variety. 3. A. *baccifera*, A. verticillata of La Marck, cornelia verticillata of Ard. Spec. "with leaves ſub-petiolate, capſules larger than the calyx and coloured;" it has four-toothed calyxes. This is a native of China, and naturalized in Italy. It has little beauty, and is rarely preſerved in gardens. 4. A. *octandra*, eight-ſtamened A. "with ſeſſile linear-lanceolated leaves, and flowers petal-bearing, and eight-ſtamened;" the petals are blood red; found by Koenig in the Eaſt Indies. 5. A. *pinnatifida*, pinnatifid-leaved A. "with ſtalks procumbent, rooting, compreſſed, and leaves linear, pinnatifid." The flowers are ſmall, corolla red, and capſules four-cornered; found by Sonnerat in the iſle of Java. 6. A. *debilis*, cluſter-flowered A. "with leaves lanceolate, attenuated at the baſe, ſtem branching, flowers in bundles from the axils, and capſules two-celled." This ſpecies is annual, the calyx angular, petals pale-purple, filaments ſhorter than the calyx, anthers ovate and yellow, capſule ovate and two celled; a native of the Eaſt Indies; introduced in 1778 by Sir Joſeph Banks; and flowers in July and Auguſt. 7. A. *ſanguinolenta*, "with leaves, half-ſtem-claſping, cordate at the baſe, flowers ſub-peduncled, eight-ſtamened, petal-bearing;" a native of Jamaica and Domingo.

Culture. The three firſt ſpecies muſt be raiſed from ſeeds on a hot-bed in ſpring, and afterwards removed to another hot-bed in order to bring them forward. When the plants have acquired ſtrength they ſhould be tranſplanted into pots filled with rich light earth, and placed under a frame, ſhading them till they have taken freſh root; they ſhould then be placed in a glaſs caſe or ſtove, to ripen their ſeeds, for the plants are too tender to thrive in the open air in this country, unleſs the ſummer be very warm. The ſecond ſort, raiſed in a hot-bed, in the ſpring, and planted in a warm border, will perfect its ſeeds in the open air. The other ſpecies are ſtove-plants. Martyn's Miller.

AMMANO, in *Geography*, a town of Japan, in the province of Fida.

AMMATA, or Ammatha, in *Ancient Geography*, a town of Aſia, in Paleſtine, belonging to the tribe of Juda.

AMMER, in *Geography*, a powerful but infamous tribe of Arabs, who inhabit the province of Conſtantina, in Africa, and who, contrary to the practice of their brethren, proſtitute their wives and daughters. Shaw's Travels, p. 53.

AMMER-

AMMERCOT, a town of Hindooſtan, ſituate in a ſandy deſert, 138 miles north-eaſt of Nuſſerpour, and 256 ſouth of Moultan. Feriſhta reckons it about 100 coſſes from Tatta. In the Ayin Acbaree it is claſſed as belonging to the Naſſerpour diviſion of the province of Sindy. N. lat. 25° 40'. E. long. 70°.

AMMEREN, a town of Germany, in the circle of Weſtphalia, and duchy of Juliers, ſix miles eaſt-north-eaſt from Ruremond.

AMMERSEE, a lake of Germany, in the circle of Bavaria, 12 miles long, and from two to three broad, 80 miles weſt of Salzburg.

AMMESPACH, a river of Germany, runs into the Erlebach, in the archduchy of Auſtria, on the borders of Stiria.

AMMI, formed from *αμμος, ſand*, in *Botany*, a genus of the *pentandria digynia* claſs and order; of the natural order of *umbellatæ* or *umbelliferæ*; its characters are, that the *calyx* has its univerſal umbel manifold, frequently of 50 rays, the partial ſhort and crowded, the univerſal involucre of many linear, pinnatifid, acute leaflets, ſcarcely the length of the umbel, the partial many-leaved, leaflets linear, acute, ſimple, ſhorter than its umbellet, the proper perianthium ſcarcely apparent; the *corolla* univerſal uniform, with all the floſcules fertile, the proper of five inflex, heart-ſhaped petals, of unequal ſize in the ray, almoſt in the middle of the diſk; the *ſtamina* have capillary filaments. anthers roundiſh; the *piſtillum* has a germ inferior, ſtyles reflex, and ſtigmas obtuſe; no *pericarpium*, fruit roundiſh, ſmooth, ſmall, ſtreaked, and bipartile; the *ſeeds* two, convex and ſtreaked on one ſide, and flat on the other. Martyn reckons three, and Gmelin four ſpecies. 1. A. *majus*, common biſhop's weed, ammioſelinon, "with lower leaves pinnate, lanceolate and ſerrate, upper ones multifid and linear." This ſpecies is annual, and grows in vineyards and fields, in the ſouthern parts of Europe, and in the Eaſt. There is a variety reckoned by Bauhin a diſtinct ſpecies, under the title of A. majus foliis plurimum inciſis, et nonnihil criſpis; but Mr. Martyn has raiſed this variety from the beds of the former. 2. A. *copticum*, "with leaves ſuper-decompound, linear, and ſeeds muricate." This is of the ſtature of Dill, green, ſtem ſmooth and ſtreaked; leaves tripinnate, oblong, ſmooth, and linear; umbels with ten rays; involucre five-leaved; partial involucre ſeven-leaved; corollas white, equal and five angled; fruit ovate and muricate on every ſide, ſeeds ſtreaked with five ſwellings, aromatic; found by Forſkahl in Egypt; annual, introduced in 1773 by John Earl of Bute. 3. A. *glaucifolium*, daucus petræus glaucifolius of Bauhin, perennial biſhop's weed, "with the ſubdiviſions of all the leaves lanceolate." This has the appearance of a variety of the firſt ſpecies; is a native of the ſouth of France; deſcribed by Miller as a perennial plant, preſerved for variety, but having little beauty. 4. A. *laurifolium*, "with bipinnate leaves, the winged leaflets trifid, the firſt connected in whirls with the common rib" La Marck has referred to this genus, the DAUCUS *viſnaga* of Linnæus, and the *ammi anethifolium*, with oblong pinnated leaves, the leaflets multifid and capillary, and the petioles canaliculated; the daucus meoides of Hort. Reg. brought originally from the Levant, and flowering in the beginning of Autumn.

Culture. The 1ſt ſpecies is propagated by ſeeds ſown in Autumn in the place where they are to remain; in the Spring the ground ſhould be hoed and the plants thinned as in the management of carrots, leaving them four or five inches aſunder, or in good ground at the diſtance of ſix inches; after which they will require no further care, beſides being kept free from weeds. They will flower in June, and the ſeeds will ripen in Auguſt, and ſhould be gathered as they ripen, for they will ſoon ſcatter. The 3d ſpecies will grow in any open ſituation, is very hardy, and thrives beſt in a moiſt ſoil. Martyn's Miller's Dict.

AMMI, or *ſemen ammios veri*, in the *Materia Medica*, a kind of aromatic ſeed, the produce of the ſtrong *ammi* of Linnæus, ſometimes though now rarely brought from the Levant, and formerly uſed in medicine. The ſeed is ſmall, whence, according to Lemery, the name of the plant ammi, from *αμμος, ſand*, ſtriated, of a greyiſh brown colour, ſomewhat bitteriſh taſte, and fragrant ſmell, approaching to that of origanum. This ſeems to have been the ammi of Dioſcorides and Hippocrates. It is now very rarely preſcribed. Theſe ſeeds, diſtilled with water, yield a conſiderable quantity of a yellowiſh eſſential oil, containing their whole ſmell and flavour; the remaining decoction is unpleaſantly bitteriſh. Spirit of wine carries off, in its exhalation, the odorous principle of the ammi. Theſe ſeeds have been recommended as a ſtomachic, emmenagogue, diuretic, and an elegant aromatic carminative. Linnæus gives the denomination of *ſemen ammios veterum* to that of the LAGOECIA *Cuminoides*. The ſeeds of the *ammi majus* above deſcribed, or *ammi vulgare*, are ſubſtituted for the former in medical uſe. They are weaker both in ſmell and taſte; nor does their flavour reſemble that of origanum. The eſſential oil and the ſpirituous extract are both leſs grateful and leſs pungent.—Lewis and Murray.

AMMI. See BUNIUM, CICUTA, SESELI, SISON and SIUM

AMMIANUS MARCELLINUS, in *Biography*, a Roman hiſtorian of the fourth century, was a native of Antioch, where his family made ſome figure, and in early life ſerved ſeveral years in the army in quality of protector domeſticus, which was then an honourable poſt. In 350 he accompanied Urſicinus, a general of the horſe under the emperor Conſtantius, into the Eaſt; and followed him in ſeveral expeditions, from 350 to 359, in which he acquired military reputation. He attended Julian in his Perſian expedition in 363, and was either at or near Antioch in 371, when the conſpiracy of Theodorus was diſcovered in the reign of Valens, and was a witneſs of the torments of many perſons whom Valens ordered to be put to death on that occaſion. It is not certain whether he obtained any higher rank in the army than that of domeſtic protector. When he quitted the army, he reſided at Rome, and employed himſelf in writing the hiſtory of the affairs of the empire, during a period of three centuries. Though he was a Greek, he choſe to write in Latin: but his Latin, in the opinion of Voſſius, indicates that he was a Greek and a ſoldier. His hiſtory was divided into 31 books, commenced with the reign of Nerva, where Tacitus ends, and terminated with the reign of Valens.—The firſt 13 books, ending with the reign of Conſtantius, and containing a ſuperficial epitome of 257 years, are loſt; the laſt 18 books, now extant, begin with the 17th year of Conſtantius, A. D. 353, and conclude with the year 375; though ſome particulars of a later date are mentioned, from which we may infer, that the hiſtorian lived at leaſt to the year of Rome 1142, or A. D. 390. The ſtyle of his hiſtory is reckoned harſh and verboſe; but this defect is amply compenſated by the variety of information which he communicates from his own perſonal knowledge, and by the fidelity and impartiality of his relation. Mr. Gibbon (Hiſt. vol. iv. p. 426.) repreſents him as "an accurate and faithful guide, who has compoſed the hiſtory of his own times, without indulging the prejudices and paſſions, which uſually affect the mind of a contemporary." Some have ſuppoſed that he was a Chriſtian; but of this

there is no ſufficient evidence. As he wrote under Chriſtian emperors, he might not judge it proper to profeſs his religion unſeaſonably, and he might think it moſt prudent to be cautious in his reflections upon Chriſtianity. Although he was a pagan, as is evident from the reſpect with which he ſpeaks concerning the pagan divinities, and from his defence and recommendation of heathen auguries, and ſuch methods of inveſtigating futurities, he nevertheleſs manifeſts no animoſity againſt the Chriſtian religion; on the contrary, he bears honourable teſtimony to the plain and ſimple nature, and the equitable and gentle ſpirit of Chriſtianity, to the moderation of ſome Chriſtian biſhops, whilſt he condemns the ſeverity with which ſome Chriſtians treated one another, and to the firmneſs and fidelity of the Chriſtian martyrs. Hence Moſheim concluded that Marcellinus and ſome other learned men about his time were neuters; alleging, that they neither rejected the Chriſtian religion, nor forſook the religion of their anceſtors. But the inſtances already cited merely prove, that he was a faithful and candid hiſtorian. The remaining works of Ammianus Marcellinus have paſſed through ſeveral editions; all of which have been ſuperſeded by that of Valeſius, printed in folio, at Paris, in 1681. This edition was reprinted by Gronovius at Leyden, in 1693, with valuable notes. Valeſii Præf. ad Amm. Marc. Fabric. Bib. Lat. cap. xii. tom. ii. p. 98, &c. Lardner's Works, vol. viii. p. 464, &c.

AMMINEA *uva*, in *Botany*, a name given by the old writers, to the grapes of a wild vine, common in the hedges of Italy, and ſome other places. They uſed to make wine of theſe grapes, which they mixed with other richer wines, and had in common uſe. Columella ſays, that this wine was firſt brought from the country of the Amineans in Theſſaly, and that the wine produced from its grapes was the firſt and the moſt ancient known among the Romans. According to Macrobius, the Falernian wine was more anciently called Aminean. Some write the word *taminea*, inſtead of amminea.

AMMIRABEA or Ommirabih, corruptly Marbea, and Umarbea, in *Geography*, a river of Africa, which has its ſpring on mount Magrau, one of the heads of the Atlas near the confines of Fez, which runs through the plains of Adachſon, where it has a beautiful bridge built by Abu'l Haſchen, the fourth monarch of the Benimerini, and thence winding ſouthwards and watering the ſpacious plains between Dukala and Temeſena, becomes wider in its approach to the ocean, into which it diſcharges itſelf, and forms a capacious bay, on the eaſt ſide of Azamor. This river is fordable neither in Summer nor Winter, ſo that the inhabitants are forced to ferry their effects over it by the help of baſkets, faſtened to leathern pontoons, or over rafters. Its fiſh not only furniſhes all that country; but is exported to Spain and Portugal.

AMMIRAGLIO, a ſmall river of Sicily, anciently Orethus.

AMMIRALIS, in *Entomology*, a ſpecies of Cerambyx found in Surinam. Thorax rather ſpinous; fourth joint of the antennæ bearded, ſecond ſpinous. Gmelin. General colour black; baſe of the wing caſes and ſides of the thorax reddiſh.

AMMIRATO, Scipio, in *Biography*, an eminent hiſtorian of the 16th century, was born at Lecce in Naples, in 1531, and deſcended from a conſiderable family, which was expelled from Florence by the Gibelines. He was originally deſigned for the profeſſion of the law, and with this view went to ſtudy at Naples in 1547; but his taſte for polite literature diverted his attention from this kind of ſtudy. His father was much offended, and withheld from him neceſſary ſupplies, whilſt he viſited Venice and Padua, ſo that he was obliged to return to Lecce, to take orders, and to accept a canonry which was conferred upon him by the biſhop of this city. At Venice, whither he afterwards removed, his life was endangered by an intrigue; and at Rome he had a quarrel with the pope's ſiſter, which obliged him to return to Lecce, where he founded the academy of the "Transformati." After many projects and wanderings in Italy, he at laſt ſettled at Florence, where in 1570, he was engaged by the Grand Duke Coſmo to write the Florentine hiſtory. Though he was of an inconſtant and querulous temper, he continued in the poſſeſſion of a canonry, and in the apartments provided for him by the duke for the remaining 30 years of his life. Here he died in 1601, and appointed the aſſiſtant of his ſtudies, Chriſtophoro del Bianco, for his heir, who, in conformity to his will, took the name of "Scipio Ammirato the younger." His "Florentine Hiſtory," firſt publiſhed in 1600, contains the events of Florence from its foundation to 1574, and is much eſteemed for its extent and accuracy. The ſecond part was publiſhed by Ammirato the younger in 1641, who gave a new edition of the firſt part, with many additions.

Ammirato the elder wrote alſo genealogical accounts of the principal families of Florence and Naples, which were very favourably received; and he publiſhed "Diſcourſes on Tacitus," with ſeveral eſſays, hiſtorical, moral, and political. He wrote arguments in verſe, to all the cantos of "Orlando Furioſo," and other pieces of poetry; but in this kind of compoſition he did not excel. Gen. Dict.

AMMITES, or Hammites, in *Mineralogy*, a ſpecies of lime-ſtone. See Roestone.

AMMOCŒTUS, in *Ichthyology*, an obſolete name given by Geſner and ſome others, to the Ammodytes Tobianus of Linnæus.

AMMOCHOSIA, from αμμος, *ſand*, and χεω, *I lay along*, in the *Ancient Phyſic*, a kind of a remedy, or operation for drying the body, by lying along on warm ſand, and having the body covered with it. Some prefer ſalt for this purpoſe to ſand.

AMMOCHOSTOS, in *Ancient Geography*, a promontory of the iſland of Cyprus ſouth of Salamis; whence, by corruption, is derived the modern name Famagouſta.

AMMOCHRYSOS, the ſame as *golden* mica, which ſee.

AMMOCHYSUS, in *Natural Hiſtory*, a kind of gem, ſuppoſed to be the ſame with the *avanturine*.

AMMODES, in *Ancient Geography*, a promontory of Cilicia, between Pyramus and Cydnus.

AMMODYTES, in *Zoology*, a ſpecies of Coluber, very nearly allied to the viper. It inhabits many places in the eaſtern regions, and the mountainous parts of Illyria; and hence it has been called *vipera illyrica*. The Linnæan ſpecific character is taken, as in general throughout the genus, from the abdominal plates and ſubcaudal ſcales which are 142—32. Its general deſcription is ſometimes brown, ſometimes pale bluiſh, with a black dentated dorſal band; the dentations being turned backwards. Noſe terminated by an erect wart.

This ſpecies is ſaid to be extremely poiſonous, and, according to Matthiolus, proves fatal in the ſpace of three hours.

Ammodytes, in *Ichthyology*, the name of a genus in the Linnæan ſyſtem, of which only one ſpecies has been hitherto diſcovered. The generic character is, head compreſſed, narrower than the body; upper lip doubled, lower jaw narrow and pointed: teeth ſharp pointed. Gill membrane

brane of ſeven rays. Body long, ſquare. Tail-fin diſtinct. This ſpecies is Tobianus. Linnæus. This ſpecies inhabits the ſandy ſhores of the Northern ſeas, and is known by the name of tobian, tobis, ſandaal, ſandibz, and ſand launce. It is uſually from nine to twelve inches in length, its general colour ſilvery white, greeniſh on the back.

The name is formed from *αμμος, ſand,* and *δυτης, a diver,* expreſſing the quality of this creature, to dive into, or bury itſelf under the ſand.

AMMON, or Hammon, in *Antiquity*, an epithet given to Jupiter in Lybia, where was a celebrated temple of that deity under the denomination of Jupiter Ammon, which was viſited by Alexander the Great.

There has been a great diſpute about the origin of this name.—Some derive it from *αμμος, ſand,* becauſe the temple was ſituated in the burning ſands of Lybia; others borrow it from the Egyptian *anam, a ram;* as having been firſt diſcovered by that animal.—Others will have Ammon to ſignify the ſun, and the horns wherewith he is repreſented the ſun-beams. To this purpoſe Macrobius obſerves, (Saturn. i. c. 18.) that the inhabitants of Egypt worſhipped the ſun as the only divinity and ſoul of the univerſe; and they repreſented him under different forms, according to the various appearances of this luminary; in his infancy at the winter ſolſtice, in his youth at the vernal equinox, or in ſpring, in his maturity at the ſummer ſolſtice, and in his old age at the autumnal equinox.

The word Amoun, compoſed of Am ouein, ſhining, according to Jablonſki (tom. i.) denoted the deſired effects produced by the ſun on attaining the equator, ſuch as the increaſe of the days, a more ſplendid light; and, above all, the fortunate preſage of the inundation and abundance.

Ammon is ſaid to have been originally derived from Ham, the ſon of Noah, who firſt peopled Egypt and Lybia, after the flood; and when idolatry began to gain ground ſoon after this period, he was the chief deity of theſe two countries, in which his deſcendants continued. A temple, it is ſaid, was built to his honour, in the midſt of the ſandy deſerts of Lybia, upon a ſpot of good ground, about two leagues broad, which formed a kind of iſland or oaſis in a ſea of ſand. He was eſteemed the Zeus of Greece, and the Jupiter of Latium, as well as the Ammon of the Egyptians. In proceſs of time theſe two names were joined, and he was called Jupiter Ammon. For this reaſon the city of Ammon, No-ammon, or the city of Ham, was called by the Greeks Dioſpolis, or the city of Jupiter. Plutarch ſays, that of all the Egyptian names which ſeemed to have any correſpondence with the Zeus of Greece, Amon or Ammon was the moſt peculiar and appropriate. From Egypt his name and worſhip were brought into Greece; as indeed were almoſt all the names of all the deities that were there worſhipped. Bryant's Mythol. vol. i. p, 5.

However this be, Jupiter Ammon, or the Egyptian Jupiter, was uſually repreſented under the figure of a ram; though in ſome medals he appears of a human ſhape, having only two rams horns growing out beneath his ears.

The Egyptians, ſays Proclus, in Timæus of Plato, had a ſingular veneration for the ram, becauſe the image of Ammon bore his head, and becauſe this firſt ſign of the zodiac was the preſage of the fruits of the earth. Euſebius (Præp. Evang. lib. iii.) adds, that this ſymbol marked the conjunction of the ſun and moon in the ſign of the ram. Jupiter Ammon, the object of worſhip in every part of Egypt, was honoured in a peculiar manner at Thebes; and the Greeks, from this circumſtance, denominated it Dioſpolis. Herodotus, Diodorus Siculus, and Pliny have given particular deſcriptions of the magnificent temple of Ammon at Thebes; and although it was deſpoiled and ruined by Cambyſes, there ſtill remain veſtiges of its ancient grandeur. In this temple there was a ſtatue of Jupiter Ammon. The Ethiopians came down the Nile once a year to worſhip this deity at Thebes, and they had a ſmall portable temple of this deity, which they carried with them to their habitations and to thoſe of the Lybians, for the purpoſe of celebrating proſperous events by feaſts and dances. This aſſociation for religious exerciſes of the Egyptians, Ethiopians, and Lybians, continued under the reign of Theodoſius the younger. The Greek mythologiſts repreſent Bacchus, after his conqueſt of Aſia, paſſing with his army through Africa, and reduced to diſtreſs for want of water; when his father Jupiter, aſſuming the ſhape of a ram, led him to a fountain where he and his exhauſted troops were refreſhed with water; and in gratitude for this ſeaſonable relief they ſay, that he built a temple to Jupiter, under the name of Ammon, from *αμμος, ſand,* alluding to the ſandy deſert where it was built.

Ammon, or Ben-Ammi, in *Scripture Biography*, the ſon of Lot, was the father of the Ammonites, and lived about 1900 years before Chriſt.

Ammon, in *Entomology*, a ſpecies of Formica, with a double-ſpined thorax, petioled ſquama, and the two ſpines incurved. It is found in New Holland. Fabricius.

Ammon, a ſpecies of Scarabæus, found in America. Thorax, with three teeth; a recurved horn on the head; wing-caſes ſtriated. Linnæus.

Ammon, in *Ancient Geography*, a city of Marmarica, in Africa, which belonged to the Ammonii, according to Ptolemy; but Arrian ſays, that it was only a ſpot of ground in which the temple of Ammon was erected. It ſeems probable from Herodotus, (lib. iii. c. 25, 26.) that the Ammonii were a populous nation, and had a king of their own, though part of their territory could only be conſidered as a barren, ſandy deſert. From this ancient hiſtorian we learn, that Cambyſes, having advanced to Thebes, in his way to Ethiopia, detached from thence a body of 50,000 men to lay waſte the country of the Ammonii, and burn the temple of Jupiter Ammon; but that, after ſeveral days march over the deſerts, a ſtrong and impetuous wind blowing from the ſouth, raiſed ſuch a torrent of ſand, as to overwhelm and deſtroy the whole army. Alexander the Great, about 200 years after this time, was more ſucceſsful in his journey to that temple. Pliny places the temple of Ammon at the diſtance of about 12 days journey from Memphis, and mentions the Ammoniac nome of Egypt. Diodorus Siculus and Quintus Curtius (lib. iv. c. 7.) relate, that though this temple was ſurrounded by a ſandy deſert, yet its proper diſtrict abounded with trees bearing great plenty of fruit, and was ornamented with fountains. It had alſo ſeveral ſtreets or villages in the neighbourhood of the temple, a caſtle fortified with a triple wall, and near it a holy fountain, called the Fountain of the Sun, becauſe the qualities of the waters varied wonderfully every 24 hours; being warm in the morning, cool at noon, warm in the evening, and ſcalding hot at midnight. Strabo (lib. xvii.) informs us, that, under the reign of Auguſtus, the verſes of the Sybils, and the Tuſcan divinations, had depreciated the reputation of the oracle of Ammon; and in the 13th century it was forgotten; though the Arabs aſſert, that the diſtrict, in which it was ſituated, was ſtill inhabited. The Fountain of the Sun, deſcribed by Quintus Curtius, was nothing more, according to their account, than a hot ſpring, which ſeemed to be warmer in the night than in the day.

Ammon, in *Zoology*, a ſpecies of Ovis, or ſheep, in

Gmelin's

Gmelin's Linnæan fyftem; the characters of which are, that the horns are large, femicircular, arched backwards, and divergent, wrinkled on their upper furface, and flattifh on the under fide; and the neck has two pendant hairy wattles. This is the capra ammon of the Syft. Nat. Linnæus, or capra orientalis of Briffon, mufmon et ophion of Pliny, mufinon, or mufimon of Gefner, mufimon et tragelaphus Bellonii of Ray, tragelaphus, or muflon of Klein, rupicapra cornibus arietinis of J. G. Gmelin nov. com. petrop. ovis fera Sibirica, vulgo argali dicta of Pallas, mouflon of Buffon, ftepnie baranni of J. G. Gmelin, It. Siber. kamenoi barani oder mufimons of Steller, das wilde fchaaf, et der weiffers der alten of Gefner, [illegible] t of S. G. Gmelin, wild fheep of Pennant, and Siberian chamois of Briffon. It inhabits, in fmall flocks, the rocky and defert tracts of the Alpine region in the centre of Afia, in Kamtfchatka, the Kurile iflands, probably on the weft fide of North America and California, and more certainly on the higheft mountains of Barbary, Sardinia, Corfica, Greece, and the deferts of Tartary. It is very wild, fwift, and active, and fights violently with its horns, acquires its full growth in two years, and feldom lives more than 14; the female produces one or two lambs in the month of March. The general colour in Summer is a brownifh afh, mixed with grey on the upper parts of the body, and a whitifh afh on the lower parts; in Winter the former changes to a rufty grey, and the latter to a whitifh grey; the tail is very fhort, of a whitifh colour, and brownifh at the tip; the hair in Winter is about an inch and a half long, which falls off in Spring, and in Summer the coat is very fhort; the ears are erect and fharp pointed; the eyes are large, and generally of a brown or blue colour; the horns, which arrive at their full fize in three years, are whitifh, angular, wrinkled tranfverfely, large, clofe at their bafes, and placed on the top of the head, rifing at firft nearly upright, reflected backwards, divergent, and turned downwards and outwards at their ends: thofe of the female are fmaller and more hooked, but are fometimes entirely wanting; the horns of the old rams are faid to grow to fuch an enormous fize, that each of them weighs between 30 and 40 Ruffian pounds, and meafures, with its curvatures, two Ruffian ells in length; the hind-legs are rather longer than the fore-legs, by which the animal is better adapted for running up hill than on level ground; the flefh and fat are efteemed great delicacies in Siberia; the Kamtfchatkans clothe themfelves with the fkins of thefe animals. Mr. Pennant diftinguifhes between the Corfican argali, or ovis ammon Europea, and that of Siberia; though the difference feems to confift chiefly in colour; the former being of a brown colour tinged with tawny on the upper parts, with a white mark on each fide pointing to the belly. A fpecimen, brought from Corfica to England by Paoli, differed from the above in colour, having a large white fpot on the front of the neck, and being black on the fhoulders. In Corfica this animal is denominated Mufro. It is probable that the argali once inhabited Britain, as Boethius mentions fheep in St. Kilda larger than a he goat, with horns as big as thofe of an ox. In confirmation of this account, the figure of a mufmon has been difcovered in a piece of Roman fculpture, taken from Antoninus's wall, near Glafgow. Buffon fays, that the mouflon feems to be the primitive ftock of all the different varieties of fheep.

The Kamtfchatkans have not attempted to domefticate the argali; but they fpend the Summer in hunting them on the wild and precipitous mountains on which they feed. Sometimes they fet bent crofs-bows in the paths through which they expect the argali to pafs, in fuch a pofition, that when the animal treads on a ftring belonging to the bow, the arrow is difcharged and lodged in its bowels. Sometimes they employ dogs in the chace. The dog never overtakes the wild fheep; but while the fheep's attention is engaged by the dog, the hunter, without being obferved, approaches near enough to fhoot him with a ball or an arrow. The Mongols and Tungufi attack them in a different manner. They take out a great number of horfes and dogs, and endeavour to encompafs the flocks by furprife; but this is not eafily done, as they are fo fwift, and fo cunning, that when they diftinguifh, either by fight or by fmell, the approach of an enemy, they infallibly make their efcape.

AMMONIA, in *Agriculture*, a term applied to volatile alkali, a fubftance which has lately been found ufeful in vegetation. It is formed from the decompofition of all animal and fome vegetable matters during the procefs of putrefaction. It has been fuggefted by Dr. Darwin, in his treatife on agriculture and gardening, that in the decompofition of water, which partially takes place after being abforbed by the roots of vegetables, the hydrogen, by its union with azote, produces ammoniac, which may contribute to the nutriment of plants by its mixture with oils, and thus producing foaps which become diffufible in water, and alfo by decompofing infoluble faline earths, as gypfum or metallic falts, as vitriol of iron, and by this means producing more foluble or innocuous faline matters in the foils.

AMMONIA, in *Antiquity*, feafts celebrated at Athens, mentioned by Hefychius.

AMMONIA, or VOLATILE ALKALI. Alkali volatile, *Ammoniaque*, Fr.—*Alkali fluchtiges*; *Harnfalz*, *urinfalz. fluchtiges*, Germ.

Under the article ALKALI we noticed fome of the peculiar properties of the *volatile* alkali whereby it is diftinguifhed from the *fixed*. We fhall, in this place, give a more particular account of ammonia, which requires confiderable notice from its high importance as a chemical agent, and from the numerous refearches which have been made into all its properties and combinations, with more fuccefs than perhaps has fallen to the fhare of any other fubftance of equal value to the chemift.

As ammonia is never found native in an uncombined ftate, and is, in moft cafes, a *product* of various natural or artificial proceffes, we fhall refer the reader to the articles ANIMAL matter, CARBONAT of ammonia, MURIAT of ammonia, and falt of HARTSHORN, for every thing that relates to the natural hiftory of this alkali and its production in the large way as a manufacture, and fhall here confine ourfelves to the purely chemical defcription.

The volatile alkali (like fo many other chemical agents) when perfectly pure and uncombined, is only known to us in the form of a gas; and, as it is the only one of the alkalies which is capable of affuming this form in any common degree of heat, the term *alkaline* air, ufed by Dr. Prieftley and many other chemifts, is fynonymous with ammoniacal gas. This gas has the following properties: It poffeffes a moft pungent fmell, which, when ftrongly fnuffed up the noftrils, provokes to coughing, and gives a temporary fenfe of fuffocation, owing to the conftriction of the fauces which it produces. To the tafte it is highly ftimulating and acrid, and quickly corrodes the fkin of the tongue and lips, fo that it cannot be taken into the mouth in the undiluted form with fafety. It is fpeedily fatal to animals that are immerfed in it, and it extinguifhes a taper; but the flame of this laft is firft enlarged, and becomes of a pale yellow colour. Ammoniacal gas is, next to hydrogen, the lighteft of all the gafeous bodies. Its fpecific gravity,

gravity may be reckoned about 0.735 (diſtilled water being 1000.) whereas atmoſpheric air is 1.23, or nearly twice as heavy as alkaline air. The abſolute weight of 100 cubic inches of this gas at 30" bar. and 61° therm. is reckoned by Kirwan to be 18.16 grains. It is highly dilatable by heat, and at a very high temperature is decompoſed. It is alſo very rapidly and copiouſly abſorbed by moſt liquids, eſpecially by water, and hence it cannot be kept over water; but, for the purpoſes of experiment, it muſt be confined in well cloſed bottles or over mercury.

Ammoniacal gas is given out during the diſtillation of almoſt every animal, and ſome vegetable matters, but it cannot in this method be procured ſufficiently pure for chemical experiments. For this purpoſe the muriate of ammonia (or common crude ſal-ammoniac is the moſt convenient material for yielding the gas. This ſalt is readily decompoſed by quicklime, which laſt unites with the muriatic acid of the ſalt, and expels the ammonia in its pureſt and moſt cauſtic form of gas. The decompoſition is ſo ſpeedy, that a very pungent ſmell of volatile alkali is perceived merely on rubbing together theſe two ſubſtances. If one part of dry ſal-ammoniac is mixed with two parts of well burnt lime (or leſs if the lime is good), put into a dry phial or earthen tube, and heated gently, the ammoniacal gas riſes in great abundance, and may be directed by means of a bent tube under a jar full of dry mercury, where it may be preſerved in the gaſeous form for any length of time. Many of the metallic oxyds, eſpecially minium or litharge, will ſupply the place of the lime and expel the gas from the muriate of ammonia in very great purity. A ſtill more ſimple method of obtaining the gas is to apply a gentle heat to the liquid or watery ſolution of ammonia, which expels from it the alkaline air that the water had previouſly been made to abſorb at a lower temperature. It may be remarked that the diſcovery of ammonia in a gaſeous form, as well as many of the moſt intereſting properties of this alkali, is due to Dr. Prieſtley.

Ammonia, diſſolved in water (forming the *liquid ammonia* of modern chemiſts, the *fluor volatile alkali* of former times, or the *aqua ammoniæ puræ* of the London Pharmacopœia) is the form in which the cauſtic ammonia is the moſt familiar to us, and in which many of the properties of the alkali can be moſt conveniently examined. This when pure ſhould be perfectly tranſparent and colourleſs as water, ſhould have the ſtrong burning taſte and pungent ſmell of ammonia, and ſhould give no effervescence with acids. This latter teſt deſerves attention on account of the variety of volatile alkaline liquors that are prepared, all of which, except the *aqua ammoniæ puræ*, contain more or leſs carbonic acid, and are much milder in all their ſenſible properties.

Ammoniacal gas is abſorbed by water with great rapidity, and at the ſame time a conſiderable quantity of heat is given out from the gas, which is ſufficient to raiſe the temperature of the water, and to be ſenſible to the hand. The ſame gas, when put in contact with ice, melts it with apparently as much rapidity as if the ice were put into a fire, and is greedily abſorbed, at the ſame time that conſiderable cold is produced. At a moderate temperature water may be made to diſſolve nearly one third of its weight, or many hundred times its bulk, of this gas. The bulk of the water is ſo much increaſed by this proceſs that it becomes ſpecifically lighter than diſtilled water. Mr. Davy, in his experiments on this ſubject, (Reſearches into nitrous Oxyd, 1800.) found that at the temperature of 52°, 100 grains of liquid ammonia, holding in ſolution 9.502 grains of the alkali, gave a ſpecific gravity of .9684. When *perfectly ſaturated*, 100 grains of the liquid alkali contained 25.37 grains of ammonia, which is ſtill one-third of the weight of the water employed, and had the ſpecific gravity of .9054. Other writers, however, make the ſpecific gravity of ſaturated liquid ammonia as little as .897. The gentle heat of a ſpirit lamp again expels the alkali in the form of gas, but the laſt portions require a ſtrong ebullition before they can be made to quit the water. When liquid ammonia is expoſed to a very intenſe cold, ſufficient to freeze mercury, as Meſſrs. Fourcroy and Vauquelin have obſerved, it becomes a grey ſemi-tranſparent maſs, of the conſiſtence of a very ſtiff jelly, and with ſcarcely any odour.

The liquid ammonia is prepared in two methods. That which is the oldeſt and the moſt uſually practiſed, is to mix together quick-lime, muriate of ammonia, and water, and to diſtil the mixture with a gentle heat. The London Pharmacopœia orders for the preparation of the pure liquid ammonia, two pounds of lime ſlacked in two pints of water, and one pound of ſal-ammoniac, which are to be mixed with ſix pints of hot water, and to be kept in a covered veſſel till cold. The liquor is then to be diſtilled, and the firſt pint which comes over is the pure liquid ammonia. This liquor, however, is by no means ſaturated with the alkali, for during the heat, even of a gentle diſtillation, the ſolvent power of the water is much leſſened. The moſt elegant and effectual way of preparing this liquor is to diſengage the gas from the *dry* materials; and by uſing the beautiful APPARATUS of Woulfe, to cauſe the alkaline air to paſs into cold water where the abſorption is much more ſpeedy; and if neceſſary, the increaſe of temperature produced by this abſorption may be prevented by ſurrounding the bottles with ice. The proportions of the ingredients here uſed, may be two parts of lime ſlacked in as little water as poſſible, mixed with one part of dry muriate of ammonia and put into a retort for the production of the gas; and in the condenſing bottles, about as much water as the weight of the ſal-ammoniac employed. The liquid ammonia is known to be thoroughly ſaturated with the alkaline gas, when the bubbles paſs through the water undiminiſhed, and no further abſorption takes place.

Many of the combinations of ammonia with different chemical agents are highly curious and important; but as moſt of them produce alterations which depend on the decompoſition of this alkali, they will be better underſtood by the reader, if we firſt relate ſome of the multitude of facts by which the analyſis of ammonia has been aſcertained. The conſtituent parts of the volatile alkali are, hydrogen (or the baſis of inflammable air), and azot (the baſis of phlogiſticated air), the proportions of theſe two ſubſtances are, about 29, (in weight) of the former, and 121 of the latter; and it may be remarked that this is the only ſimple combination of theſe two ſubſtances with which we are certainly acquainted. The proofs of this analyſis we ſhall relate nearly in the order of diſcovery by the various eminent chemiſts who have thrown light on the ſubject.

Dr. Prieſtley was the firſt who remarked a very intereſting change produced on alkaline air by means of electricity. For this purpoſe he confined a known portion of this gas in a jar over mercury, and paſſed a number of ſucceſſive electric exploſions and ſparks. He found after every ſhock that the bulk of the confined air increaſed, and continued to do ſo till it had expanded to nearly three times its original bulk. The air was now much altered in its properties, for on letting up ſome water into the jar, ſcarcely any of the gas was abſorbed, whereas before electrization every par-

ticle of it would have rapidly united with this fluid. The gas was found to be highly inflammable, and exploded when mixed with common air, in the fame manner as the inflammable air procured from iron by an acid. The gas likewife after being a fhort time in contact with water had entirely loft its alkaline fmell. The colour of the electric fpark taken in the alkaline air was red, but white in the centre, when any confiderable explofion had been taken.

The fame eminent chemift likewife found alkaline air to be decompofed by paffing through a red hot tube, though not fo completely as by the electric fpark. In performing this experiment he found the tube, through which the alkaline vapour had paffed, lined with a black matter, and the liquor collected after this diftillation alfo obfcured with the fame fubftance. This is probably owing to fome fiffure in the tube which admitted carbonaceous matter from the hot coals, as we fhall mention hereafter. Another property of alkaline air, highly illuftrative of its compofition, is the reduction of feveral metallic oxyds which it effects when they are heated in contact with it. Dr. Prieftley confined fome litharge, or oxyd of lead, in this gas, and by heating it with a burning lens (a method of applying heat of all others the moft accurate), he revived the lead in its metallic form, and a quantity of phlogifticated air remained. The red mercurial oxyd, or *red precipitate*, was heated in the fame manner, and the mercury was revived, and at the fame time a confiderable quantity of *water* was produced fo as to run down in drops on the fides of the jar, which before appeared perfectly dry. The red precipitate, however, gave out during this reduction a large quantity of uncombined dephlogifticated air, which appeared in the refidual air after the reduction was completed. This, in another experiment with the fame materials, united with fome of the inflammable air contained in the alkaline gas and caufed a confiderable explofion. The antiphlogiftic theory will readily explain the production of *water* during the experiment from the union of the oxygen of the red precipitate, and the hydrogen of the ammoniacal gas; but this fact more properly belongs to the fubjects of WATER aud PHLOGISTON.

Thefe experiments were foon repeated by various chemifts, and with fimilar refults. Landriani found, that in paffing ammoniacal gas through a tube heated white hot, the alkaline properties were entirely loft, inflammable air was produced, and likewife a fmall portion of carbonic acid fufficient to give a precipitate with lime water.

Van Marum, in his experiments on the effect of electricity on the gafes, found the fame refults with ammoniacal gas that we have juft mentioned. Two cubic inches and feven eighths of the alkaline gas were enlarged to four inches, and the air was no longer abforbed by water, and was highly inflammable.

Whilft the properties and compofition of the volatile alkali were made the fubject of fo much ingenious aud fucceffful refearch by Dr. Prieftley, they received full elucidation by the labours of one of the moft eminent of the French chemifts, M. Berthollet.

This excellent experimentalift found, that when the oxygenated marine acid is added to liquid ammonia perfectly cauftic, a confiderable effervefcence takes place, and a quantity of gas is collected from the two liquids, which, when examined by the ufual chemical tefts, proves to be pure azotic gas. At the fame time the oxygenated acid lofes its peculiar pungent fmell, and becomes converted into fimple marine acid. The explanation given of thefe phenomena is, that the ammonia is decompofed by the oxygenated acid; the hydrogen of the alkali unites with the excefs of oxygen contained in the acid, and forms water, which mingles with the acid; whilft the azot, the other conftituent part of the ammonia, appears uncombined in the form of gas. The gas was found by Berthollet to be azotic, both by the common methods of examination, and by its forming nitrous acid when united with oxygen by means of the electric fpark, in the method that Mr. Cavendifh had difcovered. The fame decompofition takes place if the oxy-muriatic acid and the ammonia are ufed in form of gas. See OXY-MURIATIC ACID.

This theory of the decompofition of ammonia was alfo beautifully illuftrated by the fame ingenious chemift, in his accurate and original experiments on the nature and preparation of fulminating gold. Thefe will be given more at length under the article GOLD; but it may be here mentioned that the fulminating compound is formed by precipitating a folution of gold in aqua regia by the volatile alkali. This precipitate conffifts of the metal, of oxygen which it acquires during folution in the acid, and of a part of the ammonia employed to feparate it from its menftruum, which is retained by the metallic oxyd, and which gives it the property of exploding in a very gentle heat. M. Berthollet ventured to explode fmall and known quantities of this preparation in copper tubes, and found the products to be water and azotic gas, and the oxyd of gold completely reduced. The ammonia therefore is here decompofed, its hydrogen produces water with the oxygen of the gold, and its azot is fet at liberty in the form of gas. Some other of the metals which have a weak affinity for oxygen are reduced to a reguline ftate by means of the volatile alkali, which is alfo decompofed in the procefs. M. Berthollet alfo repeated Dr. Prieftley's experiment of the analyfis of ammoniacal gas by electricity, taking every poffible precaution in order to enfure an accurate refult; and the calculations deduced from it have been very generally acquiefced in, and confirmed by fubfequent enquirers. For this purpofe he paffed a fucceffion of electric fparks through 1.7 cubic inches of ammoniacal gas till it acquired its utmoft degree of expanfion, when it occupied 3.3 cubic inches, a degree intermediate between the refults of Dr. Prieftley and M. Van Marum. A certain quantity of this enlarged gas was then detonated with a fuperabundance of oxygen gas in Volta's eudiometer, whereby water was produced and the azotic gas of the ammonia remained unaltered. Then (affuming the quantity of oxygen entering into the compofition of water to be to the hydrogen, as 74 to 145, according to the calculations of M. Monge, given in the Memoirs of the French Academy) M. Berthollet eftimates the proportions of the conftituent parts of ammonia to be 2.9, in *bulk*, of hydrogen, to 1.1 of azot, or, in *weight*, (affuming the hydrogen to be eleven times lighter than the azot) 150 grains of ammoniacal gas will contain 121 grains of azot, and 29 grains of hydrogen.—Journal de Phyfique for 1786.

The above are the principal facts which have been brought to prove the *decompofition* of ammonia. A number of others, equally important and curious, will throw light on the mode of its *formation* from the union of its conftituent parts.

An accidental production of ammonia in circumftances where it had not been expected had frequently been remarked by various chemifts. Dr. Prieftley, in his numerous experiments on nitrous air, found by accident that when iron filings had been long kept in a jar, and moiftened with a diluted folution of copper in the nitrous acid, a thick

faline

ſaline red incruſtation was formed, mixed with a green matter, which, when broken, had a ſtrong ſmell of volatile alkali. Repeating the experiment he found that the ſame effect would be produced, though more ſlowly, by ſimply allowing iron to ruſt in nitrous air, when, after ſome weeks, the ſmell of volatile alkali plainly appeared. The nitrous gas likewiſe underwent a conſiderable change, being diminiſhed about one third, and then ſupporting combuſtion in a high degree, which laſt property was, however, loſt by waſhing in water, and a large reſiduum of phlogiſticated air was left.

A production of ammonia, in ſomewhat ſimilar circumſtances, is likewiſe particularly noticed by Mr. Hauſſman of Colmar. (Journal de Phyſique for 1787.) He relates, that on mixing nitrous gas with phlogiſticated precipitate of iron, a large quantity of the gas is abſorbed, leaving only a ſmall reſidue of phlogiſticated air; and on adding cauſtic fixed alkali to the iron precipitate, a ſmell of volatile alkali is very perceptible, and a ſtraw moiſtened with nitrous acid and held over the mixture alſo indicates the preſence of ammonia by forming denſe white fumes. Mr. Hauſſman diſtinguiſhes accurately between the phlogiſticated and the dephlogiſticated ſolutions of iron, the former being formed by diſſolving the metal in acetous acid, or in the vitriolic without previous preparation; and the latter being a ſolution in vitriolic acid of iron which has been previouſly precipitated from a nitrous ſolution, and is therefore fully dephlogiſticated, or, as is now ſaid, in the higheſt ſtate of oxygenation. The ſame chemiſt employed the ſolutions of iron in various ſtates, and found, that wherever nitrous gas was abſorbed by the iron, a certain quantity of ammonia is alſo produced, which, he alſo obſerves, probably remains in union with the vitriolic acid till it is diſplaced by cauſtic fixed alkali. The properties of this compound of nitrous gas and oxyd of iron will be examined more particularly under the article EUDIOMETRY, as it is intimately connected with this ſubject.

Still further light was thrown on the curious phenomenon of the production of ammonia, by ſome intereſting experiments of Dr. Auſtin. (Philoſoph. Tranſact. for 1788, vol. lxxviii.) The compoſition of ammonia having been fully aſcertained by the experiments of Prieſtley, Berthollet, and others, Dr. Auſtin attempted to produce the alkali by a direct union of its conſtituent parts. For this purpoſe he mixed inflammable and phlogiſticated airs in different proportions, and added to them ſome of the acid airs in order to favour their combination, tried the effects of cold, of heat, of electricity; and laſtly, he decompoſed alkaline air, and endeavoured to reunite the identical parts, but in no inſtance could he ſucceed in forming ammonia from the conſtituent parts of this alkali, *when both were employed in a gaſeous form.*

Hydrogen and azot, however, are certainly the conſtituent parts of ammonia, and their refuſal to unite when in the form of gas led Dr. Auſtin to vary his experiments by mixing theſe ſubſtances together in ſuch a manner that the hydrogen ſhould be involved in an atmoſphere of azotic gas juſt at the time when it was itſelf beginning to aſſume the gaſeous form. This has with great propriety been termed the *naſcent ſtate* of a gas, and this experiment was ſuggeſted to Dr. Auſtin by another very ſtriking production of ammonia from nitrous acid and tin, which we ſhall preſently mention. He therefore incloſed in a glaſs tube ſome azotic or phlogiſticated air, and along with it ſome iron filings moiſtened with water, which laſt were known to yield inflammable air after ſtanding together for ſome hours; and this air therefore in its naſcent ſtate, or at the inſtant of its formation, was in full contact with the azotic gas. To detect the minuteſt quantity of ammonia he alſo incloſed in the tube ſome paper ſtained with the blue of the rind of the radiſh, which is turned to green by alkalies. In twenty-four hours he found the colour entirely green. Another teſt was alſo uſed to indicate the preſence of ammonia, which was paper ſtained with a ſolution of nitrated copper; the green of which was, in a few days, converted to blue, the proper colour of a ſolution of copper in ammonia. Dr. Auſtin found nitrous air to effect a much more ſpeedy production of ammonia when uſed inſtead of the azotic gas. Atmoſpheric air will alſo ſucceed, but requires a longer time than the azotic air, ſo that ammonia ſhould always be formed whenever iron in contact with water ruſts in the open air. In this formation of ammonia by the direct combination of its principles, it is neceſſary, as Dr. Auſtin obſerves, that the hydrogen ſhould be only in the naſcent ſtate when it comes in contact with the azot, for if it is already in the form of gas it cannot be made to unite with the azot in any form ſo as to produce ammonia.

We may here remark, that this mode of effecting chemical union between bodies which, when uncombined, are only known in the gaſeous form, (ſuch as oxygen, hydrogen, and azot) by preſenting one to the other when in the naſcent ſtate, ſhould always be kept in mind in experiments of reſearch, as it may be the means of very important diſcoveries in this difficult part of experimental chemiſtry. Mr. Kirwan, in his valuable experiments on hepatic air, obſerved the formation of volatile alkali when this air was mixed with nitrous gas. At the ſame time ſulphur is depoſited.

Another very ſtriking experiment on the formation of ammonia, which is eaſily made and ſeldom fails of ſucceſs, is the following. Take ſome powder, or filings of tin or zinc, pour on them ſome moderately dilute nitrous acid, which will act on them with great vehemence, and the diſengagement of copious red fumes. After a ſhort time ſtir into the mixture ſome quicklime or cauſtic alkali, and a very ſtrong pungent ſmell of ammonia will be produced. In this caſe the ammonia is formed by the decompoſition of the nitrous acid and the water, this ammonia inſtantly unites with a portion of the acid, forming nitrated ammonia, and the lime again decompoſes this ammoniacal ſalt by ſimple affinity, and by diſplacing the alkali from its union with the acid, cauſes it to aſſume the gaſeous form and to become evident to the ſenſes.

Before we quit the ſubject of the compoſition of ammonia, we ſhall make a few obſervations on the decompoſition of nitrous gas and nitric acid in the experiments above related, whereby the volatile alkali is produced. In the ſimpler methods of forming ammonia, ſuch as in Dr. Auſtin's experiments, the union of the naſcent hydrogen with azotic gas, the affinities which operate in forming the alkali, may be ſuppoſed to be tolerably ſimple. But when the nitric acid, or nitrous gas are uſed, the affinities appear to be extremely complex, and perhaps hardly made out with much certainty. It ſhould be noted, however, that, along with the production of ammonia, there appears conſtantly a proportionate quantity of that ſingular gas diſcovered by Dr. Prieſtley, and called by him dephlogiſticated nitrous air; and of late denominated *nitrous oxyd* by Mr. Davy, to whoſe highly ingenious "Reſearches" we are indebted for much important addition to this curious and difficult part of chemiſtry. It is a ſtriking property of the nitrous oxyd to ſupport combuſtion in a very eminent manner, and very ſimilar to oxygen gas, although it contains a leſs proportion of oxygen, and more azot than *nitrous gas*,

which is unfit for combuſtion. This reſemblance to oxygen gas in the nitrous oxyd has miſled ſome chemiſts in the nature of the air left after the formation of ammonia from nitrous gas and naſcent hydrogen, who have ſuppoſed a production of oxygen, and have been obliged to account for it accordingly. To explain the changes that take place with moiſtened iron filings, confined in an atmoſphere of nitrous gas, we muſt obſerve, that the new compounds, which we know are formed out of theſe materials, are ammonia, conſiſting of azot and hydrogen, and nitrous oxyd, compoſed of much azot and little oxygen. The iron likewiſe is ruſted or oxygenated. The ſource of the hydrogen in the new products may be ſuppoſed to be ſome of the water decompoſed, from which the metal, in ruſting, has abſtracted its other conſtituent part, the oxygen. The only ſource of the azot (allowed by the antiphlogiſtic theory) is the nitrous gas, which is compoſed merely of this principle, and of oxygen. But if merely a portion of the azot of the nitrous gas was abſtracted from it, the remainder, by loſing azot, would be a ſubſtance containing (proportionally) *more* oxygen than nitrous gas; whereas, the nitrous oxyd, which is this remainder, contains leſs. There muſt, therefore, be an additional method of getting rid of this exceſs of oxygen, in order to produce a ſatisfactory explanation; and the only ſubſtance that offers is the hydrogen of the water decompoſed by the metal, which may be ſuppoſed to unite with enough of the oxygen of the nitrous gas to reduce it to the ſtate of nitrous oxyd. Thus then, according to this hypotheſis, the metal decompoſes the water, the hydrogen ſet at liberty by this decompoſition unites with a ſmall part of the azot of the nitrous gas to form ammonia, and with a greater part of its oxygen, to form water, and the reſidue of the nitrous gas is in that proportion and mixture which conſtitutes nitrous oxyd.

We ſhall not purſue this ſubject farther at preſent, as it will apply to all the caſes of the production of ammonia by nitrous acid, and it may, perhaps, be thought too hypothetical to be further inſiſted on, though there are many ſimilar examples to be met with, of very extenſive and complicated affinities being ſet in motion by a ſingle diſturbance of the quieſcent attractions of the conſtituent parts of any of the ſubſtances contained in the mixture.

Having now enumerated ſome of the leading facts by which the compoſition of the volatile alkali has been eſtabliſhed, we ſhall proceed to mention ſome of the mixtures of ammonia with various chemical agents. It may be obſerved that though the uncombined volatile alkali is in the form of gas when pure, all its combinations are either ſolid or liquid, and hence every ſubſtance added to the ammoniacal gas cauſes an abſorption of it where any chemical action takes place. However, the tendency to the aëriform ſtate is ſo far retained by ammonia in all its combinations as to render them volatile, and to weaken its adheſion for them, whenever the temperature is raiſed to a certain degree. The force of affinity which ammonia exerciſes is therefore remarkably weakened by heat, where the ſubſtance to which it is united is naturally fixed in the fire, and many of the ammoniacal compounds at a high temperature are totally decompoſed, and entirely new products reſult from the operation.

No union takes place by any ſimple mixture of ammonia with oxygen, hydrogen, or azotic gaſſes. Under particular circumſtances, and by the agency of complicated affinities, theſe ſubſtances may however be mutually decompoſed, and new compounds produced. Thus, ammoniacal gas paſſed over heated oxyd of manganeſe forms NITROUS ACID, as diſcovered by the ingenious experiments of Dr. Milner.

Ammonia unites with all the acids with very great eaſe and rapidity, forming with them very eaſily ſoluble ſalts. Theſe will be particularly mentioned under the reſpective acids, but ſome of their properties may here be mentioned. The union of alkaline air with the acid gaſſes, as diſcovered by Dr. Prieſtley, forms ſome of the moſt ſtriking and beautiful experiments which chemiſtry furniſhes. If ammoniacal gas is paſſed up into a jar containing carbonic acid there is a thick white fume immediately produced, the two gaſſes by uniting loſe their gaſeous form, ſo that there is a complete vacuum ſuddenly made in the jar, cauſing the mercury over which it is confined to riſe and fill it entirely, a ſenſible quantity of heat is given out, and a number of minute cryſtals of carbonated ammonia lining the inſide of the jar, is the product of the mixture.

With the muriatic acid gas the appearances are exactly ſimilar, only the white fume is ſtill more denſe and copious, the heat greater, and the union more rapid. Cryſtalline feathers of MURIATED ammonia are the reſult, and this furniſhes one of the moſt ſtriking inſtances of alteration in form, and in ſenſible properties, which two bodies may undergo by chemical affinity; for each of the ingredients when ſeparate are in the ſtate of an inviſible gas with a highly pungent ſmell, and, when united, a ſcentleſs ſolid ſalt is the product. In making this beautiful experiment both the gaſſes ſhould be confined over mercury; and, on account of the much ſuperior ſpecific gravity of the acid gas over the alkaline, if the former is thrown into a jar of the latter, the white cloud will form ſlowly, beginning from the point of contact of the gaſſes; but if the alkali be added to the acid gas, it riſes through it immediately, and the combination takes place with great rapidity.

The nitrous acid unites with ammonia with great eaſe, and with the production of white fumes when the two ſubſtances are gaſeous. The reſulting ſalt NITRAT of ammonia poſſeſſes very intereſting properties, which will be mentioned under that article.

It may be of uſe to know that the preſence of ammoniacal gas, where it cannot conveniently be detected by the ſmell, will be readily ſhewn by holding a piece of glaſs rod or any other ſubſtance wetted with nitrous or muriatic acid, over the part where ammonia is ſuſpected, when thick white fumes will be ſeen to form around the acid.

Phoſphorus will not unite with ammonia at a low temperature. In a red heat the alkali is decompoſed, and phoſphorated hydrogen, and azotic gas are produced.

With ſulphur, ammonia unites with ſome difficulty, forming the SULPHURET of ammonia, or *Boyle's fuming liquor*.

Charcoal and the volatile alkali do not unite in a moderate heat, but at high temperatures the alkali is decompoſed, and, by particular management, that ſingular ſubſtance, the PRUSSIC acid, may be formed.

The affinity of ammonia for the different acids is much weaker than that of the other alkalies, and ſeveral of the earths. In ſeveral ſolutions of earths or metals in acids, where the affinity of ammonia for the acid is only in a ſmall degree greater than of the earth or metal, only a part of the ſubſtance diſſolved is precipitated by the addition of this alkali, and the ſolution retains the remainder, united with the ammonia, forming together an ammoniacal triple ſalt. Thus if to a ſolution of magneſia ammonia is added, part only of the earth is precipitated, and the remaining ſolution is an ammoniaco magneſian ſalt. Alſo the affinities of ammonia are much weakened by heat, owing to the great tendency to volatilization which the alkali poſſeſſes.

Ammonia has a very ſtriking property of reducing to the metallic ſtate (either entirely or partially) the oxyds of the ſeveral metals. This is performed, as we have already mentiond

tioned in the inſtance of fulminating gold, by a decompoſition of the alkali, its hydrogen uniting with the oxygen of the metallic oxyd to form water, and its azot appearing uncombined in the form of gas. Thus, as M. Fourcroy has obſerved, (*An. Chym. tom.* 2 & 6.) if the black oxyd of manganeſe is moiſtened with liquid ammonia, and gentle heat be applied, the oxyd paſſes to the ſtate of the white oxyd, (which is nearer the metallic ſtate) and an effervescence with diſengagement of azotic gas takes place. The red oxyd of mercury, treated in a ſimilar manner, gives the ſame reſults, and the metal is left in the ſtate of a black powder, which ſimple expoſure to light and air will convert to globules of running mercury. This affords a ready way of cleaning the ſurface of mercury that has been tarniſhed and oxydated by acid vapours.

Some of the moſt difficultly reducible metals, ſuch as manganeſe or tungſten, are on this account beſt prepared for reduction by being previouſly united with ammonia.

The volatile alkali may be made to unite with oils, ſo as to form ammoniacal Soaps; but this combination is leſs perfect than the fixed alkaline ſoaps, on account of the impoſſibility of applying heat to promote union without driving off much of the alkali in the form of gas. The volatile oils are equally ſoluble in ammonia with the fixed, an example of which is that union of oil of amber with ammonia, which forms Eau de luce.

A great variety of vegetable and animal ſubſtances are diſſolved or decompoſed by this alkali, which renders it of the higheſt importance in the Analysis of animal and vegetable matters.

The uſes of the volatile alkali are numerous and important. To the chemiſt, as a re-agent of very extenſive utility, it is an indiſpenſable requiſite, as there is hardly a ſingle analyſis of mineral, vegetable, or animal matter performed (where at all complicated) in which ammonia is not largely employed.

In medicine this alkali is highly valuable, on account of its ſtrong and diffuſibly ſtimulant properties. When taken internally, its firſt effect is generally upon the throat and fauces, owing to its partial volatilization by the heat of the mouth. Every one is familiar with its uſe in relieving faintings and ſickneſs when ſnuffed up the noſtrils, though from the great acrimony of the cauſtic ammonia, the milder form of the carbonated ammonia, or *ſal volatile* is generally preferred. The ſtrong and ſudden ſtimulus which it gives to the ſyſtem, when applied to the noſtrils, renders it alſo one of the moſt powerful applications in many of the more ſerious ſuſpenſions of the vital powers. The pure liquid ammonia is much too acrid to be uſed by itſelf, even as an external application, but when mixed with oil it forms a very uſeful liniment for ſtrains, indolent ſwellings, and any caſe in which a powerful ſtimulant is required. Simple agitation with oil will unite the two liquors into an uniform milky ſaponaceous liquid, in which the ſenſible properties of the alkali are only blunted and not neutralized. A peculiar uſe of the liquid ammonia largely diluted with water, and taken internally, is in checking the ſudden and dreadful effects produced by the bite of venomous ſerpents.

Prieſtley on Air.—Journal de Phyſique for 1785, 6, *and* 7. *—Philoſ. Tranſact. for* 1788.—*Anal. de Chimie, tom.* ii. & vi. *—Davy's Reſearches*, &c. &c.

Ammonia, in *Mythology*, an appellation of Juno, to whom the Eleans ſacrificed, alluding, perhaps, to Jupiter Ammon.

AMMONIAC, *Gum*, or, as it is ſometimes, though improperly, called, Armoniac, is a concrete, gummy, reſinous juice, which is ſaid to ooze from a plant of the umbelliferous kind, as may be inferred from the ſeeds and pieces of ſuch a plant with which it is intermixed. Ammoniacum is very analogous to Galbanum, and the former, as well as the latter, is probably procured from a ſpecies of the Bubon. The ſeeds that are found among the tears reſemble thoſe of anethum or dill, except that they are larger.

Dioſcorides ſays, it is the juice of a kind of *ferula*, growing in Barbary, and that the plant which produces it was called *agaſyllis*. Pliny calls the plant whence it flows *metopion*, and ſays the gum took its name from the temple of Jupiter *Ammon*, in the weſtern part of Egypt, now the kingdom of Barca, near which it grew. At preſent it is brought here from Turkey, and from the Eaſt Indies.

The good ammoniac ought to be in dry drops, white within, yelloviſh without, eaſily fuſible, reſinous, ſomewhat bitter and nauſeous, and of a very ſharp taſte and ſmell, ſomewhat like garlick. The white drops or tears are obſerved to change to a yelloviſh or browniſh colour, on being expoſed for ſome time to the air. It ſhould not be mixed with any ſcrapings of wood, ſtone, or ſand; this, by the Greeks, was called Θραυσμα, *fragment*. The other, which is full of ſtone or ſand, was called Συγμα, that is, *mixture*. It is purified from the ſeeds, ſmall ſtones, &c. commonly intermixed with it, by ſoftening or diſſolving it in a little boiling water, preſſing it, while hot, through a ſtrainer, and then inſpiſſating it to its former conſiſtence. For internal uſe the larger and finer tears, unpurified, are preferable to the common ſtrained gum.

From an ounce of this gum-reſin ſix drams may be diſſolved by ſpirit of wine, or ſix drams two ſcruples and a half may be diſſolved by water. Neumann.

This gum ſoftens by the heat of the fingers, and adheres to them. It is brittle when cold; it is eaſily melted in an iron ſpoon; applied to a candle it burns and fumes. The more milky grains are contained in it, ſo much the more excellent is its quality. If theſe only be ſelected it will require no purification.

Some ſay it ſerved the ancients for incenſe in their ſacrifices. It enters ſeveral medicinal compoſitions, and its principal virtue is that of reſolving obſtructions, in which intention it is frequently uſed in aſthmas and difficulty of expectoration, in menſtrual ſuppreſſions, and cachectic indiſpoſitions. In obſtructions of the breaſt it is reckoned the moſt effectual of the aperient gums. It is moſt commodiouſly taken in the form of pills; the doſe is a ſcruple, or half a dram, every night or oftener; in larger doſes, as a dram, it generally looſens the belly. In phthiſical caſes, where no injury is to be apprehended from a ſtimulus, this gum may be elegantly combined with oxymel of ſquills, diſtilled water, and ſyrup. Applied externally, it is ſuppoſed to diſcuſs hard indolent tumours; and for this purpoſe it enters into the compoſition of many plaſters. Plaſters formed with vinegar of ſquills, and with wine vinegar, have been employed for curing the fungus of the joints or dropſy of the knee, and are ſaid to have proved effectual. Plaſters of this kind applied to the head, and allowed to remain for ſix or eight weeks, have removed the tinea capitis. Dr. Cullen (Mat. Med. vol. ii. p. 369.) affirms, that he has ſeldom found the expectorant power of this gum very remarkable, and that the miſchief ariſing from its heating qualities has more than counterbalanced the benefit obtained by its expectorant powers. He adds, that its efficacy in reſolving indurated tumours is very doubtful, and that he has had no clear proof from experience of its having any ſuch power.

Ammoniacum, triturated with water, diſſolves into an emulſion, or milky liquor, lac ammoniaci, and in this form acts rather more powerfully than in the ſolid one of a pill. Simple penny royal water is commonly

monly uſed for this purpoſe, in ſuch proportion, that four ſpoonfuls, that is, two ounces, of the emulſion contain thirty grains of the gum. Some have diſſolved it in vinegar of ſquills, and thus obtained a very powerful but unpalatable expectorant. When theſe milky ſolutions are kept for ſome time they depoſit a conſiderable quantity of reſinous matter, and become clear. Inſpiſſated they yield an extract of no ſmell, and of only a weak bitteriſh taſte. In diſtillation no eſſential oil is obtained, and the diſtilled water is but ſlightly impregnated with the flavour of the ammoniacum. In this reſpect ammoniacum differs remarkably from moſt of the other deobſtruent gums, as aſſafœtida, galbanum, and ſagapenum, which afford not only a ſtrong diſtilled water, but an actual oil, containing the concentrated flavour of the gums. Lewis. Murray.

AMMONIAC, *ſal*, in *Chemiſtry* and the *Materia Medica*. See MURIATE of *Ammonia*.

AMMONIACAL *preparations*, in *Pharmacy*. There are ſeveral pharmaceutical preparations, into which the volatile alkali, under one form or another, enters as a principal ingredient. Of theſe the only one in which the alkali is employed in its cauſtic ſtate is the *aqua ammoniæ puræ*, (Pharm. Lond.) alſo called *cauſtic ſpirit of ammonia*, or *ſpirit of ammonia with quicklime (ſpiritus ammoniæ cum calce vivâ)*, the methods of preparing which have been deſcribed under *liquid ammonia* in the preceding article. It may be obſerved, that though it is called a *ſpirit* it only conſiſts of water, impregnated with pure ammonia through the medium of diſtillation. The appellation "with quick-lime" is added to diſtinguiſh it from the ſimple *ſpirit of ſal ammoniac*, which is prepared (from the diſtillation of muriated ammonia in both caſes, but) with chalk, and is therefore not cauſtic, but carbonated, and effervеſces with acids.

The ſeveral preparations of the CARBONAT of *Ammonia*, employed in medicine, will be mentioned more particularly under that article and HARTSHORN. The principal are the *prepared ammonia, ammonia preparata*, (Pharm. Lond.) *Sal volatile, ſalt of hartſhorn*, which is the ſolid carbonat of ammonia in its pure ſtate, prepared for the moſt part by ſublimation of ſome of the neutral ammoniacal ſalts with chalk.

Aqua ammoniæ, (Pharm. Lond.) or *ſpirit of ſal ammoniac*, is prepared by diſtilling muriate of ammonia, chalk, and water; and is in fact nothing but a ſolution of carbonat of ammonia in water, effected by the medium of diſtillation, and perhaps containing a ſmall portion of the cauſtic ammonia, where the chalk is not perfectly mild. Sometimes this liquor is prepared with pearl-aſh, or carbonat of pot-aſh inſtead of chalk. The effect will be the ſame upon the ammoniacal liquor, only when the pearl-aſh is uſed, as it is always in a ſemi-cauſtic ſtate, it will render the volatile alkali ſomewhat leſs carbonated.

Spiritus ammoniæ, (Pharm. Lond.) *ſpiritus ſalis ammoniaci dulcis ſive vinoſus*. This differs from the preceding in being a real diſtilled ſpirit, as proof ſpirit of wine is the menſtruum employed for the alkali inſtead of water. The term *ſpirit* is therefore, in the preſent London Pharmacopœia, very properly confined to the ammoniacal preparations where ſpirit of wine is employed; and the term *water* of ammonia is adopted where this liquid is the ſolvent for the alkali.

The true ſpirit of ammonia is made the baſis of ſeveral powerful compound preparations, in which either an aromatic oil and water, or a fetid gum, is united with the alkaline ſpirit, according to the intention which it is to anſwer. Of the former kind is the *ſpiritus ammoniæ compoſitus*, or *volatile aromatic ſpirit*, prepared by diſſolving bergamotte eſſence and oil of cloves in the alkaline ſpirit (either with or without the help of diſtillation); of the latter is the *ſpiritus ammoniæ fœtidus*, in which a certain quantity of aſſafœtida is diſſolved in the ſpirit. The ammoniacal ſpirit is likewiſe made the baſis of ſome tinctures, inſtead of ſimple ſpirit of wine, where the operation of the volatile alkali properly combines with that of the gum or reſin diſſolved in the tincture.

For external applications, both the watery and the ſpirituous ſolution of ammonia, and both cauſtic and effervеſcent, are employed according to the ſtrength of the remedy required. The cauſtic ſolution makes by much the moſt rapid and permanent union with oils, whence it is preferred in that delicate preparation, the EAU DE LUCE.

AMMONITE, or SNAKESTONE.

Cornu Ammonis—Ammonita—Ophiomorphita, Lat. *Ammonſhörner — Widderhörner — Poſthörner — Belſchnecken — Drachenſtein — Schlangen*, Germ. *Corne d'Ammon — Pierre de ſerpent — Cornette de Poſtillion—Cornette chambrée*, Fr.

The ammonite is a foſſile univalve many chambered ſhell, of a flattened ſpiral figure, containing many circumvolutions, which decreaſe in bulk gradually from the circumference to the centre: all the circumvolutions may be divided by the ſame horizontal plane, and therefore the whole of the ſpiral is viſible on each of the flattened ſides. From its reſemblance to a ram's horn, or rather to the compreſſed ſpiral horn with which the figures of Jupiter Ammon are generally repreſented, it has derived its common name. The vulgar conſider it as a petrified ſnake; hence its appellation of ſnakeſtone, &c. The leaſt reflection, however, ought long ago to have deſtroyed this error, if men in general were as capable of finding out differences as they are willing to ſee reſemblances. A ſnake always coils himſelf up, ſo as to have his head in the centre of the ſpiral, and therefore the volume of the ſpires diminiſhes as they approach the circumference, whereas in the ammonite preciſely the reverſe takes place.

Ammonites are found of all intermediate ſizes, between thoſe which are ſcarcely viſible to the naked eye, and a ſpecimen in the Britiſh Muſeum, above three feet in diameter, and weighing about one cwt. The number of circumvolutions, however, is by no means according to the ſize of the ſhell: there are few perfect ſpecimens which contain leſs than ſix, and hardly any that exhibit more than twelve. Of ſome the external ſurface is ſmooth, of others it is rugoſe, or ſtriated, or tiled, or toothed. In fact there ſeems to be included, under the term ammonite, a very large natural family of ſhells, agreeing in certain eſſential characters, but remarkably differing in others; not fewer than thirty different kinds have been found in the neighbourhood of Bath. Scheuchzer, in his "Natur. hiſtorie des Schweitzerlandes," enumerates 149 varieties, and Roſinus has ſwelled the catalogue to nearly 300.

There are three ſpecies of foſſil ſhells, which have been occaſionally confounded with the ammonite.

The firſt of theſe is the nautilite, or foſſil nautilus; and although the extremes of the two ſpecies are readily diſcriminated from each other, yet the intermediate varieties of the ammonitiform nautili, and the nautiliform ammonites may without much impropriety be claſſed under either ſpecies. In general, however, the nautilite has much fewer circumvolutions, and theſe do not gradually increaſe in capacity from the centre to the circumference, as is the caſe in the ammonites, but the exterior volute is rapidly and largely dilated, ſo as to be of much greater dimenſions than that which immediately precedes it.

The ſpurious ammonite, or umbilicite, in external appearance, has a great reſemblance to the real ammonite, but totally differs in its interior ſtructure by not being divided into cells or chambers.

The

The lituite is another ſpiral many-chambered ſhell, but may, without much difficulty, be diſtinguiſhed from the ammonite, as its volutes are fewer, do not touch each other, and the exterior one approaches nearly to a ſtraight line.

Of all the foſſil ſhells ammonites are perhaps the moſt numerous and moſt generally diffuſed: they are found principally in calcareous ſtrata, and are the only organiſed remains that have been met with at very great heights: De Luc has diſcovered them on Mount Grenier, 7800 feet above the level of the ſea: they alſo occur in marl, ſlate, indurated clay, and argillaceous iron ore. The interral cavities of the ſhell are uſually filled with calcareous ſpar, at other times the whole ſubſtance is penetrated with pyrites, and occaſionally is met with completely agatized

The race of animals, of which theſe are the remains, has probably been long extinct, no naturaliſt having met with living ammonites more than a few lines in diameter, and even theſe have been, for the moſt part, proved to be only nautili. In the account of the ill-fated voyage of La Peroufe is a memoir by Lamanon, deſcribing a living ammonite, four lines in diameter, found in the ſtomach of a bonetta, caught in the South Sea, between the tropics; but this ſuppoſed ammonite, from the figure and deſcription, is probably a nautilus; the exterior volute is by much the largeſt, and the number of circumvolutions is only two and a half. It was, indeed, an opinion of Linnæus, that living ammonites, correſponding to all the foſſil varieties, were ſtill exiſting in the depth of the ocean; hence they have obtained the name of Pelagian ſhells: this, however, cannot be proved, and is rendered improbable for the following reaſons: firſt, the ſhell of the ammonite is very thin, whereas thoſe of animals that live at great depths is always thick. Secondly, ammonites are almoſt always found mixed with turbines, buccina, and other common ſhells, which, while alive, are now known to inhabit ſhallow ſeas, and are daily thrown up on every coaſt; the living ammonite, therefore, if ſtill in exiſtence, would probably be found in ſimilar ſituations, and be occaſionally thrown upon the ſhore, together with thoſe ſhells by which, in a foſſil ſtate, it is commonly found to be accompanied.

Schroter, vollſtandige einleitung in die kentniſs der Steine, vol. iv.—Schröter, Lithologiſches real, &c. vol. i.—Linn. Syſtema Naturæ.—De Luc, Lettres a la Reine.—La Perouſe's Voyage, vol. iii.

AMMONITES, in *Ancient Hiſtory*, the deſcendants of Ammon, took poſſeſſion of the country called by their name, after having driven out the Zamzummims, who were its ancient inhabitants. The preciſe period at which this expulſion took place is not aſcertained; nor does hiſtory inform us to any great degree concerning the manners and cuſtoms of theſe people. They had kings, and were uncircumciſed, (Jer. ix. 25, 26.) and ſeem to have been principally addicted to huſbandry. They, as well as the Moabites, were among the nations whoſe peace or proſperity the Iſraelites were forbidden to diſturb, (Deut. ii. 19, &c.) However, neither the one nor the other were to be admitted into the congregation to the tenth generation, becauſe they did not come out to relieve them in the Wilderneſs, and were concerned in hiring Balaam to curſe them. Their chief and peculiar deity is, in Scripture, called Moloch; and Chemosh was alſo a god of the Ammonites. Before the Iſraelites entered Canaan, the Amorites conquered a great part of the country belonging to the Ammonites and Moabites; but it was retaken by Moſes, and divided between the tribes of Gad and Reuben. Before the time of Jephthah, ante Chriſt. 1188, the Ammonites engaged as principals in a war, under an anonymous king, againſt the Iſraelites. This prince, determining to recover the ancient country of the Ammonites, made a ſudden irruption into it, reduced the land, and kept the inhabitants in ſubjection for 18 years. He afterwards croſſed Jordan with a deſign of falling upon the tribes of Judah, Benjamin, and Ephraim. The Iſraelites reſiſted the invader: and aſſembling at Mizpeh, choſe Jephthah for their general, and ſent an expoſtulatory meſſage to the king of the Ammonites (Judges x. and xi.) The king replied, that theſe lands belonged to the Ammonites, who had been unjuſtly diſpoſſeſſed of them by the Iſraelites when they came out of Egypt, and exhorted Jephthah to reſtore them peaceably to the lawful owners. Jephthah remonſtrated on the injuſtice of his claim; but finding a war inevitable, he fell upon the Ammonites near Aroer, and defeated them with great ſlaughter. On this occaſion the Ammonites loſt 20 cities; and thus an end was put, after 18 years bondage, to the tyranny of Ammon over the Iſraelites beyond Jordan. In the days of Saul (1 Sam. xi.) ante Chriſt. 1075, the old claim of the Ammonites was revived by Nahaſh their king, and they laid ſiege to the city of Jabeſh. The inhabitants were inclined to acknowledge Nahaſh as their ſovereign; but he would accept their ſubmiſſion only on condition that every one of them ſhould conſent to loſe his right eye, and that thus he might fix a laſting reproach on Iſrael; but from this humiliating and ſevere requiſition they were delivered by Saul, who vanquiſhed and diſperſed the army of Nahaſh. Upon the death of Nahaſh, David ſent ambaſſadors to his ſon and ſucceſſor Hanun, to congratulate him on his acceſſion; but theſe ambaſſadors were treated as ſpies, and diſmiſſed in a very reproachful manner. 2 Sam. x. This indignity was puniſhed by David with ſignal rigour. Rabbah, the capital of Hanun, and the other cities of Ammon, which reſiſted the progreſs of the conqueror, were deſtroyed and razed to the ground; and the inhabitants were put to death with circumſtances of extreme ſeverity. In the reign of Jehoſhaphat the Ammonites united with their brethren the Moabites, and the inhabitants of Mount Seir, againſt this king of Judah; but their hoſtile attempts were reſiſted, and they were completely routed. They were afterwards overthrown by Uzziah, king of Judah, and made tributary. 2 Chron. xxvi. 8. But rebelling in the reign of his ſon Jotham, they were reduced to the neceſſity of purchaſing peace at a very dear rate. After the tribes of Reuben, Gad, and the half tribe of Manaſſeh were carried into captivity by Tiglath Pileſer, ante Chriſt. 740, the Ammonites and Moabites took poſſeſſion of the cities belonging to theſe tribes, and were reproached for it by Jeremiah. Ch. xlix. 1. Their ambaſſadors were exhorted to ſubmit to Nebuchadnezzer, in the typical language of the prophet, and threatened, on their refuſal, with captivity and ſlavery. Ch. xxvii. 2, 3, 4. The prophet Ezekiel, ch. xxv. 4.—10, denounces their entire deſtruction, and informs them, that God would deliver them up to the people of the eaſt, and that the Ammonites ſhould no more be mentioned among nations; and this puniſhment they were to ſuffer for inſulting the Iſraelites on account of their calamities, and the deſtruction of their temple by the Chaldeans. This puniſhment is ſuppoſed to have been inflicted upon them in the fifth year after the taking of Jeruſalem, when Nebuchadnezzar made war againſt all the people around Judea, A. M. 3420 or 3421, ante Chriſt. 583. It is probable that Cyrus granted to the Ammonites and Moabites liberty to return into their own country, whence they had been removed by Nebuchadnezzar; for they were expoſed to the revolutions that were common to the people of Syria and Paleſtine, and ſubject, ſometimes to the kings of Egypt, and ſometimes to the kings of Syria. Polybius (lib. v.) informs us, that Antiochus the Great took Rabboth,

or Philadelphia, the capital of the Ammonites, demolished the walls, and put a garrison into it, A. M. 3840, ante Christ. 108. During the persecutions of Antiochus Epiphanes, the Ammonites manifested their hatred to the Jews, and exercised great cruelties against such of them as lived in their parts. At length their city Jaser, and the neighbouring town fell a prey to the Jews, who smote the men, carried their wives and children into captivity, and plundered and burnt the city. Thus ended their last conflict with the descendants of Israel. About the beginning of the second century of the christian æra they were thought worthy of being called a numerous nation. Justin Martyr says (Dial. cum Tryphone, p. 272.) that in his time there were still many Ammonites remaining; but about this period their name vanished, and they were blended with the Arabians; for Origen assures us in (Job lib. i.), that in his days they were only known under the general name of Arabians. In this respect the prophecy of Ezekiel above cited was literally accomplished. Josephus Ant. l. v. c. 9. l. vii. c. 6, 7. l. xii. c. 12. Prideaux Conn. P. ii. book 4. Calmet.

AMMONITIS, in *Ancient Geography*, the country of the Ammonites. It was a district of Arabia Deserta, extending from south to north to the east of Palestine. The limits to the west and partly to the north were the river Jabbok, which ran, according to Josephus, between Rabboth-Ammon, or Philadelphia, the capital of Ammonitis, and Gerasa, and fell into the Jordan. They had also the river Arnon on the west, which divided them from the land of Gilead, or the tribe of Gad; on the south they had the Ishmaelites, on the east the deserts of Arabia, and on the north the hills of Gilead and Bashan. The territories of the Ammonites seem, according to the sacred historians, to have been anciently confined by the river Arnon and Jabbok; but their frequent conquests on their neighbours occasioned their boundaries to be in a state of constant fluctuation. Reland. lib. i. p. 104—113.

AMMONIUS, in *Biography* and *History*, was general of Alexander Balas's troops, and accused by Ptolemy Philometer of a design to poison him. In his attempt to escape from Antioch, in the disguise of a female dress, he was apprehended and put to death, A. M. 3859, ante Christ. 145.

Ammonius, a Peripatetic, was a native of Eygpt, and flourished about 140 years before Christ. He was the preceptor of Plutarch, and is frequently mentioned by him, without either commendation or reproach. He attempted to extend the authority of Aristotle beyond the limits of his own sect, by blending the Platonic and Stoic doctrine with the Peripatetic. He taught and died at Athens. Suidas. Fabricius. Brucker's Phil. by Enfield, vol. ii. p. 104.

Ammonius, *Saccas*, so called, as it is supposed, from his early occupation as a porter in the harbour of Alexandria, was an eminent Alexandrian philosopher, and flourished about the beginning of the third century. He was born of Christian parents, and was betimes instructed in the catechetical school established at Alexandria. Under the Christian preceptors, Athenagoras, Pantænus, and Clemens Alexandrinus, by whom this school was conducted, and who united Gentile philosophy with the Christian doctrine, he acquired a strong propensity towards philosophical studies, and became exceedingly desirous of reconciling the different opinions which at that time subsisted among philosophers. To him we must refer the complete constitution of the sect of the Eclectics, which had been first projected by Potamo, a Platonist. Porphyry asserts, that Ammonius passed over to the legal establishment, that is, apostatised to the Pagan religion. Eusebius and Jerom, on the contrary, affirm, that Ammonius continued in the Christian faith to the end of his life. But it is probable, that these Christian fathers refer to another Ammonius, who, in the 13th century, wrote a Harmony of the Gospels, or to some other person of this name; for they refer to the sacred books of Ammonius; whereas, Ammonius Saccas, as his pupil Longinus attests, wrote nothing. Porphyry's testimony is more worthy of reliance than that of Eusebius, because he was nearer Ammonius Saccas than the Christian father, and he must have derived his information from his master Plotinus, who spent 11 years with Ammonius. Besides, it is not easy to account for the particulars related of this philosopher, without supposing that he renounced the Christian faith. It seems improbable that a Christian would have accepted the chair in a Pagan school, or would have been followed by disciples who waged perpetual war against Christianity. However, it sufficiently appears, that he was well acquainted with the Christian doctrine, and endeavoured to incorporate it into his system. According to Hierocles, Ammonius was induced to execute the plan of an Eclectic school, by a desire of terminating the contentions which had long distracted the philosophical world; and he bestows great praise on the institution of philosophy, which he established for this purpose; or with a view of evincing the harmony that subsisted between the doctrines of Plato and Aristotle in all the great and essential points, and introducing a system free from dispute.

Ammonius had many eminent followers, both Pagan and Christian. He taught his select disciples certain sublime doctrines and mystical practices, and was called Θεοδίδακτος, the heaven-taught philosopher. These mysteries were communicated to them under a solemn injunction of secrecy. Porphyry relates, that Plotinus, with the rest of the disciples of Ammonius, promised not to divulge certain dogmas which they learned in his school, but to lodge them safely in their pure minds. This circumstance accounts for the fact mentioned by Longinus, that he had left nothing in writing. Ammonius probably died about the year 243. Amongst those disciples who were admitted to the knowledge of his mysteries were Herennius, Origines, Longinus, and Plotinus. The two former violated their promise by divulging the secrets of the school of Ammonius; in consequence of which Plotinus thought himself no longer bound by his promise, and became a public preceptor in Philosophy upon Eclectic principles. Porphyr. Vit. Plotini. Suidas. Fabric. Bib. Græc. tom. iv. c. 26. p. 154, &c. Lardner's Works, vol. ii. p. 414. Brucker by Enfield, vol. ii. p. 62, &c.

Ammonius, a Christian writer of Alexandria, lived about the year 220, according to Cave, and though his time is uncertain, has been confounded by him and many other learned men with Ammonius Saccas. Eusebius mentions a person of this name, who was a presbyter of Alexandria, and suffered martyrdom in the Diocletian persecution; and we might be apt to think this to have been the writer, if Eusebius had not been of a different mind. St. Jerom speaks of Ammonius as an eloquent and very learned man, who, among many excellent monuments of his genius, composed an elegant work of the consent of Moses and Jesus, and invented the evangelical canons, which Eusebius of Cæsarea afterwards followed. The former is quite lost; of the latter we are informed by Eusebius, that Ammonius of Alexandria has left us a gospel composed out of the four with great labour, subjoining to Matthew's gospel the consonant passages of the other evangelists; and that he had composed, in another method, ten canons, which are there subjoined. The evangelic canons, though they are reckoned among the works of Ammonius, may have been probably Eusebius's invention, whilst the harmony of Ammonius might have suggested the design. Whether this harmony be still extant is a subject

a fubject in diſpute. Cave and Mill agree in ſuppoſing, that it is the larger of the two which we now have in Latin. Mr. Jo. James Wetſtein will not allow this work to have been compoſed by Ammonius, but thinks it the production of ſome writer ſince Euſebius. Dr. Lardner ſuppoſes this work to have been interpolated ſince it was firſt compoſed, and even the form of it to have been altered.

Ammonius, the Grammarian, lived in the fourth century, and, according to Socrates, the eccleſiaſtical hiſtorian, was a pupil of the grammarian Helladius of Egypt. He fled from Alexandria in 389, when the heathen temples were deſtroyed by order of the emperor Theodoſius. Photius ſpeaks of him as a great admirer of the Greek poets, and an induſtrious critic in the Greek language; and to him we owe a treatiſe on Greek ſynonyms, entitled "περι ομοιων και διαφορων λεξεων," "On words of ſimilar and different ſignifications," in the form of a dictionary. It was firſt publiſhed in Venice in 1497, and afterwards at the preſs of Aldus, as an appendix to a Greek and Latin lexicon, publiſhed in folio, at Venice in 1524, at Paris in 1521, at Baſil in 1532, and annexed to Stephens's Theſaurus in 1572, and to Scapula's Lexicon. Fabricius Bib. Græc. lib. iv. c. 26. tom. iv. p. 173.

Ammonius, a Peripatetic philoſopher, was the ſon of Hermeas, flouriſhed at the beginning of the ſixth century, and taught at Alexandria under the reign of Anaſtaſius. He was the diſciple of Proclus, and the preceptor of Simplicius, Aſclepius the Trallian, John Philoponus, and Damaſcius, by the latter of whom he is repreſented as ſuperior to the other philoſophers of his age, and particularly excelling in mathematical learning. His commentaries upon Ariſtotle and Porphyry are ſtill extant. His commentary upon Ariſtotle's book, "De Interpretatione," together with a Commentary on the Categories, was printed by Aldus in folio, at Venice, in 1503. An extract from this work on Providence and the fore-knowledge of God, and free will of man, was publiſhed by Grotius, at Paris, in 1648, and at Amſterdam, in the third volume of his theological works, in 1679. His Commentary "In Iſagogen Porphyrii de quinque Prædicabilibus," was printed by Aldus, at Venice, in 1500, and has paſſed through ſeveral editions. Fabric. Bib. Græc. vol. iv. lib. iv. cap. 26. p. 161.

Ammonius, Alexandrinus, an ancient ſurgeon of Alexandria, called alſo Lithotomus, from having invented an inſtrument, a kind of file or ſaw, for breaking or dividing ſtones generated in the bladder, and which are too large to paſs through the natural paſſages in their entire ſtate. With what ſucceſs this art, (which is obſcurely hinted at by Celſus) was practiſed, we are not acquainted. It has long ſince been loſt, and the title Lithotomiſt, given to perſons cutting into the bladder, and extracting the ſtones through the wound. But thoſe, Le Clerc obſerves, ſhould rather be called Cyſtotomiſts. Haller, Bib. Chirurg.

Ammonius, Andrew, a native of Lucca, who ſettled in England in the beginning of the 16th century, and lived for ſome time in the houſe of Sir Thomas More, and afterwards in St. Thomas's college, not being in circumſtances that allowed his having a houſe of his own. At length he was appointed ſecretary to Henry VIII. and honoured by Pope Leo X. with a public character at the court of this prince; but his views of higher and more lucrative advancement were diſappointed in middle age by his death, occaſioned by the ſweating ſickneſs in 1517. He was diſtinguiſhed by the intimate friendſhip and frequent correſpondence that ſubſiſted between him and Eraſmus. Eraſmus, in the humorous advice which he gives him as to the moſt effectual method of advancing his fortune, deſigned to ſatirize the uſual methods that are adopted for this purpoſe. "In the firſt place," ſays he, "throw off all ſenſe of ſhame; thruſt yourſelf into every one's buſineſs, and elbow out whomſoever you can; neither love nor hate any one; meaſure every thing by your own advantage; let this be the ſcope and drift of all your actions. Give nothing but what is to be returned with uſury, and be complaiſant to every body. Have always two ſtrings to your bow. Feign that you are ſolicited by many from abroad, and get every thing ready for your departure. Shew letters inviting you elſewhere, with great promiſes." Eraſm. Epiſt. xiii. lib. 8. p. 414. Eraſmus (Epiſt. v. lib. 23.) thus laments his death. "How many of my companions have I loſt! in the firſt place, Andrew Ammonius of Lucca: Good God! what a ſprightly genius! of what a faithful memory! how noble was his ſoul! how free from envy and every meanneſs! when his own qualifications, and the applauſe of princes had opened him a way to the greateſt affairs, he was ſuddenly ſnatched off before he was forty years of age, the loſs of whom I cannot but lament, as often as I reflect how delighted I was with his acquaintance!" What he writes to Eraſmus in one of his letters, *viz.* that the burning of ſo many heretics had raiſed the price of wood, muſt be regarded as an hyperbole. Ammonius wrote ſome Latin poetical pieces. Gen. Dict.

AMMOSCHISTA, in *Natural Hiſtory*, a genus of ſtones of a laminated ſtructure, and ſplitting only horizontally, or into flat plates.

The *ammoſchiſta* are coarſe, harſh, and rough ſtones, of a very looſe texture, and appearing ſomething porous. They are conſiderably heavy, and compoſed of a large, coarſe, and obtuſely angular grit, ſurrounded, and in part held together, by a looſe earthy ſpar. They are very ſoft, and friable in the maſs, but much more ſo when reduced to ſmall pieces. They make a violent effervescence with aqua fortis, and will not eaſily ſtrike fire with ſteel.

The ſpecies of *ammoſchiſta* are ſix.

AMMUNITION, in general, ſignifies all ſorts of warlike ſtores and proviſions, more eſpecially powder and ball.

The word is *amonitio*, which, according to Du-Cange, was uſed in the corrupt ſtate of that language for *ſubſiſtence*.

Ammunition for ſmall arms, in the Britiſh ſervice, is generally packed in half barrels or kegs, each containing 1000 muſket or 1500 carbine cartridges. An ammunition waggon will carry 20 of theſe kegs or barrels, and an ammunition cart 12 of them. The cartouch boxes of the infantry are made of ſo many different ſhapes and ſizes, that it is impoſſible to ſay exactly what ammunition they will contain; but moſt of them can carry 60 rounds. See Cartridge. The French pack all their ammunition in waggons without either boxes or barrels, by means of partitions of wood. Their 12-pr. waggons will contain 14000 muſket cartridges, and their 4-pr. waggons only 12,000 each.

Ammunition, or gun-powder, may be prohibited to be exported at the king's pleaſure, by 12 Car. II. cap. 4. ſect. 13.

By 1 Jac. II. cap. 8. ſect. 2. *ammunition*, arms, utenſils of war, or gun-powder, imported without licence from his Majeſty, are to be forfeited with treble the value. Such licence obtained, except for the furniſhing of his Majeſty's public ſtores, is to be void, and the offender to incur a premunire, and be diſabled to hold any office from the crown.

Whoever is curious to know the quantity of ammunition neceſſary for the ſiege of a place, may conſult the chevalier de St. Julian's treatiſe, De la Forge de Vulcain; and the quantity requiſite for the defence of a place, will be found in Suireg. de St. Remy's Memoires d'Artillerie. See Artillery.

Ammunition-*bread*, *ſhoes*, &c. what is provided for, and diſtributed to, the ſoldiers of an army or garriſon.

Such an officer has ſo many rations of ammunition-bread, &c.

Ammunition *Cart*, a two-wheel carriage with ſhafts, the ſides of which, as well as the fore and hind parts, are incloſed with boards.

Ammunition *Waggon*, is generally a four wheel-carriage with ſhafts; the ſides are railed in with ſtaves and raves, and lined with wicker work, ſo as to carry bread, and all ſorts of tools.

AMNA, in *Phyſical Writers*, denotes the water found in limy ſoils, and which is conſequently tinged with a whitiſh colour, as in many places of England.

In this ſenſe Paracelſus ſpeaks of the medical virtues and uſes of *amna*.

AMNESIA, in *Medicine*, loſs of memory. It is ſometimes a conſequence of febrile diſeaſes, generally receding as the patient gains his ſtrength.

When it is the conſequence of old age it can hardly be expected to be cured.

AMNESTY, or Amnisty, from α, *not*, and $\mu\nu\alpha\sigma\mu\alpha\iota$, *I remember*; a kind of general pardon, which a prince grants to his ſubjects, by a treaty or edict, wherein he declares, that he forgets and annuls all that is paſt, and promiſes not to make any farther enquiry into the ſame.

The word is $\alpha\mu\nu\eta\sigma\tau\iota\alpha$, *amneſtia*; which was the name of an ancient law of this kind, paſſed by Thraſybulus upon the expulſion of the thirty tyrants out of Athens. Andocides, an Athenian orator, whoſe life is writen by Plutarch, and of whom we have an edition of the year 1575, gives us, in his Oration upon Myſteries, a *formula* of the amneſty, and the oaths taken thereupon.

Amneſties are uſually practiſed upon reconciliations of the ſovereign with his people, after rebellions, general defections, &c.

Amneſty is either general and unlimited, or particular and reſtrained, though moſt commonly univerſal, without condition or exceptions; ſuch as that which paſſed in Germany, at the peace of Oſnaburgh, in the year 1648.

Amneſty, in a more limited ſenſe, denotes a pardon granted by a prince to his rebellious ſubjects, uſually with ſome exceptions; ſuch was that granted by king Charles II. at his reſtoration.

Amneſty alſo, in a military ſenſe, ſignifies the pardon granted by a ſovereign to deſerters, on condition of their rejoining their regiments.

AMNIAS, in *Ancient Geography*, a river of Paphlagonia, that roſe in the country called Domanitis, north weſt of Germanicopolis, and diſcharged itſelf into the gulf of Amiſus.

AMNICA, in *Conchology*, a ſpecies of Tellina. Shell ſomewhat heart-ſhaped and tranſverſely grooved with an obtuſe protuberance. Linnæus. This is an European ſhell, and inhabits pools and ditches; it is leſs globoſe than tellina cornea, but about the ſame ſize. Inſide blue, ſhining; out ſide whitiſh or yellow brown, with one or two blackiſh ribs. Young ones entirely white and pellucid.

AMNIMODAR, in *Aſtrology*, the planet that rectifies a geniture, or rather a method of rectifying a nativity, and finding the preciſe degree in the horoſcope at the time of an infant's birth, from the condition of the planet, which had the rule in the laſt preceding conjunction, or oppoſition of the luminaries. Vital. Lex. Math.

AMNIOS, or Amnion, in *Anatomy*, the innermoſt membrane of the ovum, which contains the fœtus and the waters.—The word ſeems to be derived from $\alpha\mu\nu\sigma\varsigma$, *a lamb*; q. d. *pellis agnina, lambs ſkin*. See Generation.]

Amnios, *liquor of the*, chemical properties of. Although the analyſis of vegetable and animal ſubſtances is as yet leſs ſatisfactory than that of inorganiſed matter, a multitude of improvements have, nevertheleſs, been introduced of late years into this branch of the ſcience for which we are principally indebted to the French philoſopheis. Vauquelin, Berthollet, and Foureroy, by aboliſhing the old method of analyſis by fire, according to which all animal ſubſtances afforded the ſame reſults, and introducing in its ſtead the uſe of the ſimpler menſtrua, have been enabled to diſcover many peculiar products of animalization. According to the ancient mode, in which Neumann was ſo long and ſo fruitleſsly employed, of deſtructive diſtillation, any animal matter was made to yield firſt an inſipid, faint-ſmelling phlegm, then an impure ammoniacal oil, after which a portion of concrete ſalt was ſublimed, and there remained in the retort a ſpungy coal of difficult incineration, which, by burning in an open fire, was reduced into a white aſh or caput mortuum. If this had continued to be the way of analyſis, we ſhould have contented ourſelves with giving an inſtance of one as a ſpecimen of the whole; but ſince a better method has been found out, it will be right to particularize, in their proper places, moſt of the modern analyſes and experiments on animal ſubſtances, as, if not quite ſatisfactory, they are at leaſt well deſerving of mention, in a work like the preſent, and have already been applied to explain the *rationale*, and improve the practice of ſome of the moſt difficult and important among the arts and manufactures.

The liquor of the amnios is a fluid in which all the young of the mammalia are incloſed previouſly to their birth; and chemiſtry is indebted to Vauquelin and Buniva for an examination of this ſecretion, as afforded by the human female and the cow.

The firſt of theſe liquors preſented the following properties.

It has a mild faint odour, like that of all the white or colourleſs animal fluids. To the taſte it is ſlightly ſaline. Its colour is a dilute white, owing to its containing ſome particles of a caſeous matter; by filtration, however, it becomes perfectly tranſparent. Its ſpecific gravity is $= 1.005$. By agitation it froths conſiderably. On being heated it acquires a ſemiopacity like that of milk with a large proportion of water, at the ſame time a ſmell is developed like that of boiled white of egg. It decidedly changes the colour of tincture of violets to green, and yet ſlighly reddens that of tourneſol. Potaſh occaſions a flocculent precipitate, reſoluble by a weak acid. The acids appear to have no other effect than that of clarifying it. Alcohol throws down a light precipitate, which, when dry, becomes brittle and tranſparent like glue. With infuſion of gall-nut it yields a very copious brown precipitate. Nitrat of ſilver cauſes a white precipitate inſoluble in nitric acid.

Hence this fluid appears to contain albuminous matter, ſimilar to that of the blood; a muriatic ſalt, probably muriated ſoda; and a ſmall quantity of free or carbonated alkali.

When evaporated to dryneſs it leaves a reſidue no greater than 0,012 of the maſs. This, by lixiviation and evaporation, affords cryſtals of common ſalt and carbonated ſoda, and the remaining animal matter, on being burnt, exhales a fetid ammoniacal odour like horn, and leaves a few white aſhes, compoſed of carbonated ſoda, and phoſphat, and carbonat of lime.

The amniotic liquor of the cow remarkably differs from the preceding.

It is of a browniſh red colour; an acid bitteriſh taſte; an odour approaching to that of vegetable extract; its ſpecific gravity is $= 1.028$, and it has a viſcous conſiſtence, like a ſolution of gum.

It reddens very decidedly the tincture of tournesol. It gives an abundant precipitate with muriat of barytes; and deposits a large quantity of reddish matter, by the action of alcohol.

When submitted to evaporation a thick scum rises to the surface, and after being reduced to a quarter of its bulk, a number of long acid needleform crystals are produced as the liquor cools; these being all deposited, and the matter further brought by evaporation to the consistence of honey, a fresh production of crystals takes place; these, however, differ in form from the preceding, and are sulphat of soda.

The extractive matter being separated from the acid crystals, and from the water which held them both in solution, by means of alcohol, assumes the appearance of a compact adhesive cement; in colour reddish brown, and of a peculiar indescribable flavour. It is readily soluble in water, to which it gives a viscosity, and the property of frothing by agitation; in this respect it resembles animal mucilage, but differs from this substance in not forming a jelly, nor combining with Tannin. When exposed to the fire it swells greatly, and gives out at first an odour of burnt mucilage, then of an empyreumatic ammoniacal oil, and finishes with the disengagement of prussic acid. The coaly matter which it yields is bulky, easily incinerated, and affords a light white ash, composed of phosphated magnesia, with a slight trace of phosphat of lime.

The concrete needleshaped crystals are brilliant, transparent, slightly acid, reddening the tincture of tournesol. They are scarcely soluble in cold water, but readily so in boiling water, from which by cooling they are deposited in long slender needles. This acid combines without difficulty with the caustic alkalies, forming a very soluble salt, but will not decompose the carbonated alkalies, except assisted by heat. It is separated from its alkaline combinations by the mineral acids, in form of a white crystalline powder. It produces no change in the aqueous solution of the alkaline earths, nor does it alter the nitrats of silver, lead, or mercury. By heat it is destroyed, exhaling an ammoniacal odour, mixed with that of prussic acid, and leaves a spungy coal. It is different in its properties from all the known acids, and may be received into the modern nomenclature by the name of the amniotic acid. Annales de Chimie, vol. xxxiii. p. 269.

AMNISUS, in *Ancient Geography*, a small river in the island of Crete, mentioned by Callimachus, Apollonius, and Suidas.

Amnisus, a port in Crete, probably at the mouth of the above-mentioned river, in which the Cretans pretended, according to Pausanias, that Lucina was born, and where this goddess had a temple and was worshipped. Strabo says, that Amnisus was the port of the town of Cnossus.

AMNITÆ, an ancient people, who seem to have been the same with the Samnitæ of Strabo, whom he places in a small island to the west of Gaul, and near the mouth of the river Loire. According to him, the women were a sort of Amazons, who allowed intercourse with men only once a year, and who offered sacrifices to Bacchus.

AMNON, a river of Arabia Felix, according to Ptolemy.

AMODOCI, one of the mountains which encompassed the European Sarmatia, according to Ptolemy.

AMOENUS, in *Entomology*, a species of curculio, described by Fabricius as a native of New Holland; it is black with two snowy-white spots on the thorax, and five on the wing-cases.

AMOEBÆUM, in the *Ancient Poetry*, denotes a kind of poem, or composition, wherein two parties speak alternately in the same number of verses, but so as that he who answers, either goes beyond or contradicts the other.

The word is ἀμοιβαῖον, signifying *mutual* or *alternate*. Hence also we meet with *epistolæ amabææ*. Such, *e. g.* are those of Pliny and Trajan.

AMOGABARI, a kind of ancient Spanish soldiery, in great repute for their bravery.—These are otherwise denominated by some writers, *almugaveiri*.

AMOGLOSSUS, in *Ichthyology*, a name of a peculiar kind of flat fish, somewhat resembling the sole, and called in some parts of England, the *lantern*. It is of a very slender, pellucid, and white body, never exceeds three inches in length, and is very smooth to the touch, being covered only with a number of very thin scales, which fall off on touching it. Its flesh is very finely tasted, and requires very little dressing.

AMOK, a term signifying slaughter, and used as the exclamation of the Bokanese slaves in the island of Batavia. These slaves, who are brought from the island of Celebes, when irritated by ill usage, are exceedingly dangerous; as in this case they intoxicate themselves with opium, sally into the street, and murder every person whom they happen to meet. This is called *running amok*, this word being the cry of these desperate wretches. Some have supposed, that from this practice Steele borrowed the idea of the mohock club, mentioned in the Spectator.

AMOL, or Amu, in *Geography*, a town of Asia, in the country of the Usbecks, in Independent Tartary, seated on the Gihon, 115 miles west of Samarcand. N. lat. 39° 30′. E. long. 64° 35′.

AMOMI, is used, by the Dutch traders, for what we otherwise call Jamaica pepper.

AMOMUM, in *Botany*, a genus of the *monandria monogynia* class and order, of the natural order of *scitamineæ* and *cannæ* of Jussieu, the characters of which are that the *calyx* is a perianthium one-leafed, cylindraceous and unequally trifid; the *corolla* is monopetalous and funnel-shaped, tube cylindraceous, border three-parted, parts oblong and spreading; the nectary two-leaved or two-lipped, lower lip inserted under the upper segment of the corolla, spreading, almost erect, entire or three-lobed; the *stamina* have no filament, except the upper lip of the nectary, smaller than the lower, and opposite to it, acuminate or three-lobe the tip; along the middle or at the end of which grows longitudinally a large oblong anther, geminate, or divided by a longitudinal furrow into two which are one-valved; the *pistillum* has an inferior, oblong germ, style filiform, drawn through the future of the anther, stigma turbinate, obtuse and ciliate; the *pericarpium* a fleshy capsule, ovate, three-cornered three-celled, and three-valved; the *seeds* are several, covered with a sort of berried aril. Obs. The inflorescence is in a spike, on a distinct scape. Willdenow enumerates 11, Martyn 12, and Gmelin, in his edition of Linnæus, 20 species. 1. A. *zinziber* or *zingiber*, zingiber majus of Rumph. zingiber of Bauhin, inschi of Rheed, ächter ingwer of Willd. narrow-leaved ginger, with a middle-sized (naked, G. and W.) scape, ovate spike, (ovate scales, W.) and leaves linear-lanceolate, (ciliate at the tip, W.) The root is creeping by palmate, compressed, fleshy tubers, which become fibrous with age; the culm annual, two feet high, single, solid, and upright; leaves half a foot long, smooth, alternate, on short, embracing petioles; the scape separate, eight inches high, thick, round, scaly, usually without leaves; the spike composed of large ovate, subacuminate, coloured scales, half closing the flowers; calyx a small double spathe; corolla yellowish green with a long slender tube, the segments of the body conical, and nearly equal; nectary reddish brown, ovate, petal-shaped, winged on each side at the base, and somewhat shorter than the corolla; filament, or upper lip of the nec-

tary filiform, placed on the corolla and ſhorter; anther ovate, cloven longitudinally, embracing the filiform ſtyle; ſtigma cylindraceous, ciliate at the tip; capſule ſmooth, containing many oblong ſeeds. This ſpecies, cultivated here by Miller, in 1731, and flowering in September, is a native of the Eaſt Indies, and other countries of Aſia, and is much cultivated there and in the Weſt Indies. The dried roots furniſh a conſiderable article of commerce from our Weſt India iſlands; they are of great uſe in the kitchen and in medicine, and preſerved green as a ſweet-meat, are preferable to every other ſort. For the dietetical and medical uſe of ginger, ſee GINGER. 2. A. *zerumbet*, zingiber latifolium ſylveſtre of Herm. lampujum of Rumph. katou-inſchi-kua of Rheed, black ingwer of W. broad leaved G. or zerumbet, with a naked ſcape, oblong, obtuſe ſpike, ſubrotund ſcales, and leaves ovate and ſmooth at the margin. According to Murray, the A. zingiber is more aptly diſtinguiſhed from the A. zerumbet, by its narrow leaves, called enſiform by Jacquin, than by the ovated ſpike, and the latter is more juſtly diſtinguiſhed from the former by its broad leaves than by its oblong obtuſe ſpike, for the A. zerumbet has equally an ovate ſpike. This ſpecies has the tubers of the root much larger, round, twiſted, thick, branched, horizontal, pale-coloured, with little ſmell and a bitteriſh taſte, but not an ardent flavour like true ginger; culm four feet high, perennial, ſtraight, round and ſolid like the preceding ſpecies; leaves lanceolate, large, ſmooth, petioled, embracing and aſcending obliquely; the ſcape a foot high, diſtinct, thick, ſcaly and red; ſpike large, with rounded, cloſe, one-flowered, red ſcales; calyx a ſingle acute ſpathe; corolla pale, with a long tube; nectary of the ſame colour, petal-ſhaped, very blunt, bifid, faſtened to the throat of the corolla; filament flat, ſubulate, bent in, adhering to the hinder ſegment of the corolla, and nearly equal to it; another oblong, faſtened to the middle of the filament; cultivated at Hampton Court, in 1690, and flowering with us from September to November, when the ſtalks periſh like thoſe of the true ginger; a native of the Eaſt Indies, Cochinchina, &c. and alſo in Otaheite, and the other Society iſles. This is uſed externally in the Eaſt in cataplaſms and fomentations, but not internally, as ſpice or medicine; though Garcias ſays, that it makes a better preſerve with ſugar than the other. 3. A. *zedoaria*, with a naked ſcape, looſe cylindric truncated ſpike, and ovated acuminated leaves. This is the A. latihumile, with larger ovated acuminated leaves, and ſcape terminated by an oblong ſpike of La Marck, zedoaria longa of Bauhin, zedoaria officinarum of Petiv. zedoaria ſeu Indorum tamog of Cam. luz. kua of Rheed, zerumbed tommon of Rumph. and zittwer ingwer of W. This ſpecies grows in Malabar, and other parts of the Eaſt Indies. The flowers have an agreeable ſmell; the root has an acrid pungent, aromatic, and ſomewhat bitteriſh taſte; its ſmell is ſtrong, but pleaſant; dried and reduced to powder it loſes its acrid taſte, and it is formed into bread by the Indians in a time of ſcarcity. See ZEDOARY. 4. A. *ſylveſtre*, paco ceroca of Piſo, Braz. zingiber ſylveſtre majus, &c. of Sloane, wald ingwer of W. great wild ginger, with a naked ſcape, ſpike elongated, with oblong ventricoſe bractes, and leaves broad-lanceolate. This does not differ from the ſecond ſpecies, except that the ſtalk riſes eight or nine feet high, that it has much larger leaves, and that, inſtead of the flowers and fruits being on the end of the ſame ſtalk, they are on another about three feet high, immediately ſpringing from the root. It is a native of the wood of Jamaica; the root is warm and ſtimulates gently, and may be properly adminiſtered as a ſtomachic and alexipharmic. 5. A. *mioga*, dsjooka vulgo mioga of Kæmpfer, Japaniſcher ingwer of W. Japaneſe ginger, with a very ſhort ſcape, ovate capſule, and enſiform acute leaves. This approaches very near to the A. cardamomum of Java, in having the ſpike of flowers diſtinct from the leaves, and ovate capſules, but differs from it in having the ſcape more faſcicled and ſhorter, not oblong and imbricate, the leaves enſiform, and merely acute, whereas in the other they are obovate-elliptic, with a long briſtle at the tip; they are alſo much ſhorter, only about a ſpan in length, but in the other they are often four feet long. In the leaves it much reſembles A. zinziber and A. zerumbet; but the ſpike of flowers is radical, with ſcarcely any ſcape. It is a native of Japan, where it flowers in September. 6. A. *anguſtifolium* of Sonnerat, A. Madagaſcarienſe majus, &c. of La Marck, ſchmalblattriger ingwer of W. narrow-leaved ginger, with a naked, very ſhort ſcape, capitated ſpike, and linear-lanceolate leaves. The ſtem is eight or ten feet high, the pedal leaves are very narrow and linear-lanceolate, the ſcape very ſhort, the ſpike globoſe, and few-flowered, and the capſules ovate. It is a native of the marſhes of the iſland of Madagaſcar. The ſeeds have a pleaſant aromatic taſte; and their ſmell is agreeable; and hence, ſays Geoffroy, ſome have called them grains of paradiſe; a denomination that more properly belongs to another ſpecies. 7. A. *cardamomum*, cardamom, with a very ſimple and ſhort ſcape, and alternate, looſe bractes, or with the ſpike radical, ſeſſile and obovate, and leaves obovate-elliptic and cuſpidated, W. This ſpecies has thick fleſhy roots, reſembling thoſe of the large flag iris, which in the Spring ſend forth many green reed-like ſtalks, that riſe to the height of ſeven or eight feet, garniſhed with very long narrow leaves, alternate and embracing; the ſtalks decay in Autumn, and new ones ariſe from the roots in Spring; the roots thrive and increaſe, but it has not yet produced flowers in England. In Malabar cardamom is an object of conſiderable commerce. The Indians alſo themſelves make great uſe of it, mixing the ſeeds with their bread, under a notion that it facilitates digeſtion. See CARDAMOM. 8. A. *villoſum* of Loureiro, globba criſpa rubra of Rumphius, rauher ingwer of W. with ſhort reclining ſcape, linear bractes and villoſe fruit, or with very ſhort, vaginated ſcape, roundiſh ſpike, and bractes lanceolate and longer than the flower. The ſmell of the whole plant is aromatic, mild, with a ſmall degree of ſharpneſs, the taſte of the fruit, when freſh, ſweetiſh and pleaſant. It is a native of the mountains of Cochinchina; the ſeeds are much valued by the Chineſe, and uſed medicinally in China. 9. A. *medium* of Loureiro, with ſpike cauline, branched; and fruit oblong, and ſtreaked, without a valve. In Gmelin's Linnæus, A. medium is characteriſed as having an oblong three-cornered pyramidal coriaceous capſule and three valves. This ſpecies is a native of China, in the province of Yunan, to the weſt of Canton. The ſeeds are uſed in agues, for culinary purpoſes, and for increaſing the ſtrength of odours in general. 10. A. *minus*, with a ſubgloboſe, three-furrowed, coriaceous, valveleſs capſule. Gmelin. 11. A. *globoſum* of Loureiro, with ſpike cauline, branched, and fruit globoſe, with an even ſurface; a native of the mountains of China and Cochinchina, and uſed in both countries medicinally, in diſorders of the bowels, &c. 12. A. *hirſutum* of Loureiro, tsjane-kua of Rheed, paco-caatinga of Marcgrave and Piſo, with ſpike cauline, ſimple, reclining, and fruit roundiſh and hirſute; or with ſtalks folioſe and ſpiked, under-ſide of the leaves ſlightly hirſute, and large flowers of a yelloviſh white colour; a native of Cochinchina, Malabar, and of Brazil, in woods. La Marck ſuggeſts that this ſpecies is the COSTUS *arabicus* of Linnæus. 13. A. *echinatum*, amomum 2. of Koenig, globba criſpa viridis of Rumphius, ſtachlicher ingwer of W. with ſpike radical, ſeſſile and ſubgloboſe, and capſules furrowed, echinated and globoſe;

globoſe; a native of the thick woods of India. 14. A. *repens* of Sonnerat, elettari 1, of Rheed, enſel of Herm. kriechender ingwer of W. with ramoſe decumbent ſcape, and lanceolate leaves, W. or procumbent ſcapes, racemoſe flowers in the baſe of the ſpathe, and leaves lanceolate and acuminate on both ſides; a native of the mountains of Malabar. 15. A. *granum paradiſi*, grains of paradiſe, elettari 2. of Rheed. paradies ingwer of W. with ſcape branching and very ſhort. This ſpecies is little known. It is a native of Guinea, and of the Iſlands of Ceylon and Madagaſcar, and was introduced into Kew Garden, in 1785, by Lee and Kennedy. See GRAINS *of paradiſe*. 16. A. *galanga*, MARANTA *galanga* of Linnæus, galanga of Rumphius, galangale, with cauline, erect ſpike, ſubtriflorous ſpathes, and capſule three-cornered-ovate, and ſmooth. The galangale has an horizontal, creeping root, compoſed of roundiſh, twiſted, knotty tubers; culm perennial, upright, ſmooth and ſix feet high, leaves ovate, lanceolate, nerveleſs, ſmooth, upright, large, on embracing petioles; ſpike oblong; perianthium inferior tubuloſe, and bluntly trifid; corolla ſuperior, yellowiſh white, ſegments oblong-ovate, concave, and nearly equal; nectary petal-ſhaped, roundiſh, emarginate, nearly equal to the ſegments of the corolla; filament linear, thick, grooved longitudinally, longer than the corolla; anther oblong, bifid, embracing a ſtyle longer than itſelf; ſtigma thickiſh, emarginate; ſeeds roundiſh; the ſmell of the whole plant is aromatic, and it has a biting taſte. Linnæus has made the galangale a ſpecies of maranta, but Profeſſor Martyn obſerves, that the corolla is not ringent, nor five-cleft, nor has two ſegments ſpreading, but all the ſegments, which are three in number, are nearly the ſame in ſize and figure. It is properly a ſpecies of amomum, as Bergius has made it. It is a native of China and Cochinchina, and is cultivated in both countries. The root and ſeeds are uſed there medicinally. See GALANGALE. 17. A. *arboreum* of Loureiro, with ſtem arboreous and calycine fruit. This is a tree about 10 feet in height, with many twiſted, ſpreading branches. It has ſcarcely any taſte or ſmell, and its uſe is unknown; the wood is very light, and not even fit for the fire; a native of the iſland of Sumatra, in a wood, on the eaſtern coaſt. 18. A. *curcuma* of Jacquin, with a ſcape, having looſe ſpathes from the centre of the leaves. The limb of the corolla is ſexfid. Gmelin. See CURCUMA. 19. A *globba* of Koenig, and Rumphius, with ſtalks ſolitary, very ſhort ſcapes, ovated ſpathes, and leaves alternate, petiolated, bifary, oblong and acuminated. Gmelin. 20. A. *littorale* of Koenig, with very ſhort ſquamoſe ſcapes, ovated ſpathes, very numerous ſtalks, and leaves nodding at the apices. Gmelin. 21. A. *Koenigii*, with ſhort ſcapes, cordated ſpathes, and leaves elongated at the apex and twiſted. Gmelin. 22. A. *uliginoſum* of Koenig, with ſcapes erect-curvated, ovated ſpathes, ſingle flowers, with double bractes, and ſeſſile leaves. Gmelin. 23. A. *ſpurium* of Koenig, with ſolitary ſcaly ſcapes, ovated ſpikes, imbricated bractes, and leaves ſubpetiolated and oblong. Gmelin. 24. A. *ſcyphiferum* of Koenig, with ſpikes ſubſeſſile, erect and oblong, imbricated bractes and ſeſſile leaves. Gmelin. 25. A. *leonurus* of Koenig, with ſhort ſcapes, erect and oblong ſpikes, adpreſſed bractes, and petiolated leaves. 26. A. *nigrum* of Gaertner, with a berry ovate-globoſe and ſingle-celled, the baſe of the corolla funnel-ſhaped and coronated. Gmelin. Of the ſeveral ſpecies above-enumerated, the 1ſt, 2d, 4th, 7th, 8th, 9th, 11th, 12th, 15th, 16th, 17th, are mentioned and deſcribed by Profeſſor Martyn.

As to their propagation and culture, he obſerves, that they are tender, and require a warm ſtove to preſerve them in this country. They are eaſily propagated by parting their roots, which ſhould be done in the Spring, before they put out new ſhoots. In parting the roots, they muſt not be divided into ſmall pieces, eſpecially if they are deſigned to have flowers, nor ſhould they be planted in very large pots. They thrive beſt in a light rich earth, ſuch as that of the kitchen garden; and with this the pots ſhould be filled within two inches of the top, and the roots ſhould be placed in the middle of the pots, with their crowns upwards, and the pots ſhould then be filled with the ſame earth; they ſhould then be plunged into a hot-bed of tanner's bark, and ſparingly watered, till their ſtalks appear above ground, when they will admit of more moiſture, eſpecially in the Summer months: but in Autumn the waterings muſt not be frequent nor plentiful, and during Winter very ſparing. The pots muſt conſtantly remain plunged in the tan-bed; for if they are taken out and placed on ſhelves in the ſtove, their fibres often ſhrink, and thus their roots decay. By this management theſe plants have greatly multiplied, and the common ginger has produced roots, weighing five or ſix ounces; but the others have been near a pound weight.

In the Weſt Indies the ginger thrives beſt in a rich cool ſoil; in a more clayey ſoil the root ſhrinks leſs in ſcalding. The land laid out for the culture of it is firſt well cleared and hoed, and then ſlightly trenched, and planted in March or April; it flowers about September; and when the ſtalks are wholly withered, the roots are fit to be taken up, which is generally done in January and February. Browne cited by Martyn.

AMOMUM. See ALPINIA, COSTUS, MYRTUS, and SISON.

AMOMUM *Curcuma*. See CURCUMA.

AMOMUM *Plinii*. See SOLANUM.

AMOMUM, in the *Materia Medica*, a ſmall and rich aromatic fruit, growing in bunches like grapes, valued highly for its medicinal virtues. It is commonly claſſed among the *ſeeds*.

The commentators on Pliny and Dioſcorides, have never been able to agree upon the ancient amomum; the generality of them ſeek it in fruits different from our's. Some will have the roſe of Jericho paſs for it.—F. Camelli is poſitive he has diſcovered the real amomum of Dioſcorides, and that it is the *tugus* or *birao*, or *caropi*, growing in the Philippine iſlands; the grains or berries whereof are worn by the natives about their necks; both on account of their agreeable odour, and of their ſuppoſed virtue in preſerving from infection, curing the ſting of the ſcolopendra, &c. Phil. Tranſ. N° 248.

Scaliger is confident, that the amomum of the ancients was not a fruit, but the wood itſelf, which bore ſome reſemblance to a bunch of grapes, and was particularly uſed in embalming of bodies, and hence, ſays he, the term MUMMY was given to the bodies of Egyptians, embalmed with it. On this account, likewiſe, all medicines and unguents uſed in the embalming and preſerving of dead bodies, were called *amomia*.

The ancient amomum was of divers kinds; but the Armenian was moſt eſteemed. It was a heater, drier, and aſtringent; uſed as a narcotic, to appeaſe pain, cure poiſonous bites, inflammation of the eyes, &c.

The true amomum of the ancients reſembles the muſcat grape, and grows like it, in cluſters; it is about the bigneſs of a large chich-pea, or middling grape, round, membranous, and divided into three cells, which contain ſeveral brown angular ſeeds; the fruit, on being opened, appears to contain three of them. Ten or 12 of theſe capſules ſtand together, without pedicles, upon a woody ſtalk, about an inch long; each ſingle capſule is ſurrounded with ſix leaves, ſet in form of a ſtar; and the part of the ſtalk, void of fruit, is clothed with leafy ſcales; of a very ſtrong aromatic taſte and ſmell; the taſte is warm and pungent, approaching to that of camphor, and the ſmell is quick, penetrating,

and

and fragrant, reſembling that of lavender, but more agreeable. In diſtillation they yield a large portion of a ſubtile eſſential oil; the huſks gave the ſame kind of flavours in a lower degree. Theſe ſeeds have long been a ſtranger to this country.

This fruit was brought from the Eaſt Indies; and makes part of the compoſition of Venice treacle: but the ſeeds of the amomum vulgare have been uſed inſtead of it; and cloves have been alſo employed as a ſuccedaneum to it.

The modern amomum, uſed in the ſhops, under the denomination of *amomum vulgare*, or *amomum officinarum*, appears to be the ſeed of the *ſiſon* or *ſium* of the ancients, anſwering to what in Engliſh we call baſtard-ſtone parſley.

It is eſteemed a powerful diuretic, and good in nephritic caſes. It is alſo commended as an aperient in general, and preſcribed in obſtructions of the liver and ſpleen, and in ſuppreſſions of the menſes. The people in ſome parts of England bruiſe the ſeeds, and give them in warm ale, in colics; but thoſe of caraway, or aniſe, are better. Lewis. See Sison.

AMONA, in *Geography*, a river on the coaſt of Guiana, weſt of Arwacas bay, is deep and navigable far into the country, and capable of containing a large fleet. It falls into the ocean about N. lat. 6°, and W. long. 55° 50′.

Amona, a river of Italy, which runs into the Adriatic, about three miles ſouth of the Po.

AMONOOSUCK, the Indian name of two rivers of America, in New Hampſhire; the one called Upper Amonooſuck, riſes near the north end of the White hills, runs northerly about 15 miles to a carrying place of about three miles to Amariſcoggin river, thence it purſues the direction of ſouthweſt and weſt nearly 18 miles, and diſcharges itſelf into the Connecticut at Northumberland, near the Upper Coos; the other, called Great or Lower Amonooſuck, riſes on the weſt ſide of the White Mountains, and falls into the Connecticut juſt above the town of Haverhill, in Lower Coos, by a mouth 100 yards wide. About two miles from its mouth it receives Wild Amonooſuck, 40 yards wide, from Franconia and Lincoln mountains. This laſt river is ſubject to very ſudden and impetuous floods.

AMONTONS, William, in *Biography*, an ingenious experimental philoſopher, was the ſon of a lawyer, who removed from Normandy to Paris, and born in 1663. In very early life he was ſeized with a deafneſs, which deprived him in a great degree of the pleaſures of ſocial intercourſe, and led him, for his relief and amuſement, to apply with peculiar attention to the ſtudy of geometry and mechanics. From theſe ſtudies he derived ſo much ſatisfaction, that he ceaſed to regret his defect of hearing as an evil, and declined, it is ſaid, ſeeking any remedy. He alſo acquired the arts of deſigning, land-ſurveying, and building; and extended his reſearches to the ſublime laws by which the univerſe is governed. He likewiſe directed particular attention to the nature and conſtruction of barometers, thermometers, and hygrometers; and in 1687 he preſented a new hygroſcope to the royal academy of ſciences, which was very much approved. In 1695 he publiſhed a book, in French, entitled, "Obſervations and Experiments concerning the Conſtruction of a new Hour-glaſs, and concerning Barometers, Thermometers, and Hygrometers." To the royal academy, of which he was choſen a member in 1699, he read his "New Theory of Friction," by which he has admirably elucidated an important part of mechanics. He alſo diſcovered a method of conveying intelligence to a great diſtance, in a ſhort interval of time, by means of ſignals, from one perſon to another, placed at the greateſt intervals from which they could be ſeen with teleſcopes; ſomewhat in the manner of our modern telegraphs. He had a happy talent in deviſing and executing experiments; and he communicated a great number of diſſertations on the various ſubjects of air, action of fire, barometers, thermometers, hygrometers, friction, machines, heat, cold, rarefaction, pumps, &c. to the royal academy, which are contained in the volumes of its memoirs, for 1696, 1699, 1702, 1703, 1704, and 1705. His character for integrity, modeſty and candour, was no leſs diſtinguiſhed than his philoſophical genius. His elogy, by M. Fontenelle, is printed in the volume of the Memoirs of the Academy for 1705. In October 1705, an inflammation of the bowels occaſioned his death at the age of only 42 years. Gen. Dict.

AMOOD, in *Geography*, a town of Hindooſtan, in the country of Guzerat, 51 miles north of Sœurat, and 58 ſouth of Ahmedabad.

AMOOR. See Amur.

AMOPHILA, in *Entomology*, a name propoſed by the Rev. Mr. Kirby for a new genus of hymenopterous inſects, in the Tranſactions of the Linnæan Society, vol. iv. The ſpecies of this genus are vulgaris, hirſuta, affinis, and argentea; the two firſt are deſcribed inſects, vulgaris being ſphex fabuloſa of Linn. and Donov. Brit. Inſ. and hirſuta, ſphex arenaria of Linn. and Fabr. The two others belong to the genus of ſpheges in the Linnæan arrangement by Gmelin alſo. See Sphex.

The eſſential character of Mr. Kirby's new genus Amophila is, beak conic, inflected, concealing a bifid, retractile, tubular tongue. Jaws forcipated, three teeth at the tip; antennæ filiform in either ſex, with about fourteen articulations; eyes oval; wings flat; ſting pungent, and concealed within the abdomen. The Linnæan character of the ſphex genus is not ſtrictly applicable to thoſe inſects Mr. Kirby has ſelected for his new genus, nor to many other exotic ſpecies; for the mouth of the Linnæan ſpheges has no tongue. Gmelin has corrected this error by dividing the genus into families, the firſt has no tongue, and the ſecond is furniſhed with one.

AMOR, in *Entomology*, a ſpecies of Hesperia in the Fabrician ſyſtem. Wings three-tailed, brown; beneath the diſk variegated with white, black and yellow, and a golden marginal ſtreak on the poſterior wings. Fabricius. This is truly a Papilio of the *plebeii rurales* family in the Linnæan arrangement. It is the papilio triopus of Cramer, and inhabits the Eaſt Indies.

AMORA, in *Geography*, a town of Aſia, in the Arabian Irac, ſituate on the Tigris, 120 miles ſouth-eaſt of Bagdad.

AMORÆANS, from אמר, *dixit*, in *Literary Hiſtory*, a ſect or order of *gemaric* doctors, or commentators on the Jeruſalem Talmud.

The word is otherwiſe written *amoræi*, and *amoraitæ*, *amoraim*. The amoræans are alſo called, by Scaliger, *ſophiſtæ*; by Alting, γνωμολογοι, or *ſpeakers of ſentences*; by Bartoloccius, *dicentes*, or *diſceptantes*, becauſe they conferred and diſputed together in a ſcholaſtic manner.

The amoræans ſucceeded the *miſchnic* doctors. They ſubſiſted 250 years; and were ſucceeded by the *ſeburæans*.

AMORBACH, in *Geography*, a town of Germany, in the circle of the Lower Rhine, 12 miles north-eaſt of Heidelberg.

AMORDI, Amardi, or Amarbi, in *Ancient Geography*, a people of Scythia, according to Pliny.

AMORE, in *Ichthyology*, the name of a tribe of fiſhes in Maregrave's Hiſt. of Brazil, of which he deſcribes three ſpecies. 1. The *amore pixuma*. 2. The *amore guacu*. And, 3. The *amore tinga*.

The *amore pixuma*, or Gobius *piſonis*, in Gmelin's Linnæan ſyſtem, has a very broad head, and a very large mouth, but has no teeth. Its body is oblong, and its back and ſides are of a duſky iron colour. Its belly,

belly, which is protuberant, is white. Its ſkin is ſoft; and it has ſeven fins, beſides the tail, which is rounded, at the end. Its fleſh is firm and well-taſted.

The *amore guacu* is like the former, of an oblong figure; but it grows to ſix inches in length. Its head is thick, its gills large, and its mouth is furniſhed with ſmall teeth. Its eyes are ſmall, their pupil black, and the iris yellow. It has ſeven fins, beſides the tail, which is long, and rounded at the end. This ſpecies is covered with ſomewhat larger ſcales, and is of a ruſty iron colour, but ſomewhat paler on the belly than on any other parts.

The *amore tinga* is of the ſame ſhape with the former, but is much ſmaller, and is covered with whitiſh ſcales all over, but ſpotted with brown ſpots. Its tail is brown, and waved with different degrees of that colour. All the three ſpecies are eaten, but the firſt is eſteemed the beſt. They are caught about the American ſhores.

AMOREVOLI, Angelo, in *Biography*, a celebrated tenor ſinger in the ſerious opera, was a native of Venice. In 1740 he was the principal tenor in the king of Poland's famous opera at Dreſden under the direction of his then maeſtro di Capella, Haſſe. In 1742 he arrive d in England with Monticella at the beginning of lord Middleſex's regency, and remained here 2 or 3 ſeaſons. He ſurpaſſed in taſte and expreſſion all the tenor-ſingers of his time. He died in 1782.

AMORGO, in *Geography*, an iſland of the Archipelago north-weſt of Stampalia, which, in the time of Pliny (ſee H. N. lib. iv. c. 12.), bore the ſame name of Amorgos, or Amorgus: more anciently it was called Hypera, and Patage, or Platæa; and, according to Steph. Byz. Paucale, Pſychia, and Carceſia, containing three principal towns, *viz.* Arceſinos, Minoë, and Ægiale. This iſland is not quite ſo large as Stampalia; its ſhores are leſs winding, and it has fewer capes and points, and of courſe fewer retreats to navigators. There are none along its eaſtern coaſt, which is very ſteep, and on its weſtern ſhore there are not more than two tolerably commodious harbours or havens; the one to the north, is called *Porto Sent' Anna*, and the other to the ſouth, which is the beſt, is denominated *Porto Vathi*. The inhabitants of Amorgo were formerly friends to the ſciences and fine arts; but they are now devoted to ignorance and ſuperſtition. In the country, which gave birth to Simonides, the famous Greek poet, are now to be found no others than papas and caloyers, without genius and without knowledge, and diſtinguiſhed merely by their credulity. They ſhow, in a ſmall chapel, a vaſe, which they affirm to be a certain oracle, and which the ignorant conſult, in order to aſcertain the iſſue of a voyage or enterpriſe: the vaſe full of water is a ſign of ſucceſs, but if it be almoſt empty, it announces ill fortune. The three ancient towns, Arceſinos, Minoë, and Ægiale, are ſo completely deſtroyed, that their ſite is doubtful; and there remains only a little town, or village, built on an eminence, and monaſteries, where miracles are the occupation and the principal revenue of the monks or caloyers, who inhabit them. High mountains, and naked and ſteep rocks, occupy ſome parts of the iſland, and in other parts it preſents fertile plains and vallies. The abundance of its wines, oil, corn, and fruits, was renowned; and though it ſtill ſubſiſts, in a leſs conſiderable degree, it has to ſurmount the obſtacles and difficulties of a bad adminiſtration. A few diſtricts are ſtill well cultivated, and yield rich harveſts; olive trees furniſh a tolerably large quantity of oil, in proportion to the extent of the territory; figs are good and common; and the corn is of an excellent quality. That ſpecies of large grape with oval ſeeds, and a ſucculent and perfumed pulp, called by the Greeks *ox-eye*, and in France *raiſin d' Alexandrie*, here becomes of a conſiderable ſize and very delicious. Agriculture retains, in ſome degree, its ancient proſperity; but the arts, as well as the ſciences that direct them, are extinct. At Amorgos are no longer fabricated thoſe rich ſtuffs, which, under the name of *amorgis*, were in great requeſt, both on account of the fineneſs of their tiſſue, and of the beauty of the colour with which they were dyed. The inhabitants, nevertheleſs, ſtill apply themſelves to dyeing; and they know how to give to their linen cloths a red colour with archil, a ſpecies of lichen which not only clothes the rocks of Amorgos, but alſo grows on thoſe of ſeveral other iſlands of the Archipelago. Amorgos is diſtinguiſhed by the mildneſs and affability of its inhabitants, and by the beauty of its women, who, attached to ancient habits, diſguiſe themſelves by the peculiarity of their dreſs. In this reſpect they reſemble thoſe of Nilo, and Argentiera; with this difference, that the women of Amorgos paſs a ſhawl, or large yellow handkerchief, made of fine wool, over the forehead and the lower part of the face, twiſt it round the head in the form of a turban, tie it behind, and ſuffer a long end of it to hang down the back. To this iſland criminals were formerly baniſhed; and hither Tiberius exiled Vibius Serenus.

South of the iſland of Amorgos, and at the diſtance of about three leagues, is ſeen an uninhabited iſlet, which is called *Amorgo Poulo*, or *little Amorgo*. Between the ſame iſland and that of Naxia, or to the weſt of the former, are other iſlets equally uncultivated and uninhabited, ſome of which, covered with lentiſks (lentiſcus vulgaris of Tournefort) ſmall cypreſs-leaved cedars (cedrus baccifera, folio cupreſſi, &c. of Tournefort) and other wild plants, ſerve for the feeding of the flocks which are kept on them; while the others, which conſiſt of ſteep maſſes of rocks, deſtitute of all verdure, are the abode of a multitude of birds of prey. Sonnini's Travels in Greece, &c. c. xiv. p. 173—180.

AMORIS Pomum, in *Botany*. See Solanum.

AMORITES, in *Ancient Geography* and *Hiſtory*, were a people deſcended from Amorrhæus (according to the Septuagint) Hæmori (האמרי, according to the Hebrew) or the Emorite (in our verſion), the fourth ſon of Canaan, (Gen. x. 16.) who firſt occupied the mountains lying weſt of the Dead Sea. They alſo extend themſelves to the eaſt of the ſame ſea, between the brooks Jabbok and Arnon, from whence they expelled the Ammonites and Moabites. This conqueſt of Sihon, king of the Amorites, is celebrated by the moſt ancient poem extant. Numb. xxi. 27—30. Numb. xiii. 29, 30. Joſhua, v. 1. Judges xi. 19, &c.

When Moſes ſent meſſengers to Sihon, entreating a free paſſage through his country, he rejected his requeſt; and marched out againſt him; but ſuſtained a total overthrow at Jaazer, and loſt his whole dominion. Og likewiſe, king of Baſhan, who eſpouſed the cauſe of Sihon, and attempted to ſtop the progreſs of Moſes and his people, was vanquiſhed, and fell in battle; and his whole kingdom was transferred to the Iſraelites. This conqueſt of the Amorites happened, A. D. 2553, ante Chriſt. 1451. The prophet Amos (ch. ii. 9.) repreſenting their gigantic ſtature and valour, compares their height to the cedar, and their ſtrength to the oak. The lands poſſeſſed by the Amorites on this ſide Jordan were given to the tribe of Judah, and thoſe which they had enjoyed beyond Jordan to the tribes of Reuben and Gad. In Scripture, the name Amorite is often uſed for the Canaanites in general.

AMORIUM, a city of Aſia Minor, which ſome authors place in Phrygia, but it was afterwards compriſed in Galatia. It was in the territory of the Toliſtobii, on the river Sangarius. After the 6th century it became an epiſcopal ſee, and at length the metropolis of the new Galatia. Michael,

[illegible] father of Theophilus, the emperor of Conſtantinople, was a native of Amorium; and this original ſeat of the imperial houſe was adorned with many privileges and immunities; nor was Conſtantinople itſelf of much greater value in the eſtimation of the ſovereign and his court. Amorium gives denomination to a war which ſubſiſted between the emperor Theophilus and the Caliph Motaſſem, A. D. 838; when the emperor penetrated into Syria, beſieged the obſcure town of Sozopetra, the birth-place of the Caliph, took it, levelled it with the ground, and marked or mutilated the Syrian priſoners with ignominious cruelty. In revenge of this injury, Motaſſem prepared to attack Amorium. The name of Amorium was inſcribed on the ſhields of the Saracens, and their three armies were united under the walls of the city. Although the wiſeſt counſellors on this occaſion propoſed to evacuate the city, to remove the inhabitants, and to abandon the deſerted buildings to the reſentment of the barbarians, Theophilus determined to defend, in a ſiege and battle, the country of his anceſtors. The Greeks, in a previous engagement, were repulſed and vanquiſhed; and the emperor vainly hoped, after this defeat, to deprecate the fate of Amorium. But the inexorable Caliph rejected with contempt his prayers and promiſes, and detained the Roman ambaſſadors to be the witneſſes of his great revenge. The vigorous aſſaults of fifty-five days were encountered by a faithful governor, a veteran garriſon, and a deſperate people; and the Saracens muſt have raiſed the ſiege, if a domeſtic traitor had not pointed out the weakeſt part of the wall, which was decorated with the ſtatues of a lion and a bull. The vow of Montaſſem was accompliſhed with unrelenting rigour; nevertheleſs in the ſiege of Amorium above 70,000 Moſlems had periſhed, and their loſs had been revenged by the ſlaughter of 30,000 Chriſtians, and the ſufferings of an equal number of captives, who were treated as the moſt atrocious criminals. The Caliph's forces being diſtreſſed for want of water, in their return to his new palace of Samaria, in the vicinity of Bagdad, the Chriſtian priſoners roſe upon ſome of them and murdered them; by which action the Caliph was ſo much exaſperated, that he put to death 6000 of the Greeks who had been principally concerned in that commotion. On the bridge of the river Lamus in Cilicia, one day's journey weſtward of Tarſus, 4460 Moſlems, 800 women and children, and 120 confederates, were exchanged for an equal number of Greeks. They paſſed each other in the middle of the bridge, and when they reached their reſpective friends, they ſhouted *Allah acbar* and *Kyrie eleiſon*. Many of the priſoners of Amorium were probably among them; but in the ſame year (A. Heg. 231.) the moſt illuſtrious of them, the 42 martyrs, were beheaded by the Caliph's orders. Gibbon's Hiſt. vol. x. p. 67, &c.

The medals of Amorium were bronze, gold, and ſilver; and Greek medals were ſtruck in this city in honour of Trajan, Caracalla, Geta, and Veſpaſian.

AMOROSO, in Ital. Muſ. implies tenderly; with affection and ſupplication.

AMORPHA, formed of *α priv.* and *μορφη, form*, in *Botany*, a genus of the *diadelphia decandria* claſs and order, and of the natural order of *papilionaceæ* or *leguminoſæ*; its characters are, that the *calyx* is a perianthium one-leafed, tubulous, cylindrical and turbinate, mouth erect, five-toothed, obtuſe, the two upper teeth larger than the others; permanent; the *corolla* compoſed of one ovate, concave petal, ſcarcely larger than the calyx, erect, inſerted into the calyx, between the two larger and upper teeth, and placed at the upper ſide of it; the *ſtamina* have filaments very ſlightly united at the baſe, erect, unequal in length, longer than the corolla, anthers ſimple; the *piſtillum* has a roundiſh germ, ſubulate ſtyle, of the length of the ſtamina, and ſimple ſtigma; the *pericarpium* is a legume, lunulate, reflex, larger than the calyx, compreſſed, more reflex at the tip, one-celled, and tubercled; the *ſeeds* are two, oblong kidney-ſhaped. There is one ſpecies, *viz.* A. *fruticoſa*, baſtard indigo. La Marck mentions a variety. *β.* A *foliolis pellucido-punctatis leguminibus glabriuſculis*, which he ſuggeſts may be a conſtant ſpecies.

This ſhrub grows naturally in Carolina, where formerly the inhabitants made a coarſe ſort of indigo from the young ſhoots, which occaſioned their giving it the title of *baſtard indigo*. It riſes with many irregular ſtems to the height of twelve or fourteen feet, with very long winged leaves, in ſhape like thoſe of the common ACACIA. At the extremity of the ſame year's ſhoots, the flowers are produced in long ſlender ſpikes, which are very ſmall, and of a deep purple colour; appearing in the beginning of July. After the flowers are paſt, the germen turns to a ſharp pod, having two kidney-ſhaped ſeeds; but theſe do not ripen in England. They were ſent to England by Mark Cateſby in 1724.

This ſhrub, which Thunberg obſerved in the great iſland of Nipon belonging to Japan, is become very common in all the gardens and nurſeries near London, where it is propagated as a flowering ſhrub, for the ornament of the ſhrubbery. It is generally propagated by ſeed, ſent annually to England from different parts of America, which arrive in February, and are ſown in a light ſoil; they may be alſo cultivated by laying down the young branches, which in one year will make good roots, and may then be taken off and planted, either in the nurſery, or the places where they are deſigned to remain.

AMORTIZATION, or AMORTISEMENT, in *Law*, the act of turning lands into mortmain, *i. e.* of alienating or transferring them to ſome corporation, guild, or fraternity, and their ſucceſſors.

The word is formed of the French *amortir, to extinguiſh*. See EXTINGUISHMENT.

The term is alſo uſed for the licence or privilege which the king or ſuperior lord grants, to enable ſuch a corporation, &c. thus to receive lands in MORTMAIN; which otherwiſe they cannot do.—There is always ſuppoſed to be ſome fine or acknowledgment paid to the king, or the lord, in conſideration hereof; to make them ſatisfaction for ſeveral incidental dues and profits, which would have fallen to them in the common way, which are hereby cut off.

This practice was borrowed from the ancient *Lex Papiria*, whereby it was forbidden to conſecrate any land to religious uſes without the conſent of the people. Cic. pro Dom. 49.

AMORY, THOMAS, in *Biography*, a preſbyterian divine, was born at Taunton in Somerſetſhire, A. D. 1700. Having finiſhed his preparatory claſſical education under Mr. Chadwick, he commenced his academical ſtudies at a reſpectable ſeminary for the education of diſſenting miniſters, under the tuition of Mr. Stephen James and Mr. Henry Grove. In 1722 he began to officiate as an occaſional preacher; and removed to London to purſue a courſe of philoſophy under Mr. John Eames, an eminent tutor among the diſſenters. In 1725 he became the colleague of his uncle Mr. Grove, in the department of claſſics and natural philoſophy; and at the ſame time he preached occaſionally at Hull Biſhops, and ſome other places in the neigbourhood of Taunton. From the year 1730 to the year 1759 he was paſtor of a congregation at Taunton; and in 1738 he ſucceeded Mr. Grove, and became ſole tutor of the academy under his care. As a miniſter and a tutor he was much reſpected and eſteemed, on account of his

his comprehenſive knowledge, unimpeachable integrity, and exemplary moderation. In 1759 he removed to London, to the great regret of his friends at Taunton, but principally with a view of more advantageouſly ſettling his family; and accepted an invitation to become colleague with Dr. Chandler, and afternoon preacher to the congregation at the Old Jewry; and at the death of Dr. Chandler in 1766, he was choſen to ſucceed him as joint-paſtor with Mr. White. His real merit entitled him to a greater degree of popularity than he experienced in the metropolis; but though his talents were not of ſuch a nature as to command a numerous audience, he was diſtinguiſhed by the reſpectful and cordial attachment of many judicious and liberal friends. In 1768 he received the honour of the degree of doctor in divinity from the univerſity of Edinburgh; an honour to which his talents, learning, and character juſtly entitled him. He was morning preacher to the congregation at Newington Green, in connection with the celebrated Dr. Price, of whom a particular account will be given in the courſe of this work; and he was alſo appointed one of the ſix preachers at the Merchants' Lecture at Salter's Hall, and a truſtee of the charities of the late Dr. Daniel Williams, whoſe library contains a valuable collection of books, and is, under its preſent regulations, daily improving both in extent and utility. He retained his faculties, and his capacity of uſefulneſs, to his death, which happened in the year 1774. His funeral ſermon was preached by his intimate friend Dr. Flexman; who, after an intercourſe of more than 40 years, declared, "that their friendſhip had never once been interrupted by diſtaſte, or darkened by a frown." Dr. Amory left a widow and ſix children, one of whom was for many years an eminent banker of the city of London. The ſubject of this brief memoir, as the writer of it can teſtify from perſonal acquaintance, was diſtinguiſhed by a ſound judgment and amiable diſpoſition. His piety and benevolence were eminent features of his character, and were ſo intimately blended as to command reſpect and eſteem from all who knew him. In the more advanced period of his life, his ſtudies were chiefly directed to ſubjects of theology and ethics. His ſentiments, with reſpect to ſome of the principal diſputed points, coincided very nearly with thoſe of Dr. Samuel Clarke; his mode of preaching was judicious, practical, and devotional: and though he did not attract the multitude, he approved himſelf to the ſenſible and candid. His ſermons have been collected in two volumes, *viz.* firſt, "Eighteen ſermons on various Subjects," printed in 1758, 8vo.; the ſecond, "Twenty-two ſermons on ſeveral Subjects," in 1766, 8vo. Dr. Amory alſo publiſhed "A Dialogue on Devotion, after the manner of Xenophon," with "A Tranſlation of the Converſation of Socrates on the Being and Providence of God," 8vo. 1733 and 1746; "A Family Prayer-Book," 1763; "An Account of the Life and Writings of Mr. Grove," prefixed to his poſthumous works, 1740; "Mr. Grove's Syſtem of Moral Philoſophy, reviſed and enlarged," 1749; "Memoirs of the Life of Dr. Benſon," prefixed to his hiſtory of the life of Chriſt, and "Memoirs of Dr. Samuel Chandler," prefixed to his four volumes of Sermons. He was alſo the author of "A letter to a Friend," on the ſtudy of religion, publiſhed in the memoirs of literature, 1731: of "Some poetical pieces, ſacred and moral;" and of a volume of poſthumous ſermons, publiſhed after his death. Flexman's funeral Sermon. Biog. Brit.

AMOS, in *Scripture Biography*, the third of the twelve minor prophets, in the order of the Hebrew Scriptures, but the ſecond in the order of time, was the ſon of a ſhepherd, and, though probably born in the territories of Iſrael, retired to Tekoah, a village of the tribe of Judah, about five miles from Jeruſalem. Under Uzziah, and Azariah, king of Judah, whoſe reign commenced in the 27th year of Jeroboam II. king of Iſrael, B. C. 804, Amos began to propheſy; but the preciſe year is not aſcertained. Archbiſhop Newcome dates the commencement of his prophetic office in the year 823, B. C.; but Falconer in his "Chronological Tables," aſſigns it to the year 805, B. C. His firſt predictions were delivered at Bethel, whence he was driven back to his own country by Amaziah, the high prieſt of Bethel, who accuſed him before Jeroboam. Theſe occur in the ſeventh chapter; and the others were pronounced in Tekoah, whither he retired after his baniſhment from Bethel. His two firſt chapters contain his prophecies againſt Damaſcus, the Philiſtines, Tyrians, Edomites, Ammonites, Moabites, Judah, and Iſrael; and the evils he threatened refer to the invaſions of Salmanazer, Tiglath-pileſer, Sennacherib, and Nebuchadnezzar. Amos alſo foretold the calamities that would befal the kingdom of Iſrael, after the death of Jeroboam II. who was then living; the death of king Zechariah; the invaſion of Iſrael by Phul and Tiglath-pileſer, kings of Aſſyria; the captivity of the ten tribes, and their ſubſequent reſtoration. He remonſtrates againſt the prevalent iniquities of Iſrael, their effeminacy, avarice, and obduracy with regard to the poor, the ſplendor of their buildings and the delicacy of their tables. He reproves the children of Iſrael for their pilgrimages to Bethel, Dan, Gilgal, and Beerſheba, which were the moſt famous at that period, and for ſwearing by the gods of theſe places. The ſtyle of Amos is characteriſed by its ſimplicity, and by frequent alluſions to paſtoral life. Jerom (Proem. Comment. in Amos.) referring to the words of St. Paul, calls him rude in ſpeech, but not in knowledge. Succeeding writers, on the authority of this ancient father, have repreſented him, as if he were quite rude, and deſtitute of all the beauties of compoſition. But a very competent judge has given a very different opinion. Let any one, ſays biſhop Lowth, (Prælectiones de Sacra Poeſi. præl. xxi. p. 286.) who has ſufficient diſcernment and candour for forming a juſt judgment, from the writings of this prophet and not from the man, turn over the volume of his predictions, and he will pronounce, that our ſheepherd is "not a whit behind the chief of the prophets." 2 Cor. xi. 5. He will think, that as in ſublimity and magnificence he is almoſt equal to the greateſt, ſo in ſplendor of diction and elegance of expreſſion, he is ſcarcely inferior to any. The ſame celeſtial ſpirit indeed, as this excellent prelate adds, actuated Iſaiah and Daniel in the court, and Amos in the ſheep-folds; ſelecting always ſuch interpreters of the divine will, as were beſt adapted to the occaſion, and ſometimes "from the mouths of babes and ſucklings perfecting praiſe;" occaſionally diſplaying the natural eloquence of ſome, and occaſionally making others eloquent.

The time and manner of the death of Amos are unknown. It appears (2 Chron. xxvi. 22. Iſ. i. 1.) that Amos was the father of the prophet Iſaiah, and of the family of Aſhur, (1 Chron. ii. 24.) from whoſe ſon Tekoah derived its name. Calmet and many others, however, have thought that Amos the father of Iſaiah, was a different perſon, and of royal rank; but there ſeems to be no ſufficient reaſon for this opinion.

AMOS, or AMUS, in *Ancient Geography*, a city of Aſia Minor, in Caria. Steph. Byz.

AMOTAPE, in *Geography*, a town of South America in Peru, ſituated near Tumbez, on the coaſt of the South Sea. The adjacent country, watered by a fine river, is highly improved,

AMOU, a town of France in the department of Landes, and chief place of a canton in the district of St. Sever, five leagues south of Tartas, and four leagues and an half south-west of S. Sever. The town contains 1731 and the canton 14,915 inhabitants; the territory includes 182½ kiliometres and 17 communes.

AMOVING, in *Law*, the act of removing or expelling another from his place, office, or the like. We have statutes for removing papists out of London and Westminster, and ten miles round the same. 1 W. and M. cap. 9.

Amoving a guardian, a warde, &c. See CUSTODE.

AMOUR, WILLIAM DE ST. in *Biography*, a French ecclesiastic of the 13th century, was born at St. Amour, in Franche Comte, and became canon of Beauvais, and doctor of the Sorbonne. He distinguished himself in the controversy of 1228 between the Dominicans and the university of Paris. The Dominicans claimed two professorships in the university; but the secular doctors resisted their claim, and passed a law, restricting persons of the regular order to one. The dispute was referred to the court of Rome, and Amour was an able and zealous advocate in favour of the university. In a book "Concerning the perils of the last Times," he attacked the whole mendicant tribe, and attempted to prove, that the prophecy of St. Paul relating to the perilous times (2 Tim. iii. 1.) was fulfilled in the establishment of the friars of this order. The book was condemned by pope Alexander IV. and the author was sentenced to perpetual exile from France. Upon the accession of Clement IV. Amour returned to Paris, and in a collection and enlargement of his works, renewed his attack on the character and conduct of the mendicants. By favour of this pope, who respected his talents and merit, he remained unmolested till his death in 1272. The mendicants reproached him as a heretic; but by the doctors of the Sorbonne he was highly respected. His spirited remonstrances against idleness and hypocrisy, masked by humility and sanctity, justify the panegyric of Mosheim, who represents him as "a man of true genius worthy to have lived in better times, and to have adorned a more enlightened age." His works were published at Paris, in 4to. by Cordesius in 1632; but the editor concealed his name, and the place of publication under the enigmatical inscription, "Constantiæ ad insigne bonæ fidei apud alitophilos." Cave, H. L. tom. ii. p. 302. Mosheim. Eccl. Hist. vol. iii. p. 202.

AMOUSHE, RASEL, in *Geography*, the Battal of Edrisi, a large cape formed by the mountains of the Shenooah, on that part of the sea-coast of Africa, called the Western Province or the province of Tlemsan. At a small distance is the Mers 'el Amoushe, or port of Amoushe, which is very safe in westerly winds. Shaw's Travels, p. 20.

AMOY, an island on the south-west coast of China, where the English East India Company had once a factory, since removed to Canton. It lies west from the nearest part of Formosa island, somewhat more than 3° of longitude, and from the south-east point of China, which is east from Macao, about north north-east. The port of Amoy has been described as one of the most convenient and safe harbours in India, on account of the road which is formed by that island between it and the continent, and it is so deep and large as to be capable of receiving 1000 ships of the greatest size, and of protecting them from every wind. N. lat. 24° 30'. E. long. 118° 45'.

AMPARES, a jurisdiction under the archbishop of Plata, eastward of that city, in the empire of Peru; abounding in grain and cattle.

AMPANA, in *Botany*, a name given in the Hortus Malabaricus to a genus of plants, since described by Linnæus, under the name of BORASSUS.

AMPASA, in *Geography*, a small country and kingdom of Africa, on the coast of Zanguebar, between the line and Melinda. It has a capital of the same name; the king is a vassal of the Portuguese. S. lat. 1° 30'. E. long. 60° 20'.

AMPATRES, a people of Madagascar, on the southern coast between Carembouli and Carcanessi, who live in the midst of forests and subsist by plunder.

AMPELIS, in *Botany*, the *vine*. See VINE.

AMPELIS, in *Ornithology*, a genus of birds in the Linnæan system, belonging to the order *passeres*. The characters of this genus are, bill straight, convex: upper mandible longest, and somewhat incurvated: each mandible notched. Nostrils covered with bristles. Tongue acute, cartilaginous, bifid. Linn. & Gmel. Dr. Latham's generic character of ampelis is somewhat different, *viz.* bill strait, convex, bending towards the point; near the end of the upper mandible a small notch. Nostrils hid in the bristles. Middle toe connected to the outer at the base.

Gmelin describes eleven species of this genus, *carnifex*, *caruculata*, *cyana*, *coccinea*, *cotinga*, *cristata*, *garrulus*, *maynana*, *pompadora*, *tersia*, and *variegata*, which see.

AMPELITES, or candle-coal. See COAL.

AMPELLA, or AMPULIA, in *Geography*, a city and seaport in Guatimala gulf, in that of Mexico, 350 miles south-east of the city of Guatimala, which carries on a brisk trade in cochineal, cocoa, hides, indigo, &c.

AMPELONA, in *Ancient Geography*, a colony of Milesians, in Arabia Felix, transported thither by the Persians.

AMPELOS, or AMPELUS, a promontory of the island of Samos, to the west of that island, and opposite to that of Icaria. *Ampelos* was also a promontory of Macedonia, according to Ptolemy, in the country called Parania; probably near the mouth of the Axius. *Ampelos* was also a town of Italy, in Liguria.

AMPELUSIA, called also *Cape Cottes*, is a promontory of Mauritania Tingitana, not far from Tingis, mentioned by Strabo, Ptolemy, and Mela. It is denominated by the moderns *Cape Spartel*. From Mela and Bochart it appears that Cottes and Ampelusia were, in the Phenician and Greek languages, terms of the same meaning, and that they were deduced from the grapes with which that country abounded. *Ampelusia* was also a town and promontory of Crete, now called *Capo Sagro*. It was also a town and promontory of Macedonia, near the gulf of St. Anne, and now called *Capo Canistro*.

AMPERES, from ἀμφὶ, *on both sides*, in *Antiquity*, a kind of vessels, wherein each mariner wrought two oars at the same time, one with the right hand, and the other with his left, answering to our *scullers*. This is also called *amphericum*.

AMPEZO, in *Geography*, a town of Germany, in the country of Tyrol, ceded to Austria by the Venetians in 1505, 12 miles south of Bruneck.

AMPHANÆ, in *Ancient Geography*, a town of Greece in the Doride. Stephan. Byz.

AMPHANÆ is also a strong place of Thessaly, probably the same as that called by Scylax *Anaphinæum*.

AMPHAXITIS, a district of Macedonia, in which was situated the city of Thessalonica.

AMPHIA, or AMPHEA, a town of Messenia, mentioned by Steph. Byz. and also by Pausanias, who places it in the vicinity of Laconia.

AMPHIARAUS, in *Mythology*, a famous prophet among the Pagans, was the son of Oicleus, and great grandson of Melampus, to whom part of the kingdom of Argos was assigned, as a recompence for some public service. In consequence of this division of Argos, Adrastus, its king, was overpowered by the party of Amphiaraus, and obliged to abandon the kingdom. Amphiaraus afterwards married Eriphyle, the sister of Adrastus, and he was restored to the throne. During the preparations for the expedition against Thebes,

Thebes, Amphiaraus, who poſſeſſed the faculty of divination, was forewarned that he ſhould loſe his life in this war, and therefore he concealed himſelf, in order to avoid engaging in it; but his wife, being prevailed upon by a preſent of a gold chain, diſcovered the place where he was hidden, ſo that he was obliged to accompany the other princes, who marched againſt Thebes. The expedition was fatal to him; for the earth being ſplit aſunder by a thunder-bolt, both he and his chariot were ſwallowed up in the gulf. Pindar and Apollodorus mention this circumſtance; and they aſcribe the event to the kind interpoſition of Jupiter, who thus prevented the diſhonour of his being killed by Periclymenes, by whom he was purſued. After his death he was ranked among the gods, temples were dedicated to him, and his oracle, as well as the ſports that were inſtituted in honour of him, were very famous. He was believed to excel chiefly in divining by dreams, and is ſaid to have been the firſt who divined by fire. He left in charge with his children to put his wife to death, as ſoon as they were able to do it. Apollodorus reckons him among the Argonauts.

AMPHIARTHROSIS, in *Anatomy*, a neutral or dubious kind of articulation; diſtinguiſhed from the *diarthroſis*, in that it has no conſpicuous motion; and from the *ſynarthroſis*, in its not being without ſenſible motion.

The word is derived from αμφι, *both*, and αρθρωσις, *articulation*, the *amphiarthroſis* being compounded of both the other ſorts.

Mr. Winſlow cites, as ſpecimens of this kind of articulation, the conjunction of the firſt rib and ſternum by a ſingle cartilage, and the connections of the vertebræ with each other by the intervertebral ſubſtance.

AMPHIBALUS, in *Biography*, a monk of Caerleon, who is ſaid by ſome to have been a Roman by birth, and to have made his eſcape into Britain in the time of Dioclefian's perſecution. Others ſay, that he was born at Caerleon, the metropolis of Wales, and that he was rector of the univerſity of Cambridge. He was the preceptor of St. Alban, and inſtrumental in his converſion; and was crowned with martyrdom.

AMPHIBALLUS, Amphiballum, or Amphimallum, among *Middle Age Writers*, denoted a large mantle, ſuch as were the ſurplices of the monks, which encompaſſed the body on both ſides, (whence it was called amphiballus, from αμφι and βαλλω, and amphimallum, from αμφι and μαλλος, a fleece of wool) and which was not barely thrown over the ſhoulders, like the toga. See Caracalla.

AMPHIBIA, in *Zoology*, the third claſs of animals in the Linnæan ſyſtem, including thoſe which poſſeſs, in a certain degree, the power of reſpiration, and are thereby enabled to live either in water or upon land. The characters aſſigned by early naturaliſts to animals of this claſs are, in many reſpects, exceptionable; and thoſe of Linnæus are liable to ſome objections, as the writings of Count de Cepede, Mr. Schneider, M. Schoepff, and Dr. Shaw have proved in various inſtances; yet the Linnæan arrangement is ſtill adopted with ſome amendments, and upon the whole this is moſt adviſable, till this obſcure tribe of creatures is more completely aſcertained.

The amphibia are either naked, or defended by an external covering; the ſkins of ſuch as are denominated naked, are in general marked by ſoft, puſtular warts; the coverings of the others are either horny ſhields, coriaceous integuments, or ſcales. The lungs of the amphibia differ materially from thoſe of other animals in the two preceding claſſes, mammalia and aves, conſiſting in general of a pair of large bladders or membranaceous receptacles, variouſly ſubdivided in different ſpecies; and the heart is furniſhed with one ventricle only. Some late phyſiologiſts have, however, ventured to aſſert, that the hearts of the amphibia are in reality double, or furniſhed with two ventricles, with a free or immediate communication between them.

In the Linnæan arrangement, the amphibia were formerly divided into four orders, *viz.* 1. *Reptilia pedati*, reptiles; amphibious animals, which breathe through the mouth by lungs only, and are furniſhed with four feet. 2. *Serpentes apodes*, ſerpents; amphibious animals, breathing through the mouth by means of lungs only, and deſtitute of feet, fins, and ears. 3. *Meantes*, gliders; animals breathing by means of gills and lungs, and furniſhed with arms and claws; and 4. *Nantes pinnati*, breathing fiſhes, which reſpire arbitrarily by means of gills and lungs, and of which the fin-rays are cartilaginous. The amphibia claſs in the laſt edition of the Syſtema Naturæ, by Gmelin, conſiſts of two orders, *reptilia pedata*, and *ſerpentes apodes*, which are ſufficiently diſtinguiſhed, the reptiles being furniſhed with feet, and the ſerpents deſtitute of them. The Nantes *pinnati*, or breathing fiſhes, being placed in their natural order amongſt the Pisces, under the title Chondropterygii; that order now includes the genera *Acipenſer*, *Chimæra*, *Squalus*, *Raja*, and *Petromyzon*: the Lophius genus is ſeparated from the others, and arranged amongſt the Pisces branchiostegi.

The order of reptiles is divided into four genera, *viz.* Testudo, Draco, Lacerta, and Rana; and that of ſerpents into ſix genera, *viz.* Crotalus, Boa, Coluber, Anguis, Amphisbæna, and Caecilia. This is the arrangement of Gmelin, to which muſt be added the genus Siren; a kind of reptile, whoſe ambiguity of character induced Linnæus to form the new order Meantes. Linn. Amoen. Acad. vii. p. 311.—et Syſt. Nat. vol. i. part ii. Addend. Gmelin has conſigned this creature to the firſt genus of fiſhes, Muræna; and Dr. Shaw reſtores it to the Siren genus in the appendix to his Zoology, vol. iii. p. 2, Amp. It may ſtill be doubted whether this, and two other known kinds of the ſame family be complete animals, or only the larvæ or firſt ſtate of ſome lacertæ, as Dr. Shaw very judiciouſly ſuggeſts.

The new genera of ſerpents, not noticed by Gmelin, are Acrochordus, Hydrus, and Langaya.

Of the amphibia in general, it has been obſerved, that their bones are more cartilaginous than thoſe of other animals, and many poſſeſs the ſingular power of reproducing their tails, legs, and other parts when deſtroyed; in this reſpect bearing ſome affinity to many marine inſects, as crabs, lobſters, &c. Some are viviparous, or hatch the young ones in the eggs, internally, and bring them forth alive; others depoſit their eggs, and hatch them afterwards. The eggs differ alſo, ſome are covered with a calcareous ſhell, others with a tough ſkin reſembling parchment, and many, as in the Rana genus, are perfectly gelatinous. Numbers undergo a metamorphoſis, or caſt their ſkins; all are extremely tenacious of life, and, from their peculiar internal ſtructure, capable of enduring a longer abſtinence than any of the larger tribes of animals. During Winter many remain in a ſtate of torpidity.

Very few of the reptile tribes are venomous; and of the ſerpents not more than one-fifth are known as ſuch. Thoſe creatures, therefore, which are naked, and without limbs, ſeem perfectly defenceleſs, but nature has armed the reſt, not only with the means of defence, but the moſt dreadful means of aggreſſion; and the poiſonous ſerpents, collectively, are undoubtedly the moſt hideous and formidable tribe of creatures known. The poiſonous kinds are furniſhed with tubular fangs, which are perfectly diſtinct from the teeth, and ſituated upon a glandular veſicle on the anterior part of the upper jaw: in this veſicle the fatal fluid is ſecreted, and when the wound is inflicted, diſcharges its contents into the fangs, through which it oozes by the linear apertures on one

fide, and effects its malignant purpoſe. The jaws of the ſerpents are extremely dilatable, and the œſophagus ſo lax, that they can ſwallow, without maſtication, an animal twice or thrice as large as the neck.

Amphibia, *Anatomy of.* See Classification *of Animals* and Reptiles in *Comparative Anatomy.*

AMPHIBIOUS, in *Natural Hiſtory*, a term applied to thoſe animals which live both on land and in water. In technical language it is confined to thoſe creatures which conſtitute the *amphibia* of naturaliſts; in a general ſenſe it includes the otter, ſeal, beaver, and various other animals of the mammalia tribe, who live on land, and occaſionally go into the water in ſearch of prey; the word being derived from αμφι, *utrumque, both ways*, and βιος, *vita*, life; as living in both places.

Dr. Parſons, in an ingenious paper publiſhed in the Tranſactions of the Royal Society, after conſidering the economy of amphibious creatures, divides them into two ſections; *firſt*, ſuch as enjoy their chief functions on land, but occaſionally go into the water; and *ſecondly*, ſuch as chiefly inhabit the water, but occaſionally go aſhore. Of the firſt kind he conſiders the phocæ, otters, beavers, and ſome kinds of rats, frogs, and lizards, the hippopotamus and teſtudo; all which, he obſerves, are capable of remaining for an inconſiderable length of time in the water, to collect their prey, but are compelled to riſe to the ſurface to breathe, and return aſhore to perform moſt of the ordinary functions of nature. The laſt are but of two kinds, eels, or water-ſerpents, or ſnakes of every kind.

Moſt of the amphibious kinds, the caſtor, or beaver, and otter excepted, have peculiar proviſions in their ſtructure to fit them for ſuch a various way of living; particularly in the heart, lungs, foramen ovale, &c.

In ſome of theſe animals, as the frog, tortoiſe, &c. the heart has but one cavity, with an artery to receive the blood coming out of it, and a vein to convey it thither. In others, the foramen ovale appear to be ſtill open for the paſſage of the blood from the *vena cava* to the *arteria venoſa*, without the help of breathing.

In the *caſtor*, diſſected by the academiſts of Paris, though the foramen was not found actually open, yet the marks of it appeared; and the cauſe of its cloſure might be well enough accounted for, from the animal's having been detained a good while from the water, by which the part, having been in diſuſe, cloſed up. In the otter the caſe is different; there is no appearance of any thing like a *foramen*; and hence the neceſſity the creature is under of riſing, from time to time above water, to take in air. Phil. Tranſ. N° 124.

The ſtructure of the feet of the *caſtor* pronounces it amphibious at firſt ſight, the fore feet being formed like thoſe of terreſtrial animals, who hold their food in their feet, *e. gr.* ſquirrels, while the hind-feet are faſhioned after the manner of river fowl, with webs or membranes between the toes, as the gooſe, duck, &c.

Some kinds of inſects, in different ſtages of life, may be ſaid to be amphibious. The dytiſcus, notonecta, and nepa, undergo all their tranſformations from the egg, larva, and pupa ſtate in the water, and though furniſhed in the perfect ſtate with wings, and conſequently deſtined to live on land, ſeldom quit the water except in the evenings, and conſtantly return to it when their flight is over: theſe are called water-beetles. Others remain in the water only in the firſt ſtages of their tranſformations, and would periſh in their native element from the moment they become winged creatures, as is frequently obſerved of the libellula, ephemera, and phryganea, and ſome of the muſcæ and culices; amongſt the latter the tranſformation of the ſpecies *pipiens*, common gnat, is a ſtriking inſtance of this remark. In fact many of thoſe creatures, which are miſtaken for aquatic worms, are no other than the larva, or pupas of *amphibious* inſects, which their parents depoſit in the egg ſtate, on the leaves and ſtalks of plants, &c. that grow in the water; and thoſe hatching inſtinctively, remain in the water till they become winged inſects.

Birds are in a much leſs degree amphibious. Amongſt thoſe which are denominated water-fowl, from almoſt conſtantly living on that element, the divers and corvorants are capable of remaining a conſiderable length of time under water; perhaps nearly as long as the otter. Swallows would certainly well deſerve the title of amphibious, if, as ſome have imagined, they paſſed the whole winter in a ſtate of torpidity under water.

Dr. Hunter obſerves, that, properly ſpeaking, there are no *amphibious* animals; for that fiſh cannot live long without air, though much longer than men.

The term *amphibious* has been ſometimes alſo extended to men, who have the faculty of living a long while under water. We have various inſtances of ſuch amphibious men: the divers employed in the pearl-fiſheries poſſeſs this faculty in an eminent degree. Credulity itſelf is ſtaggered at the ſtory of a Calabrian monk, who once offered the king of Spain to continue twice twenty-four hours under water; but it is believed that a Sicilian, named the *Fiſh-Colas*, by a long habitude from his youth, had ſo accuſtomed himſelf to live in water, that his nature ſeemed to be quite altered, ſo that he lived rather after the manner of a fiſh than a man. Kircher.

AMPHICEDA, in *Entomology*, a ſpecies of Papilio. Wings indented, above brown, with a connected diſk of cinereous waved with brown; beneath, tips grey with black lunated marks. Fab. et Gmel.—This ſpecies inhabits Africa. Above, the baſe and margins are entirely brown; cinereous in the middle, with two large undulated waves, the firſt brown, the ſecond black. Beneath, pale at the baſe with rufous ſpots, and undulated lines, apex grey with a row of lunated black marks. Fabricius.

AMPHIBLESTROIDES, in *Anatomy*, a tunic or coat of the eye, more uſually call Retina.

The word is compounded of αμφι, βλησσειν, *net*, and ειδος, *form*; on account of its net-like texture; whence the Latins alſo call it *retiformis*.

AMPHIBOLOGY, from αμφιβολος, *ambiguous*, and λογος, *diſcourſe*, or Amphibolia, in *Grammar*, a fault in language, whereby it is rendered obſcure, and liable to be underſtood in a double ſenſe.

Amphibology is chiefly uſed in reſpect of a phraſe, as equivocal is in reſpect of a word.

Of this kind was that anſwer which Pyrrhus received, from the oracle, "Aio te, Æacida, Romanos vincere poſſe;" where the amphibology conſiſts in this, that the words "te," and "Romanos," may either of them precede, or either of them follow the words "poſſe vincere," indifferently. See Oracle.

The Engliſh language uſually ſpeaks in a more natural manner, and is not capable of any amphibologies of this kind; nor is it ſo liable to amphibologies in the articles as the French, and moſt other modern tongues.

AMPHIBRACHYS, the name of a foot in the *Latin* and *Greek poetry*; conſiſting of three ſyllables, the firſt and laſt whereof are ſhort, and that in the middle long.

The word comes from αμφι, *circum*, and βραχυς, *brevis*, q. d. a foot ſhort at both ends, and long in the middle.—Among the Ancients it is alſo called *ianius*, and *ſcolius*. Diom. iii. p. 475.

Such are the words *ămārĕ*, *ăbīrĕ*, *pătĕrnŭs*, Ομηρος, &c.

AMPHICLEA, in *Ancient Geography*, a city of Phocis in Græcia Propria, mentioned by Steph. Byz. and called by Pauſanias

Pauſanias and Herodotus, Amphicæa. The Amphictyons, in their decree againſt the Phocian cities, gave it the name of Ophitea. This city belonged to the Dryopes, and was pleaſantly ſituated to the left of the river Cephiſus, and near Mount Oeta. Amphiclea was famous for a temple and oracle of Bacchus, who, under the character of a phyſician, pretended to cure all diſeaſed perſons that applied to him.

AMPHICTYONS, Amphictyones, in *Antiquity*, the deputies of the cities and people of Greece, who repreſented their reſpective nations in a general aſſembly; having a full power to concert, reſolve, and appoint what they ſhould think fit for the ſervice of the common cauſe. They were empowered to employ not only the rigour of the laws, in the execution of their decrees, but even to raiſe troops, if it were neceſſary, to compel ſuch as rebelled to ſubmit to them.

The amphictyones very much reſemble the ſtates-general of the united Provinces; or rather, what in Germany they call the diet of the empire.

Some ſuppoſe the word αμφικτιονες, to be formed of αμφι, *about*, and κτιειν, or κτιζειν, becauſe the inhabitants of the country round about met here in council. Others, with more probability, derived it from *Amphictyon*, ſon of Deucalion, whom they ſuppoſe to have been the founder of this aſſembly; though others will have Acriſius, king of the Argives, to have been the firſt who gave a form and laws to this body.

Androtion, in his Hiſtory of Attica, quoted by Pauſanias, (lib. ii. c. 8. p. 815.) informs us, that from the moſt early period, deputies from the neighbouring ſtates aſſembled at Delphi, and that theſe deputies were, *from that circumſtance*, called Amphictyons; and that conſequently, in proceſs of time, this became the prevailing denomination of that high court. According to this account, whether the author's etymology be right or not, this was an original inſtitution, deriving its eſtabliſhment from neither Amphictyon nor Acriſius, but exiſting from the earlieſt ages of antiquity. Dr. Doig (Edinb. Tranſ. vol. iii. p. 150, &c.) ſuggeſts, that as the Hellenes had founded the oracle of Dodona, they probably eſtabliſhed alſo the oracle of Delphi. This oracle acquired great reputation, and the concourſe of the people to the temple of Delphi was immenſe. Its ſituation was well choſen for this purpoſe; and it lay nearly in the centre of thoſe petty tribes that afterwards formed the Amphictyonic aſſociation. Theſe ſtates, becoming jealous of the growing power of the oriental colonies, determined to hold their conventions at Delphi, in order to concert meaſures for their mutual ſecurity. Both its ſanctity and central ſituation pointed it out as a place well adapted to this purpoſe. The Hellenic prefects of the temple, ſuperior to the Barbarians in political ſagacity, would ſtrain every nerve to promote a ſcheme calculated to advance both their honour and their intereſt. Common ſacrifices have, in all ages, been deemed an infallible ſign of amity and concord, and alſo the means of maintaining and promoting them. The confederates would therefore aſſemble at Delphi to offer ſacrifices, and to perform other religious rites on behalf of all the aſſociated tribes. Theſe would ſerve as an indiſſoluble bond of their federal union. The confederates, on this occaſion, would preſent liberal donations, and thus greatly enrich the treaſury of the temple. It muſt therefore occur to them, that it would conduce both to their honour and intereſt to appoint officers for ſuperintending this treaſure. Strabo ſays expreſsly, (lib. ix. p. 420.) that this was one of the ends of the inſtitution of the Amphictyons. Hence it appears, that the original Amphictyons were a kind of wardens of the temple of Delphi, elected by the ſuffrage of the confederated tribes. In proceſs of time another claſs of perſons would naturally be added to the former, whoſe province it ſhould be to watch over the civil intereſts of the confederacy. Theſe two claſſes of ſuperintendents gradually coaleſced into one, and both united in diſcharging the ſacred and civil functions annexed to their office. A tribunal, thus formed and eſtabliſhed, reflects immortal honour upon Greece, and demonſtrates the wiſdom and ſagacity of the Hellenes, to whom its inſtitution is aſcribed by the ingenious writer above cited, and which he connects, in its origin, with the oracular eſtabliſhment at Delphi. Had its members been always animated by a ſpirit of peace, of juſtice, and of good order, it would have rendered itſelf for ever reſpectable; and the aſſociated ſtates under its direction would never have become a prey to the deſpiſed Macedonians.

This council was principally inſtituted with a view of uniting in the ſacred band of amity the ſeveral people of Greece that were admitted into it, and of obliging them, by that union, to undertake the defence of each other, and to be mutually vigilant for the tranquillity and happineſs of the country. The Amphictyons were alſo created to be the protectors of the oracle of Delphos, and the guardians of the wealth of that temple; and alſo to adjudge the differences that might ariſe betwen the Delphians and thoſe who came to conſult that oracle.

Authors give different accounts of the number of the Amphictyons, as well as the ſtates who were entitled to have their repreſentatives in this council; according to Strabo, Harpocration, and Suidas, they were twelve, from their firſt inſtitution, ſent by the following cities and ſtates; the Ionians, Dorians, Perrhæbians, Bœotians, Magneſians, Achæans, Phthians, Melians, Dolopians, Ænianians, Delphians, and Phocæans. Æſchines only reckons eleven, inſtead of the Achæans, Ænianians, Delphians, and Dolopians, he only gives theſe three, the Theſſalians, Œtans, and Locrians. Laſtly, Pauſanias's liſt only contains ten Amphictyons; namely, the Ionians, Dolopians, Theſſalians, Ænianians, Magneſians, Melians, Phthians, Dorians, Phocians, and Locrians.

In the time of Philip of Macedon, the Phocæans were excluded the alliance, for having plundered the Delphian temple, and the Lacedæmonians were admitted into their place; but the Phocæans, ſixty-eight years after, having behaved gallantly againſt Brennus and his Gauls, were reſtored to their ſeat in the amphictyonic council. Under Auguſtus, the city Nicopolis was admitted into the body; and, to make room for it, the Magneſians, Melians, Phthians, and Ænianians, who till then had diſtinct voices, were ordered to be numbered with the Theſſalians, and to have only one common repreſentative. Strabo ſpeaks as if this council were extinct in the times of Auguſtus and Tiberius; but Pauſanias, who lived many years after, under Antoninus Pius, aſſures us it remained entire in his time, and that the number of amphictyons was then thirty.

When the Lacedæmonians, in order to paſs any decrees which they thought proper, were for excluding the Theſſalians, Argives, and Thebans, Themiſtocles (Plut. in Them. p. 122.), in the ſpeech he made to the Amphictyons for preventing that deſign from taking effect, ſeems to inſinuate that there were at that time 31 cities which had the right of ſending deputies to this council.

The members were of two kinds; each city ſending two deputies, under different denominations, one called ιερομνημων, whoſe buſineſs ſeems to have been more immediately to inſpect what related to ſacrifices and ceremonies of religion; the other πυλαγορας, charged with hearing and deciding cauſes and differences between private perſons. Both had an equal right to deliberate and vote, in all that related to the common intereſts of Greece. The former was elected by lot; the latter by plurality of voices.

Though

Though the amphictyons were firſt inſtituted at Thermopylæ, M. De Valois (Mem. Acad. Belles Lettres, vol. iii.) maintains, that their firſt place of reſidence was at Delphi, where, for ſome ages, the tranquillity of the times found them no other employment than that of being, if we may ſo call it, church-wardens of the temple of Apollo. In after times the approach of armies frequently drove them to Thermopylæ, were they took their ſtation, to be nearer at hand to oppoſe the progreſs of enemies, and to order timely ſuccour to the cities in danger. When they aſſembled at Thermopylæ, they held their ſeſſions in the temple of Ceres, near the mouth of the river Aſopus. Their ordinary reſidence, however, was at Delphi.

Here they decided all public differences and diſputes between any of the cities of Greece; but before they entered on buſineſs, they jointly ſacrificed an ox, cut into ſmall pieces, as a ſymbol of their union. Their determinations were received with the greateſt veneration, and even held ſacred and inviolable.

The Amphictyons, at their admittance, took a ſolemn oath, the form of which is preſerved by Æſchines (in Orat. περι παραπρεσβειας) never to diveſt any city of their right of deputation, never to avert its running waters; and if any attempt of this kind were made by others, to make mortal war againſt him; more particularly, in caſe of any attempt to rob the temple of any of its ornaments, that they would employ hands, feet, tongue, their whole power, to revenge it. This oath was enforced by terrible imprecations againſt ſuch as ſhould violate it; *e. gr.* May they meet all the vengeance of Apollo, Diana, Latona, and Minerva, &c. their ſoil produce no fruit, their wives bring forth nothing but monſters, &c. loſe all ſuits at law, be conquered in war, have their houſes demoliſhed, and be themſelves and their children put to the ſword!

The ſtated times of their meetings were Spring and Autumn; the Spring meeting was called Εαρινη Πυλαια, that in Autumn Μετοπωρινη. On extraordinary occaſions, however, they met at any time of the year, or even continued ſitting all the year round.

Philip of Macedon uſurped the right of preſiding in the aſſembly of the Amphictyons, and of firſt conſulting the oracle, which was called Προμαντεια. From this time the authority of the Amphictyons began to decline; for he claimed the right of preſiding even by proxy both in this aſſembly and in the Pythian games, of which games the Amphictyons were judges and agonothetæ in virtue of their office. This Demoſthenes reproaches him with in the third Philippic: "When he does not deign," ſays he, "to honour us with his preſence, he ſends his *ſlaves* to preſide over us." After the conqueſt of Greece by the Macedonians, this tribunal was deprived of its luſtre. Auguſtus, too, made ſome new regulations with reſpect to the ſtates, which were inveſted with the privilege of ſending deputies to this council. Though it ſubſiſted in the days of Pauſanias, as we have already mentioned, it was probably of ſo little repute in the age of Strabo, that this geographer looked upon it as in a manner annihilated.

The Romans never thought fit to ſuppreſs the meeting of the Amphictyons. Potter's Arch. Græc. Mem. Acad. Inſer. tom. iv. & vii. Æſchin. Orat.

AMPHIDOLI, in *Ancient Geography*, a ſmall town of Triphylia, in the territory of Elis. Steph. Byz.

AMPHIDROMIA, from αμφι, and δρομος, a *courſe*, in *Antiquity*, a feaſt celebrated the fifth day after the birth of a child, called *dies luſtricus*, or LUSTRAL *day*.

AMPHIDRYON, in *Eccleſiaſtical Writers*, a veil or curtain uſually drawn before the door of the BEMA in ancient churches.

AMPHIGENIA, in *Ancient Geography*, a town mentioned by Homer, ſituate in the ſouthern part of Elis, comprehended by the ancients in Meſſenia. In this town was a temple of Latona; and the inhabitants pretended that their town had given birth to Apollo.

AMPHILOCHI, a town of Spain, in Gallicia, founded by Teucer after his return from the Trojan war; and ſo called, as Strabo informs us, from the name of Amphilochus, one of his companions, now *Orenſe*.

AMPHILOCHIA, a country of Acarnania, ſituate to the eaſt of the Ambracian gulf, and watered by the river Inachus. The inhabitants were called Amphilochi, deriving their name from Amphilochus, the ſon of Amphiaraus, and their capital was denominated *Argos Amphilochicum*.

AMPHILOCHIS, a place of Peloponneſus, in Elis. Steph. Byz.

AMPHILOCHIUS, in *Biography*, a native of Cappadocia, was appointed biſhop of Iconium, the chief city of Lycaonia, about the year 370 or 374. In his youth he ſtudied rhetoric and practiſed law; but afterwards devoting himſelf to a religious life, he retired, with his friends Baſil and Gregory Nazianzen, into a ſolitary part of Cappadocia, called Ozizaia. After he was advanced to the epiſcopal office, he aſſiſted at the firſt general council of Conſtantinople in 381, and alſo at ſubſequent councils in 385 and in 394, ſoon after which he died. His eminence may be inferred from the ſeveral letters written to him by Baſil, and from the character given of him by Theodoret and others. Jerom joins him with Baſil, Gregory, and others, who were equally ſkilful in ſecular learning, and in the ſacred ſcriptures. Of his zeal againſt the Arians we have ample teſtimony from Theodoret Eccl. Hiſt. (lib. v. c. 16.) and Sozomen (lib. vii. c. 6.) and others. Being very deſirous of prohibiting Arian aſſemblies, and finding the emperor Theodoſius remiſs in complying with his wiſhes, he contrived to accompliſh his object by the following expedient. Whilſt he was in the palace with other biſhops, who were paying their reſpects to Theodoſius, he took no notice of his ſon Arcadius, who had lately been declared Auguſtus. When the emperor reminded him of this ſeeming diſreſpect, and recommended his ſon to notice, Amphilochius apologiſed by ſaying, that he had paid reſpect to him, and that was ſufficient. The emperor was diſpleaſed, and ſaid, that a ſlight put upon his ſon was an indignity to himſelf. You are angry, replied Amphilochius, with thoſe who ſlight your ſon, and cannot endure it: perſuade yourſelf then, that the God of the whole world is offended with thoſe who blaſpheme his only begotten Son, and hates them as ungrateful to their Saviour and Benefactor. This mode of reaſoning produced the wiſhed-for effect; and Theodoſius ſoon afterwards, A. D. 385. forbade the aſſemblies of heretics. But this was not the only way in which the biſhop manifeſted his diſlike of heretics; and the law procured for this purpoſe, and dated July 25, A. D. 383, is ſtill extant, which prohibits all heretics, particularly Eunomians, Arians, and Macedonians, to hold any aſſemblies of worſhip in public places, or private houſes. He wrote a book againſt the Maſſalians, and another work, entitled, "Of Pſeudepigraphal Books compoſed by Heretics," both which are loſt. "If they had been extant," ſays Dr. Lardner, "I ſuppoſe they would have given me more ſatisfaction than the law of Theodoſius, which affords not any argument:" nor was Amphilochius to be commended, adds this mild and candid writer, for procuring that law. A few fragments are preſerved of Amphilochius's book "Concerning the Divinity of the Holy Spirit," and his "Synodic Epiſtle," edited by Cotelerius. The Iambic poem, addreſſed to Seleucus, and containing a catalogue of the books of the Old and New Teſtament, has been aſcribed by many to Amphilochius;

philochius; but others are of opinion, that it was written by Gregory Nazianzen; they allege that the ſtyle is his, and that we have no information that Amphilochius ever wrote verſe. The poem, however, affords evidence of the care and caution of the ancient Chriſtians concerning books received as a part of ſacred ſcripture, and the rule of their faith. This and other pieces, probably ſpurious ones, were publiſhed by Combefis, at Paris, in 1644. Cave H. L. tom. i. p. 251. Lardner's Works, vol. iv. p. 411, &c.

AMPHILOCHUS, in *Hiſtory* and *Mythology*, the ſon of Amphiaraus, was no leſs famous as a diviner than his father. He accompanied Alcmeon, his brother, to the ſecond war of Thebes, and aſſiſted in killing his mother, according to his father's injunction. After the war of Thebes, he aſſiſted Mopſus in building the city of Mallus in Cilicia, where he had an oracle; and it is ſaid that he had an altar erected to him at Athens. The anſwers of the oracle at Mallus were given by dreams; thoſe who came to conſult it ſlept a night in the temple, and that night's dream was the anſwer required. Dion Caſſius mentions a picture done by order of Sextus Condianus, and repreſenting the anſwer he received from the oracle in the reign of the emperor Commodus. In the time of Lucian (in Philopſeud. tom. ii. p. 500.) Amphilochius was regarded by the ſuperſtitious and credulous multitude as a great prophet, and his oracle maintained its reputation. Gen. Dict.

AMPHIMACER, a foot in the *Ancient Poetry*, conſiſting of three ſyllables; the firſt and laſt whereof are long, and that in the middle ſhort.

The word is derived from the Greek αμφι, *circum*, and μακρος, *longus*, by reaſon both extremes are long.

Such are the words *ōmnĭūm, cāſtĭtās, γρᾱμμᾰτῶν*, &c. This foot is alſo called *creticus*, and ſometimes *feſcennius*.

AMPHIMACUS, in *Entomology*, a ſpecies of Papilio. Wings indented, above, black, with a broad bar of ſhining blue in the middle. Beneath, anterior wings white, poſterior wings cinereous. Inhabits India. The body is black. Wings above entirely black except the interrupted bright blue that extends towards the anterior margin. Beneath, from the baſe to the middle of the wings white, variegated with brown marks: on the poſterior pair behind a large white ſpot, and ſeven ſmall brown ones, with whitiſh pupils and circles along the poſterior margin. Fabricius.

AMPHIMALIA, or Amphimallium, in *Ancient Geography*, was a town of the iſland of Crete, according to Pliny, ſituate on the north ſide, and eaſt of Sydonia. It gave name to a gulf in the ſame part of the iſland. Sonnini ſuppoſes, that the Amphimale of the ancients is that narrow gulf, which is now formed by Cape Melecca on the weſt part, and Cape Trepani on the eaſt, and which penetrates nearly two leagues inland. Others place the harbour of Amphimale between Suda and Retimo, where is only a bad haven. Sonnini's Travels in Greece, p. 243. Olivier (Travels, vol. ii. p. 198.) informs us, that the ruins of Amphimale are ſtill viſible half a league from the ſea to the ſouth of the gulf of Suda. Theſe ruins are now the foundation of a Greek monaſtery.

AMPHIMALLUM, from αμφι and μαλλος, *a fleece of wool*, in *Eccleſiaſtical Writers*, *amphibalum* and *amphibolum*, from αμφι and βαλλω. See Amphiballus.

AMPHIMASCALOS, in *Antiquity*, a tunic or coat worn by the Greeks, with two ſhort ſleeves, ſo as to cover part of the arm to the elbow. In general the tunics of the men and women had not ſleeves like theſe parts of modern dreſs. The coats of freemen were amphimaſcaloi, or had two ſleeves; thoſe of ſlaves only one, and were called ετερομασκαλοι.

AMPHIMEDON, in *Entomology*, a ſpecies of Papilio, with wings uniformly brown, the anterior pair radiated with white: five connected red ſpots in the middle of the poſterior pair, with white lunules. The body is large, brown; anterior part of the thorax variegated with three red lines. From Amboyna. Fabricius.

AMPHIMONE, a ſpecies of Phalæna, of the *Bombyx* family. Wings entire, pale aſh-colour, with two black ſtreaks, and a fulvous dot in the middle of the anterior pair. Deſcribed by Fabricius from a ſpecimen in the cabinet of Sir Joſeph Banks. Inhabits Terra del Fuego. The antennæ are greatly pectinated, body hairy, two yellowiſh lines on the thorax, abdomen with black belts, a ſingle ſtraight ſtreak on the poſterior wings beneath. Fabricius.

AMPHINOME, a ſpecies of Papilio, with indented wings, above black, clouded with numerous blue marks: an oblique white bar acroſs the anterior wings; beneath the lower wings radiated with red. A native of South America. Linnæus.

Amphinome, in *Mythology*, one of the 50 Nereids, according to Homer.

AMPHION, in *Entomology*, a ſpecies of Hesperia. Wings entire, blue, margins black: beneath cinereous, with black ocellated ſpots; poſterior wings, with red lunated marks, black points, and golden characters. A native of Germany. Fabricius.

Amphion, in *Ancient Hiſtory*, the twin brother of Zethus, was the ſon of Antiope, the greateſt beauty of Greece, by Epopeus, king of Sicyon, or, as Homer ſays, by Jupiter. Having ſeized the crown of Thebes, in Bœotia, from Lagus, the father of the unfortunate Oedipus, he called the metropolis of the Theban government, or at leaſt the lower city, Thebes, in honour, as it is ſaid, of Thebe, their aunt by the mother's ſide. Homer ſays, that to ſecure the crown which he had uſurped, he incloſed the city of Thebes with a wall, fortified with ſeven gates, and a number of ſtately towers at a convenient diſtance from each other. Homer, however, does not ſay a word of the miraculous powers of Amphion's muſic, nor of his building the wall, as fable reports, by the ſound of his lyre. Pauſanias and Pliny concur in relating, that he acquired his muſical reputation from his alliance with the family of Tantalus, whoſe daughter, Niobe, he had married: and both theſe authors ſay, that Amphion learned muſic in Lydia, and, bringing it from thence into Greece, was called the inventor of the Lydian mode. As to the effect of muſic in building the wall, we may obſerve, that he might probably captivate the people to carry on the work, by diverting them with the muſic of his harp, as well as perſuade them by his eloquence, which contributed to induce them, though in a ſtate of barbarity, to live ſociably and harmoniouſly together. We learn from Horace (Ars Poetica, i. 391.) that Amphion, after the example of Horace, employed the united powers of muſic and philoſophy in civilizing the Thebans.

> "Silveſtres homines ſacer interpreſque deorum
> Cædibus et victu fœdo deterruit Orpheus;
> Dictus ob hoc lenire tigres rabidoſque leones.
> Dictus et Amphion, Thebanæ conditor arcis,
> Saxa movere ſono teſtudinis, et prece blanda
> Ducere quo vellet. Fuit hæc ſapientia quondam,
> Publica privatis ſecernere, ſacra profanis;
> Concubitu prohibere vago; dare jura maritis;
> Oppida moliri; leges incidere ligno;
> Sic honor et nomen divinis vatibus atque
> Carminibus venit."

> "The wood-born race of men when Orpheus tam'd,
> From acorns and from mutual blood reclaim'd,

This

'This prieſt divine was fabled to aſſuage
The tiger's fierceneſs, and the lion's rage.
Thus roſe the Theban wall; Amphion's lyre,
And ſoothing voice, the liſt'ning ſtones inſpire.
Poetic wiſdom marked, with happy mean,
Public and private, ſacred and profane;
The wand'ring joys of lawleſs love ſuppreſs'd;
With equal rites the bonds of Hymen bleſs'd;
Plann'd future towns, and inſtituted laws;
So verſe became divine, and poets gained applauſe."
FRANCIS.

AMPHIPAGUS, in *Ancient Geography*, a promontory of the iſland of Corcyra, to the north weſt.

AMPHIPNEUMA, αμφιπνευμα, among *Ancient Phyſicians*, a great degree or ſpecies of difficult reſpiration.

AMPHIPOLES, from αμφι and πολις, *city*, in *Antiquity*, archons, or chief magiſtrates of the city of Syracuſe.

They were firſt eſtabliſhed by Timoleon, in the 109th Olympiad, after his expulſion of Dionyſius the Tyrant. They governed Syracuſe for the ſpace of three hundred years; and Diodorus Siculus aſſures us they ſubſiſted even in his time.

AMPHIPOLIS, in *Ancient Geography*, a city of Macedonia or Thrace, which was an Athenian colony, on the river Strymon, which ſeparated Macedonia from Thrace; but it is not certain on which ſide of the river it was ſituated. Pliny places it in Macedonia, but Scylax in Thrace. Thucydides (lib. iv. p. 320.) reconciles this difference of opinion by obſerving, that it was waſhed on two ſides by the river Strymon, which was divided from its mouth into two channels, in the middle of which the city ſtood, whence its name Amphipolis. *i. e.* αμφι and πολις; and on the ſide towards the ſea there was a wall built from channel to channel. M. d'Anville gives another etymology of the name, and ſays, that it ſignifies a town belonging to two countries, *viz.* Macedonia and Thrace. The ancient name, according to Herodotus, (lib. vii. c. 114.) and Thucydides (ubi ſupra) was Εννεα οδοι, or the *nine ways*; and it was called *Acra*, *Eion*, whence the Turks have formed *Jamboli*, *Myrica*, *Chrademna*, *Chryſopolis*, or *Chriſtopolis*. The inhabitants were denominated *Amphipolitani*. Livy. It was founded thirty years after the defeat of the Perſians in Greece; and Miltiades conducted a colony into it. Philip, king of Macedon, drove the Athenians from Amphipolis, and permitted the inhabitants to form a republic. The Athenians, however, always conſidered it as belonging to them; and Braſidas, the Lacedæmonian general, took it from them. Nevertheleſs, Philip recovered it, and promiſed to reſtore it to the Athenians: but when he became maſter of it, he obtained a ſurrender of it by a treaty of peace.

AMPHIPOLIS was alſo a town of Syria, on the Euphrates; its Syrian name was *Turmeda*. It was either founded by Seleucus, or enlarged and adorned by him; and he changed its ancient name. It is the ſame with the *Thapſacus* of Pliny.

AMPHIPPI, in *Antiquity*, thoſe who practiſed riding on two horſes, by jumping from one to the other.

The word is Greek, αμφιπποι; they are ſometimes alſo called ἱππαγωγοι, and ſometimes by corruption, ανιππει. The appellation was given to a ſort of cavalry in the Grecian armies, who, for their conveniency, had two horſes a piece, on which they rode by turns, leading the other.

AMPHIPRORÆ, from αμφι and πρωρα, *prow*, were ſhips which had prows at both ends, that no time might be loſt in turning them, and alſo on account of the rapidity of ſtreams, and narrowneſs of channels.

AMPHIPROSTYLOS, or AMPHIPROSTYLE, in *Ancient Architecture*, is characteriſtic of a particular kind of TEMPLE, which had a PORTICO of four columns, crowned with a PEDIMENT in front, and another of the ſame form in the back, front, or rear. The portico in front was denominated the PRONAOS, and that in the rear the POSTICUM. The word is compoſed of αμφι *both*, προ *before*, and στυλος *column*, and ſignifies "columns in both fronts."

Vitruvius, in the firſt chapter of his third book, deſcribes ſeven ſpecies of temples differing from each other in the number and arrangement of their columns, of which the amphiproſtylos is the third. It is diſtinguiſhed from the firſt and ſecond ſpecies, by having columns in both its fronts, and from the peripteral and pſeudo-peripteral kinds, by having only four columns in each front, and more eſpecially by not having any on the flanks. It is remarked by Saumaiſe that the Chriſtians never made entrances in the rear of their temples with PORCHES or porticos, ſimilar to thoſe in the front, and for this reaſon the French have no word to expreſs the poſticum of the Latins, as diſtinguiſhed from the pronaos, which they denominate the "*Porche*." The ſame remark is true with regard to the Engliſh, and probably to all other Chriſtian nations.

AMPHISA, in *Ancient Geography*, a river of Greece in Meſſenia, which diſcharged itſelf into the Balyra, according to Pauſanias, lib. iv. Meſſen. c. 23.

AMPHISO, in *Mythology*, one of the nymphs called Oceanides.

AMPHISBÆNA, in *Zoology*, the name of a genus of ſerpents in the Linnæan ſyſtem, in ſome reſpects allied both to that of Anguis and Lacerta; like the Cæcilia it is deſtitute of ſcales, but its ſkin appears completely annulated, or marked with numerous circles that ſurround the body and tail. This is the Linnæan character of the genus, to which may be added that the body is equally ſmooth and cylindrical; and the tail obtuſe, and ſcarcely to be diſtinguiſhed from the head.

Gmelin enumerates five ſpecies of this genus, *viz. fuliginoſa*, *varia*, *magnifica*, *flava*, and *alba*.

1. *Fuliginoſa*. Rings of the body two hundred; of the tail thirty. This ſpecies is white, variegated with black or dark brown, and the head is without ſpots.

2. *Varia*. Variegated with white, black, cheſnut and grey.

3. *Magnifica*. Variegated with purple, violet, and yellow; head yelloviſh, and a purpliſh ſtreak over the eye.

4. *Flava*. Variegated with white and brown; head yellow.

5. *Alba*. Rings of the body two hundred and twenty-three; of the tail ſixteen. The head of this is annulated on the fore-part, and narrowed into an obtuſe ſnout. Found near ant-hills. Gmelin has relied chiefly on Seba in diſcriminating the characters of theſe ſpecies; yet it may be doubted whether that authority is ſufficient. The number of annular rings round the body and tail, and which Linnæus conſidered as the beſt ſpecific diſtinction, is only mentioned in two ſpecies, *fuliginoſa* and *alba*; the characters of the others, being only taken from the variations in their colours, are not ſatisfactory. The five kinds mentioned by Gmelin are natives of America.

Dr. Shaw ſeems to have conſidered the three ſpecies, *varia*, *magnifica*, and *flava*, as varieties of *fuliginoſa*; for he obſerves, that only two ſpecies of this genus, *amphiſbæna*, have hitherto been diſcovered, *viz. alba* and *fuliginoſa*. A. alba is from fifteen to eighteen inches, and ſometimes two feet in length; the colour white, but ſometimes inclining to pale yellow or brown; the head very ſhort, the eyes very ſmall; the mouth of moderate width, the teeth ſhort, ſtrong, not very ſharply pointed, and conſtituting a ſingle row of about fourteen or ſixteen in each jaw; the tongue very large broad, thick, flattiſh, and bifid only at the tip, the ſurface of the

the baſe appearing ſcaly. This is found in woods preying on inſects, worms, &c. It is a harmleſs animal, but it is ſaid, that on handling it for ſome time the ſkin becomes affected with a ſlight itching, accompanied by ſmall puſtules, owing to an acrimonious moiſture exuding from the animal. A. fuliginoſa is rarely ſo large as the preceding ſpecies, which it reſembles in its manners, and is equally harmleſs. The Count de Cepede obſerves, that above the vent is a row of ſmall perforated papillæ, ſimilar to thoſe in many of the lizard tribe. The ſkin of the amphiſbæna is remarkably ſtrong and tenacious, and of a ſmooth and gloſſy ſurface, and it is probable that they are enabled with great facility to perforate the ground ſomewhat in the manner of earth worms, in order to obtain occaſional ſupplies of food. Dr. Shaw. Zool.

AMPHISBÆNA *aquatica*, a name given by Bertrutius, Albertus, Geſner, and other authors, to that long, ſlender worm, called by Aldrovandus and others, the *ſeta aquatica*, &c. This is the *Gordius aquaticus* of Linnæus. See GORDIUS.

AMPHISCII, formed from αμφι, *about*, and σκια, *ſhadow*, in *Geography* and *Aſtronomy*, the people who inhabit the torrid zone.

They are thus denominated, as having their *ſhadow* turned ſometimes one way and ſometimes another, *i. e.* at one time of the year to the north, and at another to the ſouth.

AMPHISMILA, or AMPHISMELA, an anatomical knife, edged on both ſides.

The word is formed from αμφι, *utrinque*, *on both ſides*, and σμιλη, *knife*.

AMPHISSA, called by Herodotus AMPICEA, in *Ancient Geography*, the chief city of the Ozolean Locrians, about 15 miles to the weſt of Delphi, ſituate on the river Evenus, and ſo called becauſe it was ſurrounded by mountains, according to Steph. Byz. but Pauſanias deduces the origin of the name from Amphiſſa, who had a monument erected to her honour in this place. On the ſummit of a hill near the town was a temple of Minerva, with her ſtatue in bronze. The people of the country thought this was one of the ſpoils of Troy, but Pauſanias repreſents it as an ancient Greek work. Amphiſſa was taken by the Phocians, and deſtroyed with the reſt of the Phocian cities in the holy war; and when it was rebuilt, Pauſanias ſays that it took the name of *Ophitea*, if the text has not been corrupted by his tranſcribers. *Amphiſſa* was alſo ſaid to have been the name of a town of Magna Græcia, at the mouth of the Sagra, in the Farther Calabria, ſituate between Locri and Caulona, and now called *Rocella*; but ſome have doubted the exiſtence of ſuch a city.

AMPHITAPÆ, in *Antiquity*, a kind of carpets, or clothing, having a ſoft warm knap on each ſide.

AMPHITHEATRE, in *Architecture*, is an edifice of an elliptical form, conſiſting externally of two or more ſtories of open ARCADES with a number of interior GALLERIES and arched paſſages, ſuſtaining and ſerving as communications to ſeveral ranges of ſeats, riſing one over another round a ſpacious area, called the ARENA, on which the combats of wild beaſts and other ſpectacles were exhibited.

The word is derived from αμφι, *around*, and θεατρον, *theatre*, ſo that amphitheatre ſignifies a place in which the ſpectators, ranged circuitouſly, ſaw equally well from every ſide. It was alſo called *viſorium* by the Latins.

The hiſtory of amphitheatres, though it occupies no remote or extenſive period of time, is intereſting from its peculiar connection with the manners of the ancient world, and thoſe which ſucceeded the eſtabliſhment of the Chriſtian religion; the riſe and ſplendour of theſe edifices being occaſioned by the ferocious barbarity of the former, and their ſubſequent diſuſe and ruin by the milder character of the latter. They are undoubtedly of Roman invention, in the latter ages of the republic; yet becauſe the combats of GLADIATORS were, among other ſpectacles, exhibited on the Arena, their origin has been aſcribed to the ETRURIANS, with whom it is ſaid they were ſacred edifices ſet apart for ſuch combats, and with them deſcended from that people to the Romans. "Religion," we are told, "in ETRURIA preſided at theſe games, and elevated amphitheatres." An aſſertion that is certainly unfounded. Among the Etrurians gladiatory combats were exhibited at feaſts as well as at funerals, and probably they were no otherwiſe religious inſtitutions than as the occaſion made them ſo, like the foot-races and other conteſts with which the ancients honoured the dead. In the earlieſt times they were preſented before the funeral pile, or at the tomb of the deceaſed, and afterwards in the ſquares and open places of cities, as we learn from Vitruvius, who informs us that the Italians made the INTERCOLUMNS of their FORUMS more ſpacious than thoſe of the Greeks, "becauſe, by ancient, cuſtom, the ſhows of gladiators were uſually given in the forum." This continued to be the practice of the Romans for upwards of 200 years after the introduction of thoſe combats among them, from whence it may be inferred, that neither the Etrurians nor the Romans had any edifice like an amphitheatre till the period we have mentioned; and it is evident that ſuch edifices were not ſo neceſſary for the exhibition of gladiatory combats, as to be religiouſly appropriated to them from time immemorial.

The Romans had an inordinate paſſion for ſpectacles of every kind, and eſpecially for ſuch as were ſanguinary and terrible; a diſpoſition which their rulers politically encouraged, as tending to preſerve that unconquerable ſpirit which made them maſters of the world. In the year of Rome 490, the firſt gladiatory combats were exhibited in that city not long after the ſucceſsful termination of the Samnite war had extended the Roman dominion not only over Etruria, but the whole peninſula of Italy. And in the year 502 wild beaſts were introduced among the public ſpectacles of Rome, by Lucius Metellus, who brought into the CIRCUS the elephants he had taken from the Carthaginians in Sicily. Theſe two kinds of ſhows were ſo conſonant to the taſte of the Romans, that they were ſoon converted into engines of political influence, and the candidates for popular favour vied with each other in exhibiting them with the greateſt ſplendour and expence. Gladiators were trained to fight as to a profeſſion, and hundreds of them were compelled to butcher one another in the forum, while every ſavage animal that could be procured from the foreſts of Africa or Aſia was brought to parade in chains, or to be hunted in the circus.

In the time of Pompey and Cæſar the combats of beaſts were given with a magnificence which we read of with aſtoniſhment, though far inferior to thoſe preſented by the emperors; and it is to theſe combats that we owe the invention of amphitheatres, as the name of *theatrum venatorium*, or *the theatre for hunting*, by which they were at firſt denominated, ſufficiently proves. It was found that theſe ſpectacles could not be ſeen equally well from every part of ſuch an extenſive place as the circus, interrupted as the proſpect was by the METÆ, and other buildings on the SPINA, nor could they be gazed on with the ſame eaſe and ſecurity as the combats of gladiators; for in the games given by Pompey the elephants made efforts to break down the barriers which confined them in the circus. Theſe circumſtances induced Cæſar, when not long after he entertained the people with

ſimilar games, to remove the metæ, and to ſurround the arena of the circus with a ditch, and probably ſuggeſted the expediency of conſtructing edifices, in which the people might enjoy their favourite diverſions without interruption or danger. This purpoſe amphitheatres were peculiarly adapted to anſwer; and, being equally convenient for gladiatory ſhows, they afterwards became the common THEATRE of both.

It is believed that the firſt building like an amphitheatre was formed of thoſe curious machines conſtructed by Caius Curio, one of the partizans of Cæſar, for the games he preſented at the funeral of his father. Curio cauſed two ca- [illegible] theatres to be built of timber, [illegible] ed [illegible], and placed back to back, [illegible] the people [illegible] diverſions till noon, when the [illegible] the two theatres, with [illegible] crowd of people [illegible] and formed an amphitheatre, in which gladiators contended [illegible]. This information we have from the elder Pliny; who, although he applauds the invention, exclaims against the [illegible] of the man, who dared to place the [illegible] of the world in ſuch imminent danger. [illegible] we are not told, and how much [illegible] have been exaggerated by Pliny, it is impoſſible to know, as the fact is not mentioned by any other writer [illegible] to determine whether [illegible] the firſt idea of an amphitheatre [illegible] Be this as it may, Julius Cæſar, a few years after, "erected a *hunting theatre* of timber, called [illegible] an *amphitheatre* becauſe the ſeats were placed round it without ſcenes," in which he exhibited both the combats of wild beaſts and of gladiators. This edifice, from the words of Dio above quoted, [illegible] claim to be conſidered as one of the firſt fabrics of the kind.

From this time, during the reign of Auguſtus and the ſucceeding emperors down to Veſpaſian, many other amphitheatres of timber were erected in Rome and in the provinces; but not any of thoſe, except one by Statilius Taurus, in the time of the firſt-mentioned emperor, which does not appear to have been held in much eſtimation, as it was ſeldom uſed in the ſplendid ſpectacles ſubſequently exhibited; nor could it be entirely of ſtone, as it was deſtroyed by fire in the reign of Nero. Theſe timber amphitheatres were ſometimes only temporary ſtructures, raiſed and taken down as occaſion required, though ſome of them were fixed and embelliſhed as permanent buildings. Auguſtus, whoſe policy induced him to encourage every public amuſement that intereſted the people, is ſaid to have conſtructed ſeveral. Caligula began one, but did not live to complete it. Nero, who delighted in gladiatory combats, alſo erected an amphitheatre of timber, which was near a year in building. This is deſcribed by Tacitus as a ſumptuous fabric, and capable of containing a great number of perſons. In the time of Auguſtus, Herod of Judea built amphitheatres at Jeruſalem and Cæſarea. In the reign of Tiberius a large one was erected at Fidenæ, a town in the vicinity of Rome, which ſuddenly fell while the games were exhibiting, when, according to Tacitus, upwards of 50,000 perſons were either killed or dangerouſly hurt. There was another at Placentia, celebrated as the largeſt in Italy, which was burnt in the war between Vitellius and Otho.

Accidents like thoſe at Fidenæ and Placentia, both in theatres and amphitheatres, had undoubtedly been frequent in Rome, as well as in the provinces, and turned the public attention to ſtructures that were ſecure from conflagration, and of ſtrength ſufficient to ſuſtain the multitudes by which they were crowded. With regard to theatres an example had been given by Pompey, who firſt conſtructed a theatre of ſtone, and drew upon himſelf the cenſure of the ſatiriſts for thus luxuriouſly deviating from the ſimplicity of ancient practice. Statilius Taurus, as already mentioned, had alſo erected a ſtone amphitheatre, though it appears to have been of little conſideration; and Auguſtus, who, as it is ſaid, intended to have conſtructed one of more ample dimenſions in the centre of Rome, on the very ſpot where the coliſeum was afterwards erected, did not carry his deſign into execution. This was reſerved for Veſpaſian and Titus; the former began the Flavian amphitheatre in his eighth conſulate, which was completed by his ſon Titus, and is deſervedly celebrated as a prodigy of building among the ancients. Martial is laviſh in its praiſe, and Caſſiodorus aſſerts, that the expence of it would have built a capital city. At the ſolemn games exhibited when this fabric was dedicated, 5000 wild beaſts, according to Eutropius, and 9000, according to Dio, were deſtroyed on its arena. When the hunting was concluded, the arena was ſuddenly filled with water, in which aquatic animals were made to contend; and afterwards a ſea-fight was exhibited repreſenting a conteſt between the Corinthians and Corcyrians, whoſe wars are related by Thucydides. If Martial may be credited, people from every part of the world crowded to Rome to be preſent at theſe games. This ſtupendous pile has been, from time immemorial, called the Coliſeum, according to ſome authors, from a coloſſal ſtatue of Nero, which ſtood at a ſmall diſtance from it; but more probably from its coloſſal ſize, when compared with other buildings.

The Flavian amphitheatre became the model of many others that were ſubſequently erected by the emperors, or by the people of different countries deſirous of ſharing in the diverſions of the imperial city. Of theſe the moſt remarkable were at Capua and Verona in Italy, at Nimes in Languedoc, at Pola in Iſtria, and Italica in Spain. The veſtiges of others are ſaid to be ſeen at Alba, a ſmall city of Latium, and at Otricoli, a city of Umbria; the remains of one are found near the Garigliano, formerly the river Lyris. At Puzzuoli ſome of the arches and cells of another are ſtill exiſting. There are veſtiges of one at the foot of Mount Caſſino, near the houſe of Varro, and of one at Pœſtum in Lucania; of others at Syracuſe, Agrigentum, and Catania in Sicily; at Gortina and Gerapitna in Candia, and at Argos and Corinth in Greece. In France there was one at Arles, and one at Autún. The latter, it is ſaid, conſiſted of four ſtories, like the coliſeum. There are alſo veſtiges of amphitheatres in Britain, near Sandwich in Kent, at Caerleon in Monmouthſhire, (the *Iſca Silurum* of the Romans), and in other places.

But it cannot be ſuppoſed that all theſe amphitheatres could deſerve to be named as edifices, when compared with the original model, "*the Flavian Amphitheatre.*" Some were little more than natural vallies, with benches cut in the declivities of the ſurrounding hills like the amphitheatre at Corinth. In ſome places benches of ſtone were placed on the declivities of two hills, and the ellipſis completed by works of maſonry at the extremities, like that of Gortina in Candia. Some were elliptical excavations with benches of turf, like that near Sandwich in Kent, and moſt of the Caſtrenſian amphitheatres (for ſuch was the general rage for amphitheatric diverſions, that ſcarcely any camp, or fixed military ſtation, was without its amphitheatre of turf or timber). Some were partly excavated and partly conſtructed with maſonry, like the amphitheatres of Pœſtum and Caerleon; ſome had their exterior circuit conſtructed of maſonry, and the ſeats and ſtaircaſes of timber, like that of Pola in

in Iſtria; while others aroſe on a ſimilar plan, and with nearly the ſame ornaments of architecture as the Flavian amphitheatre. Such were the amphitheatres of Capua, Verona, Nimes, and Autun.

In theſe various ſtructures, the combats of gladiators and the battles of beaſts continued to be exhibited for near 250 years, in which time an incredible number of beaſts and men were deſtroyed, and not unfrequently were they ſanctified by the blood of the early Chriſtians, who were devoured at a ſtake, or compelled to fight, for the gratification of the Pagan populace. At length Providence ordained that Chriſtianity ſhould become the religion of the ſtate, and its lenient ſpirit gradually changed the barbarous amuſements of the ancient world for others more congenial to the humanity of its doctrines. In the year of our Lord 325, Conſtantine the Great prohibited by law the exhibition of gladiatory combats in the eaſt, but they were not finally aboliſhed in Rome till the reign of Honorius, who, in the beginning of the fifth century, baniſhed all profeſſional gladiators out of the country. This was occaſioned by the murder of a monk named Telemachus, who, on ſome ſolemn day, was deſtroyed by the people, while he was exhorting them to deſiſt from their ſanguinary diverſions. The combats of wild beaſts, however, continued both in the eaſtern and weſtern empires for ſome time after theſe events, but gradually became leſs frequent and leſs magnificent, till in the courſe of the ſixth century, they were every where totally aboliſhed; and amphitheatres being diſuſed for theſe purpoſes, were, in a great degree, abandoned to the depredations of men and the injuries of weather. At Verona and other places, during the middle ages, they were ſometimes uſed for judicial combats and for tilts and tournaments; but theſe cuſtoms having alſo paſt away, they have ſince fallen into general neglect, and conſequent ruin.

It is not eaſy by a verbal deſcription to convey an adequate idea of the conſtruction of an amphitheatre, and the means by which ſuch a number of perſons crowding to theſe edifices could have ingreſs and egreſs without confuſion; but, with the aſſiſtance of the ſectional diagram in *Plate* II. of *Architecture*, and an occaſional reference to the plans and ſections of ſuch amphitheatres as yet remain, theſe particulars may be eaſily underſtood. We have already obſerved, that the exterior circuit conſiſted of two or more ſtories of arcades; theſe varied in number according to the extent of the amphitheatre. On the ground floor they opened to an equal number of arched paſſages, and ſtaircaſes, tending like radii towards the arena, and were interſected by two or more arched paſſages, or CORRIDORS, that ſurrounded the whole edifice, and gave an uninterrupted communication to every part. Sometimes in the middle o the fabric there was an intermediate gallery, which, like thoſe on the ground floor, ſurrounded the whole, and ſerved as a common landing-place to all the ſtaircaſes that led to the higher galleries, as in the amphitheatre of Nimes; and ſometimes each ſtaircaſe had its diſtinct landing, without any gallery of general communication, as in the amphitheatre of Verona. Of the radiating paſſages the four which were placed on the diameters of the ellipſis were uſually made wider than the reſt, and were alſo, by lateral arches, laid open to the adjoining paſſages on either ſide of them. Thoſe two which were placed on the ſhorter diameter were the principal entrances, by which the emperor, the ſenate, and other diſtinguiſhed perſonages were conducted to their ſeats on the PODIUM. The other two led directly into the arena by large arched gateways, and were appropriated to the beaſts and gladiators, who probably entered in ſome proceſſional manner, that required more width and elevation than the ordinary inlets. Theſe interior gateways ſtill exiſt at the extremities of the ellipſis, in the amphitheatres of Verona and Pœſtum, and in the former interrupt the continuity of the lower benches. Through the other paſſages the different orders of the people paſſed to the ſtaircaſes which led to their reſpective ſeats; and as every arch in the exterior circuit was numbered, and alſo the CUNEI, which ſeparated the people into claſſes, in the manner we ſhall hereafter mention, every one knew the paſſage which would conduct him to the place aſſigned by the laws of the amphitheatre to his rank and condition. Thoſe perſons whoſe dignity entitled them to a ſeat on the podium paſſed forward to the ſtaircaſe A, and aſcended to the doorways that opened upon that diſtinguiſhed place. Thoſe of the Equeſtrian order, or of ſuch rank as entitled them to a ſeat in the diviſion of benches next above the podium, aſcended by the ſtaircaſe B; while the other claſſes made uſe of the ſtaircaſe C, which aroſe to the floor of the intermediate landing or corridor E; and then either aſcended by the ſtaircaſe F to the ſecond diviſion of benches, or by the ſtaircaſe D to the ſecond exterior corridor, and from thence by the ſtaircaſe G to the third diviſion of benches, and higher ſtill by other ſtaircaſes in a different direction, to the third exterior corridor, which communicated with the uppermoſt diviſion of benches. Thoſe different ſtaircaſes were reſpectively oppoſite to different arches, and approached by diſtinct paſſages, though, for the ſake of perſpicuity, we have repreſented them in a ſingle diagram.

The doorways, which opened from the ſtairs and paſſages, were denominated VOMITORIES. The number of theſe varied, according to the ſize of the amphitheatre, and the number of exterior arches. In the amphitheatre of Verona there were 60 of them, placed in four elliptical rows alternately over alternate radii, ſo that the firſt and third were on one radius, and the ſecond and fourth on another. In the higheſt circuit there were 16, in the next to it 16, placed at equal diſtances, in the next to that 16, but not all at equal diſtances, as the BALCONIES over the great gates of entrance to the arena occupied the places of two at the extremities of the ellipſis; but the number was ſupplied by two over the ſhorter diameter, where otherwiſe there would have been but one. On the lower line there were 12 which opened upon the podium. The number of benches between the ſeveral ranges of vomitories was unequal, and probably was not determined by any poſitive rule. The benches were about two feet four inches broad, and one foot eight inches high. Before every range of vomitories one bench was omitted, which left a platform four feet eight inches broad, (having a wall on the aſcending ſide three feet four inches high) which encompaſſed the whole, and ſerved as a communication to all the vomitories on the ſame level. Theſe platforms were called PRECINCTIONS, and the fronts of the walls, which bounded them on one ſide, were denominated BELTS. The latter were ſometimes embelliſhed with Moſaic work, and ſurmounted by BALLUSTRADES, to protect thoſe from falling, who were ſeated on the benches immediately above them. The podium was a platform that ſurrounded the arena, more ſpacious than the precinctions. Oppoſite to every vomitory a flight of ſtairs, two feet ſix inches wide, deſcended from one precinction to the belt or balluſtrade of the other. In the top of the benches, and cloſe to the edges adjoining to the ſtairs, ſmall channels were cut, by which the rain-water or urine flowed from bench to bench, till it reached certain pipes or conduits that conveyed it to the drains below. As theſe ſtairs radiated from the uppermoſt bench to the podium, they, with the precinctions, divided the whole interior concavity into wedge,

like portions, in which the ſpectators were ſeated according to their rank. Theſe were the Cunei, ſo frequently mentioned by writers, and which do not appear to have been well underſtood, has the term as been applied to very different parts of the amphitheatre. That the people both in the theatres and amphitheatres were placed in wedge-like diviſions, we learn from various paſſages in ancient authors. Apuleius ſays, ſuch ſpectators as could not get places on the marble benches, but ſtood in the paſſages or on the ſtairs, were "unwedged;" and Tacitus informs us, that when Nero placed ſoldiers in the amphitheatre to applaud his performances, they were diſtributed through all the "wedges," that every part might ring with applauſe.

With regard to the laws by which the people were arranged in amphitheatres, our information is very imperfect; but we may preſume the ſame regulations applied to amphitheatres and theatres, as far as the forms of the edifices coincided. We know that perſons of the higheſt dignity had their places on the podium, and in the middle of one ſide of it was the emperor's PAVILION, called the SUGGESTUM. Several of the wedges were aſſigned to the ſenatorial order, as the podium was not ſufficiently ſpacious to contain all the ſenators and other dignified perſons. Other *Cunei* were allotted to the Equeſtrian order, with whom the Tribunes, both civil and military, took their ſeats, of which the number was very great, as every man who had once filled the office retained the rank. The *Liberti* were cautiouſly excluded from theſe orders, and even the *Legati* were prohibited by Auguſtus from ſitting among the ſenators, becauſe ſome Liberti had been ſent in that character. The married men had places diſtinct from the unmarried. The young men had their appropriate ſeats, and their tutors ſat in other ſeats near them, that they might obſerve their behaviour. The attendants and official ſervants of dignified perſons had ſeats conſtructed of wood in the higher parts of the building. The places for the veſtals were on the podium, and the princeſſes and ladies of high diſtinction frequently ſat with them; but the front of the gallery, which roſe above the gradations of benches, was eſpecially appropriated to the women, where they ſat on chairs, and the loweſt order of the Plebeians ſtood behind them. Theſe were the leading diſtinctions of rank and claſſes; but for popular accommodation different wedges were, in all probability, allotted to different tribes. The Cunei were all numbered as before mentioned; but it is a miſtake to imagine that every man had his particular ſeat numbered and ticketed, for ſometimes all the Cunei were filled, and the precinctions, and ſtairs ſo crowded, that many perſons who were entitled to places within certain precincts, were obliged to aſcend to the gallery, and mingle with the plebeians behind the women. By ſuch arrangements as we have ſpecified, which relate chiefly to the Roman amphitheatre, and which undoubtedly were varied in the provinces, as the ranks and claſſes of people differed from thoſe of Rome, all confuſion and diſorder were avoided. The general care of the amphitheatre was given to an officer named the VILLICUS AMPHITHEATRI, and the Cunei were under the direction of other officers, called LOCARII. The ſtricteſt attention was exerted to prevent any one from occupying a place to which he was not entitled; and if a man was wrongfully compelled to quit a ſeat he had taken, he conſidered himſelf as degraded and injured. See *Plate* VII. of *Architecture*.

The front of the podium, next the arena, was defended by ſtrong netting and rails of iron, armed with ſpikes, and alſo with ſtrong rollers of timber which turned vertically, to prevent the hunted animals from leaping over. The emperor's pavilion was lined with ſilk, and otherwiſe highly embelliſhed. The ſeats of the principal perſons were covered with cuſhions, the marble benches in general with boards, and over all an awning of woollen of different colours, called the VELUM, was occaſionally ſtretched to protect the ſpectators from the ſun and rain, which, by means of pullies and cords, could be let down and drawn up at pleaſure. Theſe articles, which may be denominated the furniture, were almoſt the only combuſtible parts of the fabric, and in the Flavian amphitheatre they were, at different times, deſtroyed by lightning, and particularly in the reign of Macrinus, when ſo much damage was done to that building, that the public games were performed in the circus for ſeveral years after.

It has been aſſerted that amphitheatres had an underground ſtory, conſiſting of numerous dens and cells, in which the beaſts were kept for the games; but whoever conſiders the ſpace which, on the ground ſtory, was neceſſary for the ingreſs and egreſs of the people, and the difficulty of getting light, however ſmall the quantity requiſite, and of gaining convenient entrances to theſe ſubterraneous places, to ſay nothing of the inſufferable ſtench that the food and ordure ſuch numbers of animals would occaſion, will at leaſt acknowledge this to be improbable. As the coliſeum has not been examined to the foundations, we can ſay nothing with certainty with regard to the ſubterraneous parts of that fabric; but the amphitheatre of Verona was cleared in many places by Maffei, and nothing found but drains (ſee *Plate* VIII. of *Architecture*), which received the rain and other waters conveyed from above by channels in the ſtaircaſes. Among the paſſages, and under the ſtairs on the ground ſtory, are many cells and rooms that were probably priſons for criminals condemned to fight, or be devoured, in which the beaſts might occaſionally be ſtabled; but there is nothing to juſtify a conjecture that animals were conſtantly kept there. On the contrary, we learn from a paſſage in St. Chryſoſtom, that the beaſts intended for the public games were kept in the environs of cities, and Procopius makes particular mention of a ſpacious place in Rome called the VIVARIUM, appropriated to that uſe. It appears, that Lipſius and others were led to conjecture that animals were kept under the amphitheatre, by ſome paſſages in ancient authors, which deſcribe them as coming from ſubterraneous places into the arena. But it was ſometimes the practice to give novelty to the games, by erecting pieces of machinery on the arena, repreſenting mountains, on which real trees were planted, and under them hidden caves were formed, from whence the animals ruſhed out to encounter the combatants, or to devour their victims. It was probably to theſe caverns that ſuch ancient authors alluded, and not to any permanent caverns conſtructed under the amphitheatre.

Of the amphitheatres which merit particular notice, the coliſeum ſtands foremoſt in order of time and in magnitude. It was an ellipſis, whoſe longeſt diameter was about 615 Engliſh feet ſix inches, and the ſhorter 510 feet. The longer diameter of the arena was about 281 feet and the ſhorter 176 feet, leaving a circuit for the ſeats and galleries of about 157 feet in breadth. The external circumference, when complete, was about 1770 feet, covering a ſuperficies of about 246,651 feet, or ſomething more than five acres and a half, and could barely be included in a parallelogram of ſeven acres. Theſe dimenſions are taken from Deſgodetz, who appears to have examined the remains of this edifice with great care, and to have corrected many miſtakes of Serlio and Fontana.

The external elevation of the coliſeum conſiſted of three ſtories of arcades reſpectively embelliſhed with columns of the Doric, Ionic, and Corinthian orders; and an incloſed

PILASTRADE of the Corinthian order that aſcended to the uppermoſt cornice. The firſt ſtory of arcades was raiſed four ſteps, or about three feet ſix inches, above the ground, and the baſes of the columns ſtood on the pavement. In the two ſuperior ſtories the PIERS and columns were elevated on ſtylobatae or continued PEDESTALS, which ſerved as PARAPETS to the corridors. The pilaſtrade was alſo elevated on a STYLOBATA, in which were the windows of an intermediate gallery, and in every ſecond INTERPILASTER was another window that lighted the higheſt gallery. The building was crowned by a CANTALIVER CORNICE perforated with ſquare holes, three in each inter-pilaſter, through which the upright pieces of timber that ſupported the awning were paſſed to a range of CORBELS about the middle of the pilaſtrade. Theſe ſeveral ſtories of columns and pilaſters appear to have been continued, without break or interruption, round the whole external circuit; although on ſome medals, engraved by Maffei, there is a repreſentation of a PORTICO on one ſide, as if intended for the principal entrance. Whether this was ever executed, and in what manner, cannot now be determined, as there are no veſtiges of ſuch an additional ſtructure, unleſs the mutilations over the central arch, on the ſide next the Imperial palace, may be conſidered in that light. Piranezi ſays, that in this place there was a bridge which communicated with the portico of Claudius. The height of the firſt ſtory from the pavement to the top of the cornice is about 33 feet 6 inches, the ſecond about 39 feet, and of the third about 38 feet, of the pilaſtrade about 46 feet, and the whole height, including the ſteps and BLOCKING COURSE, about 164 feet. See *Plate* IV. of *Architecture*.

On the ground plan the exterior circuit of the ellipſis conſiſted of eighty open arches; the piers of which were about ſeven Engliſh feet, one inch broad, having three-quarter-columns in front of about two feet ten inches diameter; ſeventy-ſix of the arches were each about 13 feet 8 inches wide, and the four which anſwered to the four ſemi-diameters, about 14 feet two inches. Theſe arches opened into a ſpacious double corridor, that encompaſſed the whole, from thence radiated eighty paſſages and ſtaircaſes, which either led to two interior corridors and the arena, or aſcended to the galleries and vomitories above. This double corridor is a grand and diſtinguiſhing feature in the plan of the coliſeum. The firſt interior corridor was lighted by ſquare apertures in the floor of the precinction over it, and the corridor adjoining to the wall of the podium was probably lighted in the ſame manner. The ſecond ſtory had a double corridor over that on the ground ſtory, connected by paſſages on the ſame level, with an interior corridor from whence ſtairs, on one hand, aſcended to the ſecond range of vomitories, and on the other to an intermediate corridor, which formed an ENTRESOL or MEZZANINE-floor, over the interior circuit of the double corridor. In this mezzanine gallery, which was lighted by ſquare apertures in the floor of the gallery over it, the ſtairs commenced that roſe to the next ſtory. The third ſtory conſiſted of a double corridor, and muſt have contained the ſtairs that communicated with the galleries above, but it is too much in ruin to be accurately traced. In the interior wall are ſome windows, and the doorways or vomitories that opened on the uppermoſt cunei of benches. The fourth ſtory, in all likelihood, was that appointed for the women, and on the exterior wall there are veſtiges of ſtairs that led to the fifth gallery, which we conjecture was that allotted to ſervants, and furniſhed with benches of timber. This gallery contained four ſtaircaſes that led to a ſixth floor, which was, perhaps, appropriated to thoſe who managed the velum and had no other covering, and from this floor the four ſtaircaſes continued to the parapet or blocking courſe, which crowned the exterior wall. Theſe three upper floors were all comprehended externally in the pilaſtrade, but how their interior fronts were finiſhed we know not: we may, however, preſume, that they were ſo conſtructed, probably of timber, as to give the leaſt poſſible obſtruction to the proſpect, and perhaps nearly in the manner we have repreſented them in the perſpective ſection, *Plate* V. of *Architecture*, which with the plans in *Plate* III., and the ſections in *Plate* IV. will ſufficiently explain the conſtruction of this edifice.

The exterior circuit of the coliſeum is built of Travertine-ſtone, cramped together with iron without cement. The piers of the double corridor, the VOUSSOIRS of the arches, the heads of the partition walls and ſome BONDING COURSES are of the ſame kind of ſtone. The reſt is of brick. The OFFSETS of the front walls are all made on the outſide, ſo that its interior face is nearly perpendicular. Some of the internal walls have remains of ornaments in plaſter, and in others they are lined with marble. The floors of the corridors are paved with ſmall flat bricks and covered with a hard incruſtation of STUCCO. The columns in the three ſtories and the pilaſters are all of one diameter. The diminution of the columns commences from the third part of their height. In the firſt and ſecond orders they are three-quarter columns; in the third order ſemi-columns. The VOLUTES of the Ionic capitals, and the foliage and other embelliſhments of the Corinthian capitals, are only rough-hewn or BOSTED. All the mouldings except the IMPOSTS of the arches have the SOFFITS of their projections ſloping upwards or higher in front than rear, and in the ſame degree in the mouldings of the firſt order as in thoſe at the top of the edifice. This was frequently practiſed by the architects of antiquity, for the purpoſe, as many have conjectured, of giving the mouldings a greater apparent projection; but, as Deſgodetz juſtly obſerves, if the mouldings have in reality their due projection, to make them appear larger is to make them appear falſe, and as the ancients in all ſituations gave them the ſame degree of elevation, he thinks they had ſome other beſides optical reaſons for the practice. This edifice is not every where executed with exactneſs, many of the parts being out of level and larger in ſome places than others, perhaps the unavoidable conſequences of an immenſe number of perſons working upon ſuch an extenſive building at the ſame time, and the unequal ſettling of ſo many piers, placed upon a foundation of ſeventeen hundred feet.

This amphitheatre, according to Juſtus Lipſius, was capable of containing 87,000 ſpectators on the benches, to which number Fontana added 22,000 for the galleries, ſtaircaſes, and paſſages. But it will be found, that allowing two feet two inches to each ſeat, and 21 inches for each perſon, not quite ſo many as 50 thouſand could be contained on the benches, with the addition of one floor of the gallery, and ſuppoſing all the precincts and ſtaircaſes to be filled. If the higher galleries were completely crowded, perhaps about 30,000 more might be added, in all about 80,000; a number ſufficiently large without exaggeration.

A ſtructure of ſuch dimenſions, and of ſuch contrivance and ingenuity as that we have been deſcribing, throws into obſcurity the moſt magnificent works of the Greeks, and even when compared with the pyramids of Egypt, is more entitled to our praiſe, though leſs the object of vulgar admiration,

ration. The pyramids, if they be considered as buildings, are the works of barbarous grandeur, performed by ignorant labour, with little invention or ingenuity. The colifeum could not have been constructed till the art of building had arrived at its highest perfection, and probably would never have been constructed if the arch had not been invented, and its powers determined both experimentally and mathematically fome short space of time preceding. This, however, is conjecture. When this edifice was complete, its external afpect muft have been ftrikingly grand, from its magnitude, its loftinefs, and fimplicity of form; and the immenfity of its interior concavity, efpecially when crowded with [illegible] perfons, muft have been in the higheft degree impofing. Even now, when its benches and galleries are in ruins, and the arena filled with the accumulated rubbifh of twelve centuries, its remains are contemplated with aftonifhment. Yet this magnificent edifice, if it was completed by Titus, was erected in two years and nine months, a wonderful example of the energy of the Romans! However, there is a tradition in Rome, that 15,000 men were employed upon it for ten years, which, if true, will place the time of its being completed far in the reign of Domitian, though it was certainly dedicated, and the firft games exhibited within it, before the death of his brother. The colifeum has been pillaged greatly at various times, but moft by Michael Angelo, who carried away near one-half of the outward wall to build the Palazzo Farnefe. Pope Benedict XIV. to ftop thefe depredations, confecrated the ruins, and erected feveral altars, which on Fridays and Sundays were, before the French revolution, much frequented by devotees. A fmall building near the centre was furnifhed with accommodations for a hermit, who conftantly refided there to guard the facred relicts from the rude hands of ignorance and impiety, an office which we hope is ftill continued.

Of the amphitheatre of Verona only four arches of the external circuit were remaining at the beginning of the 18th century. They confift of three ftories of *unwrought* RUSTIC arcades, of which the two lower ftories were embellifhed with rufticated pilafters and entablatures, affignable to no legitimate order. In the third ftory, there were no pilafters, but capitals are executed under the architrave, as if pilafters had been originally intended. On the top of the higheft cornice there are two mutilated courfes of ruftic work, like the reft of the front, and the beginning of two plain pillars which has been fuppofed the commencement of a fourth ftory. The height of the three exifting ftories is about 90 Englifh feet. The whole of the edifice was erected without any cement, the ftones being nicely joined and fecured by iron cramps, covered with lead. The longer diameter of the ellipfis was 500 Englifh feet. The fhorter 405 feet. The arena was about 247 feet by 145. The exterior circuit was 1451 feet. The fuperficies 204.930 feet, or four acres and nearly one third of an acre.

The exterior circuit was divided into 72 arches, opening into a fingle corridor, furrounding the whole fabric, from whence radiated 72 paffages and ftaircafes, interfected by two other furrounding corridors. The greateft part of thefe exift, and by confulting the plans and fection in *Plates* VI. and VII. of *Architecture,* a clear idea may be obtained of their conftruction. The two grand entrances at the ends of the ellipfis were confiderably wider than the other paffages, and nearly of an uniform width from one end to the other. The GROOVES in the jambs of the remaining external piers fhew that the arches have been inclofed by gates; but whether this was the cafe at Rome and other places we know not. By the plan of the fecond ftory we find that the outward corridor was croffed by eight ftaircafes, which, rifing over the circuitous paffage-way, conducted the fpectators to the third corridor, and the uppermoft vomitories. The benches of this amphitheatre, 45 in number, remain, but not in their original places, having been moved and altered according to Maffei in the repairs, which the citizens of Verona, much to their honour, have from time to time made to this edifice. By contriving to make it occafionally ufeful as a place for public diverfions, they have preferved it from entire deftruction. As we drew our general defcription of the precinctions and cunei, as well as many other particulars, from this amphitheatre, it is unneceffary to repeat them here.

In *Plate* VIII. of *Architecture,* we have reprefented the fewers made for the purpofe of carrying off the water of the building. In the centre a well is obfervable that has no connection with the fewers, the ufe of which it is not eafy to conjecture, unlefs it was intended to receive fome maft or pole, erected for the purpofe of fupporting and working the velum. It is fix feet wide and very deep. The time of building this edifice is unknown, fome afcribe it to Auguftus, and others to the emperor Maximilian, but Maffei fuppofes it to have been conftructed by the citizens of Verona, during the reigns of Domitian and Nerva. The younger Pliny mentions a magnificent exhibition of gladiatory combats at Verona, which gives probability to the conjecture of Maffei. About 30,000 fpectators might have been crowded into this amphitheatre if the precinctions and ftaircafes, as well as the benches and gallery, were filled.

The elevation of the amphitheatre at Nimes confifted of two ftories of open arcades and an ATTIC. The lower ftory is very lofty, the arches tall and narrow, EXTRADOSSED, and feparated by buttreffes of two projections in the Gothic form, crowned by a Tufcan capital. A regular entablature encircles the building, and breaks in projection over every BUTTRESS. The fecond ftory is embellifhed with columns of the Tufcan order, feven diameters in height, over each of which the entablature breaks as in the order below. The arches on this ftory were originally defended by a parapet that rofe about three feet fix inches above the floor of the corridor, formed of one large flat ftone, with a funk PANNEL, on which various defigns were carved in bas-relief. On one which remains perfect, there is the reprefentation of a combat between two gladiators. The reft have been removed and their place fupplied by others of modern building. On the crown of the attic, directly over every pier, are two CONSOLES, projecting 20 inches before the face of the wall, pierced with a hole about eleven inches diameter. Through this hole the pole which fupported the velum was paffed to the cornice, where it refted in a focket of the fame dimenfions and about fix inches deep. Other holes are found in the benches at correfponding intervals, in which other poles were fixed, and the *velum* extended by pullies from one pole to another, as reprefented in *Plate* II. of *Architecture.* This method of fupporting the velum is more fimple than Fontana's, but it fhades only the upper ranges of benches, and leaves thofe where the perfons of higheft rank were feated, expofed to the weather; yet if we conjecture rightly as to the ufe of the well in the Veronian arena, the velum might have been further extended by other cords attached to a maft in the centre. See *Plates* II. and IX. of *Architecture.*

The exterior circuit confifts of 60 open arches, of which four at the extremities of the diameters " are ornamented with

with pediments, and formed the grand entrances." The other 56 led to the paſſages and ſtaircaſes, interſected by two corridors which encompaſſed the whole; one in the exterior of the building, and one near the wall of the podium which received light by iron grates from the arena. Another interior corridor or gallery, ſituated near the middle of the building, and nearly at equal diſtances of height between the two exterior ſtories, forms the common landing of the ſtaircaſes, and communicates both with the exterior gallery on the ſecond ſtory and the benches. The ſpectators aſcended by 20 ſteps, each nine inches high and twelve broad, into the intermediate gallery, and by 20 more into the exterior one on the ſecond ſtory. There is a fifth gallery in the attic, which was approached by narrow ſtairs, wrought in the body of the wall, and probably intended for the *velarii* or ſervants who managed the *velum*. This amphitheatre had no covered gallery ſurmounting the benches and looking upon the arena, like thoſe of Rome and Verona. All the radiating paſſages, as well as the four grand entrances, regularly decreaſed in height and width from the exterior corridor to the wall of the podium. It was the ſame in the amphitheatre at Arles, as may be ſeen in the only paſſage remaining.

The longeſt diameter of this edifice, extending from eaſt to weſt, is, according to Beaumont, corrected by another account, about 430 Engliſh feet, the ſhorter diameter 338 feet, and the whole height 76 feet ſix inches. The ſuperficies 126,273 feet, or ſomething leſs than three acres. The benches were originally 32 in number, from 18 to 24 inches high and from 18 to 24 in breadth. They were approached by three rows of vomitories, and were capable of containing about 17,000 ſpectators. The ſtones with which this fabric is conſtructed are of very large dimenſions; ſometimes cemented and ſometimes fixed with iron cramps and lead. In ſeveral places the impoſt of the piers is a ſingle ſtone, nine feet long, ſeven feet broad, and between two and three feet thick, and many of the ſtones, which form the benches, are eighteen feet long, two feet broad, and one foot eight inches high.

The viciſſitudes of the amphitheatre of Nimes upon record, are ſo numerous that it is wonderful it ſhould have been preſerved ſo well as it now appears. In the year 472 it fell under the dominion of the Viſigoths, who ſurrounded it with a ditch, built a caſtle within it, and converted it into a citadel. Part of the towers of the caſtle ſtill remains; but the ditch was filled up in the 13th century. In 720 it was taken by the Saracens, who were driven from it in 737 by Charles Martel. After that time it was occupied as a fortreſs by the counts of Provence, who ſuſtained a number of attacks in it, and built a church and a palace on the arena. The ſteeple of the church is ſtill in exiſtence. In 1226 the knights, who then guarded the citadel, yielded it to Lewis the VIII., and in 1391 it ceaſed to be a fortreſs and was evacuated, though the houſes continued. In 1533, that poliſhed monarch Francis the Firſt directed it to be cleared, which his ſubſequent misfortunes prevented from being done, and ſimilar orders were given by the late unfortunate Lewis the XVI., but the work has not yet been compleated.

Governor Pownall, who viſited Nimes in 1785, ſays, that the amphitheatre was filled with houſes arranged in ſtreets, and looked like a little walled town. The galleries on the ground ſtory and the intermediate gallery were converted into numberleſs miſerable habitations, but the exterior gallery of the ſecond ſtory and that in the attic were perfectly unencumbered as in their original ſtate. The date of this building is uncertain: but Monſ. Menard conjectures it was erected by Antonine, which places it between the years 138 and 161.

What remains of the amphitheatre at Pola, in Iſtria, is a ſingle elliptical wall of 72 arches, built on the declivity of a hill, having on the weſtern ſide, which looked towards the ſea, two ruſtic arcade ſtories with ruſtic Tuſcan pilaſters and entablatures, and on the oppoſite ſide only one arcade ſtory, the firſt being gradually loſt in the ſlope of the hill. Above the arcades is an attic ſtory of ruſtic wall, with 72 windows, which ſurrounds the whole, and in it are grooves and corbels for the poles that ſupported the velum. At the haunches of the ellipſis are four projecting buildings or towers, of two arches in width, having windows curiouſly filled with reticulated ſtone work in the attic, and doors and windows on every ſtory towards the arena. The ſecond ſtory of exterior arches in theſe projecting buildings are cloſed up as high as the impoſts, and the ſemicircle is filled with upright MULLIONS of ſtone like the loopholes of an Engliſh barn. Theſe towers have been called COUNTERFORTS by Serlio and others, but in all likelihood they were made for another purpoſe, as will be mentioned hereafter.

The whole of the exterior circuit of this edifice, excepting a very few yards of the parapet, was remaining when it was viſited by Maffei, and appeared with extraordinary beauty when viewed from the ſea. It was built with ſtones cramped together without cement. All the benches and other interior parts which were originally conſtructed of timber had long been deſtroyed. The longer diameter of the ellipſis is about 416 Engliſh feet, the ſhorter diameter about 337 feet. The circuit about 1182 feet, the ſuperficies 123012 feet, or about two acres and ſeven-eighths of an acre.

The Marquis Scipio Maffei, whoſe attachment to Verona made him unwilling to believe that amphitheatres exiſted in other places, inſpected this incloſure, and pronounced it to have been a theatre only, aſſigning the ſlope of the hill to the benches for the ſpectators, and the oppoſite ſide which is nearly level, to the orcheſtra and ſtage. The two towers on the weſtern ſide he ſuppoſed to have been conſtructed to repreſent the houſes in the ancient ſcene, and the other two on the eaſtern ſide to have been built for the ſake of uniformity only. All this appears highly improbable. The erecting of ſuch an extent of elliptical arcades as half this incloſure, for the actors, would have been a waſte of labour and expence to produce a work but ill adapted to its uſe, and if the towers had been intended to repreſent the fronts of houſes, they would not have had doors and windows on both the upper ſtories, as well as the arches which gave entrance on the ground ſtory; nor would ſuch appendages have been erected on the oppoſite ſide for the ſake of uniformity, when, in no point of view, they could be ſeen together. It is much more likely that the architect took advantage of the ſlope of the hill to place his benches on one ſide, and conſtructed them of timber on the other, and made the ſtaircaſes to the higher ranges in the four towers, which conjecture renders them uſeful as well as uniform, on every ſide. It is ſaid that veſtiges of ſuch ſtaircaſes actually exiſt, but if they did not, the diſpoſition of the apertures would juſtify the concluſion. There can be no doubt but the interior of this amphitheatre was filled with benches as high as the ſecond ſtory of arcades, and had a covered gallery on the attic ſtory. If this be not admitted we may aſk, why was there a range of windows in the attic ſtory? and for what uſe was the cornice or coping of the wall formed

to mad into a gutter, made to receive rain water from a roof?

The amphitheatre of Pœſtum is one of thoſe which had the arena and part of the benches ſunk below the ſurface of the earth and the excavation, encompaſſed by other benches and an arched ſtructure of ſtone. Neither Major's work on the ruins of Pœſtum, nor the Italian work on the ſame ſubject, publiſhed at Rome in 1784, by the Rev. Father Paul Antonio Paoli, enable us to form a clear idea of its conſtruction, or even the exact ſtate of its remains, and it would not have merited particular attention if it had not been made the baſis of an hypotheſis reſpecting the origin and progreſs of theſe edifices, which, however ſimple and pleaſing, does not appear to be true. The reverend father conjectures that the firſt public ſpectacles were given in ſmall vallies, and that the ſpectators beheld them from the declivities of ſurrounding hills. That afterwards, when they were exhibited in cities, excavations were made in the earth, and encompaſſed with benches of turf, upon which the people enjoyed their diverſions without incommoding one another. That the greater the number to be accommodated the more they ſunk the arena, and increaſed the ſurrounding ſlope; and finally, that they inclo ed it with walls of maſonry, and added other benches of ſtone till it was capacious enough to contain a vaſt multitude of ſpectators. This, he thinks, was the firſt method of forming amphitheatres, which the Romans improved into the magnificent ſtructures we have been deſcribing. The amphitheatre of Pœſtum he conſiders as an example of this ancient method, and ſuppoſing the excavated part to be of great antiquity aſcends to the time of the Etrurians, and adopts the opinions which we have briefly controverted in the beginning of this article. But, however plauſible this theory may be, if it depends on the antiquity of the Pœſtum amphitheatre, its probability will decreaſe in proportion as that antiquity becomes doubtful. The remains of this amphitheatre are indeed ſituated among temples, which are believed, though perhaps erroneouſly, to be very ancient; but it is difficult to believe that a city, which could erect ſuch temples, would be content with a ſimple excavation for the place of its public amuſements. As to the part which was built of ſtone, the arches at either end of the elliptical incloſure, prove it to be the work of a much later period; and if our conjecture be well founded that the invention of the arch and the firſt conſtruction of ſtone amphitheatres were nearly coeval, if not reciprocally the cauſes of each other, the date of that part will be fixed in the reigns of the firſt emperors, when the fame of the coliſeum and the paſſion for public ſpectacles ſpread through all the Roman provinces and tributary nations, and every country endeavoured to imitate in the manner beſt ſuited to its population and riches the amphitheatre of Rome. But in whatever age the amphitheatre of Pœſtum was made, its form alone is no proof of its antiquity, as the amphitheatre of Caerleon was formed in the ſame manner, and Britain might with equal reaſon produce it as an example of the earlieſt mode of forming amphitheatres, and from ſuch evidence contend with Lucania or Etruria for the honour of the invention. The length of the Pœſtum amphitheatre was about 211 feet, its width 151 feet, the ſuperficies 31861 feet, or about three quarters of an acre.

In the five different amphitheatres which we have deſcribed, will be found the principal varieties of theſe edifices in a gradation that may be amuſing to thoſe who will take the trouble to compare them. The dimenſions have been collected from the beſt authorities; and the calculations made and examined with care; but ſuch is the difference among authors in this reſpect, that the more we have conſulted the greater has been our uncertainty. Thus Beaumont gives the dimenſions of the amphitheatre of Nimes as 438 by 338 feet, while Governor Pownall ſtates them to be 400 by 300, and the difference between Fontana and Deſgodetz, with regard to the coliſeum, is not leſs conſiderable. Who can wonder that the dimenſions of the pyramids ſhould have remained doubtful from the days of Herodotus to the preſent, when we are uncertain as to the exact ſizes of objects in a manner under our eyes.

The writers on amphitheatres, moſt worthy of regard are the learned Juſtus Lipſius and the celebrated marquis Scipio Maffei. To the latter we have been greatly indebted, though we have not always adopted his opinions. Serlio, who deſcribed the ancient buildings of Italy, about the middle of the 16th century, deſerves more attention than he has received. His prints of the coliſeum, though rudely executed, and in places, incorrect, preſerve ſome particulars which later authors have omitted. The ſplendid work of Fontana on the ſame ſubject is very ingenious, but inaccurate, and full of improbable conjectures; we have, therefore, followed Deſgodetz in preference, who has trodden in the ſteps of Serlio, corrected his errors, and ſupplied his deficiencies; but even the plates of Deſgodetz are in a few inſtances incorrect and inconſiſtent with one another. Governor Pownall's "Antiquities of the Provincia Romana of Gaul," and Auguſtus Beaumont's "Select Views of Antiquities in the South of France," furniſh much information relative to the amphitheatre of Nimes and amphitheatres in general. "The Ruine della Citta di Peſto," by Father Paoli, contains ſome amuſing ſpeculations which are rendered doubtful by the amphitheatre of Caerleon, as deſcribed by Giraldus Cambrenſis, and that intelligent traveller Mr. Cox, in his "Tour in Monmouthſhire." Numberleſs other notices may be found in writers on local antiquities that illuſtrate this ſubject; a ſubject equally intereſting to the architect and the antiquary.

Amphitheatre is uſed by the French for the ſeats at the lower end of a theatre which riſe above the parterre, oppoſite to the ſtage, and occupy the ſpace of the front boxes and a part of the pit of an Engliſh theatre. They alſo give this name to an apartment appropriated to public ſcientific lectures and diſcourſes, filled with ſeats, riſing one above another, either in a ſemicircular form, or encompaſſing the whole room like the ſeats of an ancient amphitheatre. In the former caſe the ſcholars are in front of the lecturer; in the latter, he is placed in the central area, and ſurrounded by his ſcholars. Such ſchools in England are denominated theatres, as the theatre of the Univerſity of Oxford, the anatomical theatre at Surgeon's Hall, and the theatre of the Royal Inſtitute, in London.

Amphitheatre, in *Gardening*, is a lofty terrace, aſcended by flights of ſteps either ſtraight or circular, ſupported by banks and ſlopes of turf in various forms, and uſed to terminate the view from an alley or an opening in a thicket. This mode of decoration is alſo employed to give regularity to the ſide of a hill, and to gain an eaſy aſcent by means of ſlopes and platforms of turf to the ſummit. The banks and ſlopes are frequently embelliſhed with ſtatues, fountains, vaſes of flowers, clipt-yews, ſhrubs, and dwarf-trees, and ſometimes behind theſe are planted trees of nobler ſize, ſuch as pines and cedars. A taſte for gardening more conſonant to the beauties of natural landſcape, has nearly baniſhed this kind of amphitheatre from England; but it is not uncommon in gardens on the continent.

AMPHI-

AMPHITHURA, in *Eccleſiaſtical Antiquity*, a name given to the veil, or curtain, which divided the chancel from the reſt of the church.

The word is αμφιθυρα, thus called, on account of its opening in the middle, after the manner of folding doors.

AMPHITRION, in *Entomology*, a ſpecies of PAPILIO. Wings indented, above black, with an unequal yellow band; beneath, on the poſterior pair, a ſtripe of yellow dots, and blue lunulated marks. Linnæus. This is the Papilio Cambriſius of Cramer. The body is large, and without ſpots, general colour black, with an unequal row of yellow ſpots near the anal angle of the poſterior, but not connected with it. Under ſide of the poſterior wings black, with a ſtripe of ſeven large orbicular ſpots, and a ſtreak of blue lunulated marks, terminating at the anal angle in a yellow dot; the margin ſinuous with yellow. A native of America. Fabricius.

AMPHITRITE, Αμφιτριτη, from αμφι, and τριζω, *ſono*, in the *Heathen Mythology*, the wife of Neptune, daughter of Oceanus and Thetis, and goddeſs of the ſea, ſometimes taken for the ſea.

There was a ſtatue of Amphitrite in the temple of Neptune at Corinth, and another in the iſle of Tenos. Spanheim ſays, that ſhe is often repreſented like a Syren, with the upper part of the body to the waiſt like a female, and the lower part with the tail of a fiſh inſtead of limbs. Amphitrite was the mother of Triton. Two Nereids were alſo called by this name.

AMPHITRITE, in *Natural Hiſtory*, a genus of the MOLLUSCA order in the claſs of VERMES. The body is protruded from a tube, and is annulated; peduncle warted; feelers acuminated, approximated and feathered; and it is deſtitute of eyes. Linnæus. The ſpecies of this genus are Reniformis, Pencillus, Ventilabrum, Auricoma, Criſtata, Chryſocephala, and Plumoſa, which ſee.

AMPHITRYON, in *Mythological Hiſtory*, the huſband of Alcmena, was the ſon of Alcæus, and the father of Hercules; but leſs diſtinguiſhed by his own exploits than by thoſe of Alcmena, which it is of no great importance to recite.

AMPHODONTA, compounded of αμφι, and οδους, *tooth*, in *Zoology*, a deſignation given to animals which have teeth in both jaws, the upper as well as under.

AMPHORA, in *Antiquity*, an earthen veſſel, which ſerved as a kind of liquid meaſure among the ancient Greeks and Romans.

It is called in Homer αμφιφορευς, from αμφι and φερω, and by *ſyncope*, αμφορευς, on account of its two *anſæ*, or *handles* for carriage. It is the ſame with the quadrantale. But we meet with two kinds of *amphoræ* in ancient writers, the Italic and Attic.

AMPHORA, *Italic*, was that uſed by the Romans, and which is, therefore, ſometimes called the Roman amphora. The Italian amphora was alſo called *quadrantale*, and ſometimes *cadus*. It contained 72 pounds of wine or water, 80 of oil, and 180 of honey.

The amphora was equal to 2 *urnæ*, or 3 *modii*, 6 *ſemodii*, 8 *congii*, 48 *ſextaries*, 96 *heminæ*, 192 *quartarii*, or 570 *cyathi*, amounting to about 7 gallons one pint, Engliſh wine meaſure. Arbuthnot.

The ancient amphoræ were either *ſeſſile*, *i. e.* ſuch as would ſtand, or *non ſeſſile*, terminating in a ſharp bottom. Of both which kinds, we meet with figures on ancient medals.

The *amphora capitolina* was the ſtandard of this meaſure, which was kept in the capitol, to adjuſt others by.

Suetonius tells us of a man, who ſtood for the quæſtorſhip, and who drank an amphora of wine at one meal with the emperor Tiberius. Suppoſing the amphora to have been a cube of four feet each ſide, as Politian aſſerts it to have been, we may venture to ſay, that ten of the greateſt drinkers on earth could not have emptied it. Buddæus's computation is much more reaſonable; he makes the amphora of wine amount to about $4\frac{1}{4}$ gallons Paris meaſure.

AMPHORA, *Attic*, was that uſed by the Greeks, and therefore ſometimes alſo called the Grecian amphora.

The Attic amphora was one-third part bigger than the Italic; ſo that as the latter contained 2 *urnæ*, or 48 *ſextaries*, the former contained 3 *urnæ*, or 72 *ſextaries*, amounting to about ten gallons $5\frac{1}{2}$ pints Engliſh wine meaſure. This was called αμφορευς, ſometimes alſo κεραμιον, and, by way of diſtinction from the Roman kind, μετρητης.

AMPHORA was ſometimes alſo uſed as a dry meaſure, containing three buſhels; the ſtandard whereof was kept at Rome in the capitol, to prevent falſe meaſures.

AMPHORA is alſo uſed to denote the largeſt liquid meaſure in uſe among the Venetians. The amphora contains four *bigots*, ſeventy-ſix *muſtachi*, or two boats, or *muids*.

AMPHORA, in *Aſtronomy*, a name given to the ſign more uſually called AQUARIUS.

AMPHORARIUM *vinum*, in *Antiquity*, denotes that which is drawn or poured into *amphoræ* or pitchers, by way of diſtinction from *vinum doliare*, or caſk wine.

The Romans had a method of keeping wine in amphoræ for many years, to ripen, by faſtening the lids tight down with pitch or gypſum, and placing them either in a place where the ſmoke came, or under ground. Colum. Re Ruſt. lib. i. cap. 6. Plin. Nat. Hiſt. tom. ii. lib 2.3. cap. 1.

AMPHORITES, a kind of poetical conteſt, which obtained in the iſland of Ægina; in which an ox was given to the perſon who produced the beſt dithyrambic verſes in honour of Bacchus.

AMPHOTEROPLON, among *Civilians*, denotes a kind of naval inſurance, where the inſurers run the riſque both in the going out and return of a veſſel.

In this ſenſe the word ſtands oppoſed to *heteroplon*, where only the voyage outwards is inſured.

AMPHOTIDES, in *Antiquity*, a kind of defence, or armour for the ears, worn by the ancient Pugiles, to prevent giving their adverſaries a handle by that part.

Authors have not been well acquainted with the nature and office of the amphotides. Some explain them as a ſort of helmet for covering the noſe and ears.

Fabretti firſt aſcertained their real uſe, from the figure of a Pugil, which had amphotides over its ears joined by a piece coming over the forehead, and tied with ſtrings under the chin.

AMPHRYSUS, in *Ancient Geography*, a town of Phocis, called AMBRYSUS.

AMPHRYSUS, or AMPHRYSSUS, is alſo the name of a river of Phthiotis in Theſſaly, which ran by the foot of Mount Othrys. Virgil, in ſpeaking of this river, alludes to the time when Apollo, being a ſhepherd, guarded the herds of king Admetus, whence he is called "paſtor ab Amphryſo," Georg. lib. iii. v. 2. This river is alſo mentioned by Callimachus, Apollonius, Ovid, and Lucan. Another Amphryſus in Phrygia is mentioned by Pliny, to which was aſcribed the property of rendering women barren.

AMPLA, in *Conchology*, a ſpecies of VOLUTA. Shell elongated, aperture large, lip acute, wreaths of the ſpire ſcarcely viſible. Linnæus.

AMPLEPIUS, in *Geography*, a town of France, in the department of the Rhone and Loire, and chief place of a canton,

canton, in the district of Ville Franche, four leagues east-south-east of Roanne, and five west of Ville Franche.

AMPLEXICAULE, in *Botany*, denotes embracing the stalk, and is applied to a leaf whose base embraces the stalk sideways. See LEAF.

AMPLIATION, in a general sense, is used by some writers for the act of enlarging the compass or extent of a thing.

On a medal of the emperor Antoninus Pius we find the title *ampliator civium* given him, on account of his having extended the *jus civitatis*, or right of citizenship, to many states and people, before excluded from that privilege. In effect, this prince is generally supposed to have made the famous constitution, whereby all the subjects of the empire were made citizens of Rome. M. Spanheim refutes this notion, and makes the emperor Caracalla to have been the author of that constitution.

AMPLIATION, in the Roman *Law*, denotes the act of deferring a judicial sentence, either because the cause was not clear, or in favour of him against whom it is to pass.

Ampliation differed from *comperendination*, as the former was granted on the mere motion or pleasure of the judge, the latter at the petition of one or both the parties. Besides, the former was not limited to any certain time, whereas the latter could not be extended beyond the third day. Besides, ampliation might be repealed, which comperendination might not.

The first introduction of ampliation was in favour of the *rei*, or persons accused. But it was afterwards used on other occasions; *e. gr.* when certain witnesses were wanting, or the crime or the fact had not been sufficiently proved for a final decision, or the kind or measure of punishment was not agreed on, &c.

In these cases the prætor signified his intention, by pronouncing the word *amplius*, or the letters *N. L.* for *non liquet*, by which he denoted that the cause was not clear, but that the second action must be brought.

The person whose sentence, whether of condemnation or absolution, was thus deferred, was said to be *ampliatus*.

Hence the phrases, *bis ampliatus, tertio absolutus est reus.* Liv. xliii. 2.

AMPLIATION is also used, among *Schoolmen*, to denote the acceptation of a term for a different time from that signified by the verb in the proposition, e. gr. *justus peccavit*, i. e. *before he sinned he was just.*

AMPLIFICATION, in *Rhetoric*, part of a discourse or speech wherein a crime is aggravated, a phrase or commendation heightened, or a narration enlarged, by an enumeration of circumstances, so as to excite the proper emotions in the souls of the auditors.

Such is the passage in Virgil, where instead of saying merely that Turnus died, he amplifies the circumstances of his death.

> ——*Ast illi solvuntur frigore membra,*
> *Vitaque cum gemitu fugit indignata sub umbras.*

The masters of eloquence make amplification to be the soul of discourse. Longinus speaks of it as one of the principal means which contribute to the sublime: but he censures those who define it a discourse which magnifies things; this equally agreeing to the sublime, the pathetic, &c. The same author distinguishes amplification from the sublime by this, that the latter consists wholly in the elevation of words and sentiments, whereas the former consists also in their multitude: the sublime is sometimes found in a single thought; but amplification cannot subsist, excepting in abundance.

There is likewise a difference between the amplification and the proof; because the one serves to clear the point, and the other to heighten and exaggerate it; and therefore it requires a florid and beautiful style, consisting of strong and emphatical words, flowing periods, harmonious numbers, lively tropes, and bright figures.

There are two general kinds of amplification; the one of *things*, the other of *words*. The first is produced in divers manners; as, 1. By a multitude of definitions: thus it is Cicero amplifies on history: *Historia est testis temporum, lux veritatis, vita memoriæ, magistra vitæ, nuntia vetustati* 2. By a multitude of adjuncts; of which we have a fine instance in Virgil's lamentation for Cæsar's death, by enumerating the many prodigies and monsters that either preceded or succeeded it. *Vox quoque per lucos vulgo exaudita silentes ingens, & simulacra modis pallentia miris visa sub obscurum noctis; pecudesque locutæ, infandum! sistunt amnes terræque dehiscunt; et mœstum illacrymat templis ebur, æraque sudant.* 3. By a detail of causes and effects. 4. By an enumeration of consequences. 5. By comparisons, similitudes, and examples, &c. 6. By the contrast of antithets, and by rational inference.

Amplification by words is effected six ways. 1. By using metaphors. 2. By hyperboles. 3. By *synonima*. 4. By splendid and magnificent terms; as that of Horace, *Scandit æratas vitiosa naves cura, nec turmas equitum relinquit, ocyor cervis, & agente nimbos ocyor euro.* 5. By *periphrases*, or circumlocutions. 6. By repetition. To which may be added, by gradation.

AMPLITUDE *of the range of a projectile*, in *Gunnery*, denotes the horizontal line subtending the curvilineal path in which it moved. See PROJECTILE.

AMPLITUDE, in *Astronomy*, is an arch of the horizon, intercepted between the true east or west point, and the centre of the sun, or a star, at its rising or setting, so that the amplitude is of two kinds; *ortive*, or eastern, and *occiduous*, or western. These are also called northern or southern, as they fall in the northern and southern quarters of horizon; and the complement of the amplitude, or the distance of the point of rising or setting, from the north or south point of the horizon, is called the AZIMUTH.

To find the sun's or star's amplitude, either rising or setting, by the globe, see GLOBE.

To find the sun's amplitude trigonometrically; having the latitude and the sun's declination given. Say, as the cosine of the latitude is to the radius, so is the sine of the sun's or star's declination to the sine of the amplitude. Suppose, *e. gr.* the latitude to be that of London, *viz.* 51° 32′, and the declination 23° 28′; then cosine 51° 32′, or 9.7938317: rad. or 10.0000000 :: sine of declination 23° 28′ or 9.6001181 : 10.0000000 + 9.6001181 — 9.7938317 = 9.8062864, or sine of the amplitude, or 39° 48′; and this is of the same name with the given declination, *viz.* north, when the declination is north, and south, when the declination is south.

AMPLITUDE, *magnetical*, is an arch of the horizon, contained between the sun or star at its rising or setting, and the magnetical east or west point of the horizon, indicated by the magnetical compass, or the amplitude or azimuth compass; or it is the difference of the rising or setting of the sun, from the east or west points of the compass. For this purpose place the compass on a steady place, from which the horizon may be clearly seen, and looking through the sight-vanes of the compass, turn the instrument round, till the centre of the sun, or other celestial object, may be seen through the narrow slit which is in one of the sight-vanes, exactly in the thread which bisects the aperture in the other sight-

ſight-vane; and when the centre of the celeſtial object, whether riſing or ſetting, is juſt in the horizon, puſh the ſtop, in the ſide of the box, ſo as to ſtop the card, and then read the degree of the card which ſtands juſt againſt the ſiducial line in the box; and this gives the amplitude required. In this operation allowance muſt be made for the height of the obſerver's eye above the level of the ſea. The difference between the magnetical amplitude, thus obſerved, and the true amplitude, obtained by the laſt article, is the variation of the compaſs. E. G. If the magnetical amplitude be obſerved by the compaſs to be

61° 47′, at the time when it is computed to be - - 39° 47′;

then the difference - 22° 0′ is the variation weſt.

AMPLUSTRA, in *Conchology*, a ſpecies of Bulla. Shell roundiſh; ſpire elevated, obtuſe, banded with fleſh colour. Inhabits Aſia. Linnæus.

AMPOSTA, in *Geography*, a town of Spain in Catalonia, ſituate on the Ebro, three leagues from its mouth, ſeven miles ſouth of Tortoſa.

AMPOTIS, ἀμποτις, ſignifies properly the receſs or ebb of the tide. But Hippocrates, who was of Cos, one of the Grecian iſles, and muſt have had many opportunities of obſerving the tides, very elegantly applies this word to the receſs of humours from the circumference of the body to the internal parts.

AMPRÆ, in *Ancient Geography*, a people whom Pliny places in Arabia Felix.

AMPRELITÆ, a people of Colchis, according to Pliny.

AMPSAGA, a river of Africa, on the eaſtern part of Mauritania Cæſarienſis, ſeparating it from Numidia Propria, riſes on Mount Auras, in the confines of the Atlas, and falls into the Mediterranean, ten leagues eaſt of Jijel, or Igilgili. One branch of it, called Rummel, waters Cirta. According to Dr. Shaw, the Ampſaga is now called Wed el Kibbeer, *i. e.* the Great River, which correſponds with the ſignification of ampſaga; *ampſaga*, in Arabic, denoting ample, or large.

AMPSALES, a town of Aſiatic Sarmatia, according to Ptolemy.

AMPSANCTI *Vallis*, or *Lacus*. See Moffetta.

AMPSANI, a people of Germany, conquered by Germanicus, according to Strabo.

AMPT, in *Geography*, the name given in Denmark to a leſſer juriſdiction or diſtrict. The country is divided into ſeveral larger diſtricts, called ſtifts-ampts, of which there are ſeven; four in Jutland, and three in the iſlands. Every ſtifts-ampt is ſubdivided into leſſer diſtricts called ampts. A perſon of quality is generally choſen ſtifts-amptſman, a poſt reſembling that of lord-lieutenant in England. The amptſman, or under governor of an ampt, is generally a perſon of inferior rank, who reſides in the principal town of his diſtrict, and is intruſted with the conduct of all public concerns. The poſt is generally given for life, as a recompence to thoſe who have faithfully ſerved the court. The ſalary of the amptſman is uſually 400 crowns, and that of the ſtifts-amptſman a thouſand crowns; beſides various exemptions and privileges.

AMPTHILL, a town of England, in the county of Bedford, pleaſantly ſituate, near the centre of the county, between two hills. It has been of late years much improved, particularly by the erection of a handſome market-houſe. The principal ſtreets are neat and regular, croſſing each other at right angles. Near the middle of the town is an obeliſk of Portland ſtone in which is a pump, built for the uſe of the inhabitants by the Earl of Upper Oſſory; and weſt of the town is Ampthill park, his lordſhip's ſeat, which is a ſuperb edifice, containing a valuable collection of paintings, by ſeveral ancient and modern maſters. The town has an almshouſe and a charity-ſchool. Its market is on Thurſday; and its diſtance from Dunſtable 12 miles, and from London $25\frac{3}{4}$.

AMSONIA, in *Botany*. See Tabernæmontana. Gmelin has made Amſonia a diſtinct genus, including two ſpecies, *viz.* 1. *A. Tabernæmontana*, and 2. *A. Ciliata*. But Mr. Dryander obſerves, that the *A. Tabernæmontana* of Walter, to which Gmelin refers, is certainly meant for Tabernæmontana *Amſonia* of Linnæus, as the trivial name is printed in Roman character; and he thinks it highly probable that Gmelin's A. Ciliata is the ſame as Tabernæmontana *Anguſtifolia* of Hort. Kew. Linnæan Tranſ. vol. ii. p. 228.

AMPTRUARE, in *Antiquity*, denotes a kind of dancing performed by the chief of the *ſalii*, and anſwered with a correſpondent motion by others in the *chorus*.

This is ſometimes alſo called *ambarvare*; the anſwer of the *chorus* was particularly called *redamtruare*.

AMPUDIA, in *Geography*, a ſmall place of Spain, in the country of Leon. In the time of the Goths it was a conſiderable city and biſhop's ſee; 10 miles north of Valladolid.

AMPUGNANI, a town of the department of Golo (iſland of Corſica) the canton of which contains 4,143 inhabitants.

AMPULLA, in *Antiquity*, an oil-vial or jug, with a large belly, uſed for unctions at the baths.

The word ampulla was alſo uſed for a drinking veſſel uſed at table.

Ampulla, among *Eccleſiaſtical Writers*, denotes one of the ſacred veſſels uſed at the altars.

The word is ſometimes alſo written in Engliſh *ampul*.

Ampullæ were alſo uſed for holding the oil uſed in chriſmation, conſecration, coronation, &c.

Among the ornaments of the churches we find frequent mention made of ampuls, or vials. In the inventory of the cathedral of Lincoln, we meet with ampuls of cryſtal, variouſly enriched with ſilver feet and covers: one containing a tooth of St. Chriſtopher, another a tooth of St. Cecily, another a bone of the head of St. John Baptiſt. Dugdale. Mon. tom. iii. p. 272.

Ampulla, *Knights of St. Ampulla*, belong to an order inſtituted by Clovis I. king of France; at the coronation they bear up the canopy, under which the ampulla is carried in proceſſion. This ampulla, or ſacred vial, with which the kings of France were anointed at their coronation, is ſaid to have been brought from heaven by a dove, for the baptiſmal unction of Clovis I. the firſt Chriſtian king of France, A. D. 496, and dropped into the hands of St. Remigius, then biſhop of Rheims, where it has been preſerved ever ſince for the purpoſe of anointing all ſucceeding kings; and its divine deſcent is ſaid to be confirmed by this miracle; that as ſoon as the coronation is over, the oil in the vial begins to waſte and vaniſh, but is conſtantly renewed of itſelf, for the ſervice of each new coronation. The Abbé de Vertot vindicates the truth of this miracle, in a diſſertation written for this purpoſe; and Baronius ſays, that it was a miracle worthy of the apoſtolical times. Archbiſhop Hincmar, in the year 869, is the firſt voucher for the truth of this legendary tale. Jortin's Rem. on Eccl. Hiſt. vol. v. p. 320. Middleton's Works, vol. i. p. 184.

Ampulla, in *Conchology*, a ſpecies of Bulla. Shell roundiſh, opaque crown umbilicated. Linnæus.—A moſt common ſpecies in the Indian, Ethiopic, and American ſeas; about three inches in length; colour white, variegated with cinereous, black, brown, red, and bluiſh in ſpots and clouds. There are two, if not more, diſtinct varieties of this ſpecies;

β the firſt, very oblong, opaque, dark, and ſcarcely an inch and an half in length; γ the ſecond, tranſverſely ſtreaked, grey and black.

AMPULLA, in *Entomology*, a ſpecies of gammarus, having hand claws without fangs: fourteen legs: hind thighs compreſſed and dilated. Fabricius. This is a CANCER of Linnæus. Inhabits the northern ocean. Body almoſt white; proboſcis incurvated and ſharp-pointed. Tail of ſix leaves, laſt joint bifid.

AMPULLACEÆ CONCHÆ, in *Natural Hiſtory*, a name by which ſome authors have called a tribe of ſhells, which, in the Linnæan arrangement, belong generally to the genus VOLUTA, or BUCCINUM: it is ſynonymous with *concha globoſa*, *dolium*, and *tonnes*. See DOLIUM.

AMPURA, in *Geography*, the name of a province in the kingdom of Peru, before its conqueſt by the Spaniards. The inhabitants are ſaid to have worſhipped two high mountains, becauſe they furniſhed ſtreams which fertilized the land. It is ſaid to have been conquered by Virachoca, the eighth inca.

AMPURIAS, anciently *Emporia*, a ſea-port town of Spain, and the capital of a diſtrict called Ampurdam, in Catalonia, ſituate at the mouth of the Fluvia. It was once conſiderable, and a biſhop's ſee, but is now a mean place; 15 miles eaſt of Gerona, and 58 north eaſt of Barcelona. N. lat. 42° 10′. E. long. 3°.

AMPURIAS, *Caſtello d'*, a little town of Catalonia, ſeated in a bay.

AMPUTATION, in *Surgery*, is that operation by which a member is ſeparated from the body. It differs from EXCISION, in that the latter is cutting *out* a part of the body; whereas, the former is cutting it *off*.

Amputation is one of the moſt formidable and important operations in the whole art of ſurgery: although it is by no means the moſt difficult to perform. The ſkill of a ſurgeon is often much more clearly evinced, by ſaving a condemned limb, than by dexterouſly removing it: ſo that "the moſt expert operator," as Mr. O'Halloran obſerves, "may not always be the beſt ſurgeon." Nay, "to do juſtice to the ſick and to ourſelves, we muſt, in many caſes, rather avoid than perform capital operations." See Mr. O'Halloran's Treatiſe on Gangrene and Sphacelus; pref. p. 3—7. *et ſeq.* "As to amputation itſelf, that its indiſcriminate uſe, or indeed, rather abuſe, has been of infinitely greater detriment to mankind than ſervice, muſt be admitted. We daily hear of *ſudden* accidents that require amputation; and nothing is more common than to be informed, that the patient died in two or three hours after the operation. In ſea engagements, where a limb is torn and ſhattered, death very ſoon follows mutilation; and after battles the recoveries bear no proportion to the deaths on this account.

"It was this great propenſity to lopping off limbs," continues our author, "that cauſed a complaint to be exhibited to Louis the XIVth, that his ſurgeons eſtimated the importance of their ſervice by the number of mutilations only; and they were obliged to defend themſelves from this aſperſion before a prince, who wiſely rated the lives of his ſubjects too high to ſuffer characters to be gained at their expence. In fact, it is not enough for a ſurgeon to know HOW to operate; he muſt alſo know WHEN to do it." Mr. O'Halloran computes, that ninety-five patients out of an hundred ought to recover, where amputation is performed at a PROPER TIME, as well as in a proper manner; an acquiſition highly honourable to ſurgery, and acceptable to humanity."

Hiſtorical Sketch of Amputation.

Although, from the earlieſt period of human exiſtence, there muſt have been occaſion for performing this operation, we have no deciſive proofs from hiſtory that it was ever done by the father of medicine, Hippocrates. A. C. Celſus, who lived in the reign of Tiberius, and whoſe book De Re Medica ſhould be read by every ſurgeon, has left us a ſhort deſcription of the mode of amputating gangrenous limbs. It has been often remarked, that Celſus has left no inſtructions for ſecuring the divided blood veſſels; but it has not been commonly noticed, that in his chapter on wounds, he directs us to ſtop hæmorrhages by taking hold of the veſſels, then tying them in two places, and dividing the intermediate portion. If this meaſure cannot be adopted, he adviſes the uſe of a cauterizing iron. Several hints are to be met with in the writings of Celſus, from which it may be inferred, that the ligature of bleeding veſſels was ſometimes practiſed in that early age; and this ſuppoſition is ſtrengthened by a fragment of Archigenes, preſerved by Cochius on the ſubject of amputation, where he ſpeaks of tying or ſewing the blood-veſſels. We are not, however, in poſſeſſion of all the writings of medical authors prior to the time of Galen, and muſt therefore remain in doubt upon this point.

Celſus recommends amputation to be performed between the ſound and corrupted part of the member. The firſt inciſion was made with a knife down to the bone, but not over a joint; and ſome of the ſound fleſh was to be cut off, rather than leave any of the gangrenous part. The muſcles were then to be retracted, and cut cloſe around the bone, to lay it bare: then we were to ſaw off the projecting bone cloſe to the fleſh which ſtill adheres; afterwards the rough edges of the bone were to be made ſmooth, and the integuments brought over it as much as poſſible. It is ſomewhat extraordinary that Galen has neither mentioned this important operation, nor ſo much as once quoted the name of Celſus, who flouriſhed about a century before him at Rome. If amputation proved often fatal in the days of Celſus, "ſæpe in ipſo opere," as he tells us, it was owing to the want of ſome efficacious method of compreſſing the blood-veſſels during the operation itſelf; for, although the ligature might, perhaps, be employed, they knew not the uſe of a tourniquet. See TOURNIQUET, LIGATURE, CAUTERY, and HÆMORRHAGE.

The conciſeneſs of the account left by Celſus renders it uncertain whether the edges of the ſkin were confined or not, ſo as to leſſen the ſuppurating ſurface of the ſtump; but he evidently intended to preſerve a large cuſhion of ſkin and muſcle, in order to facilitate the cure. And as to the wound, ſo far as it remains expoſed, he directs it to be covered with lint, and then bound over with a ſponge dipt in vinegar. From the whole, then, it appears that the ancient Romans had tolerably correct notions of the art of healing. Paulus Ægineta, about eight centuries afterwards, ſuggeſts no improvement, except a broad fillet of cloth to retract the divided muſcles during the time of ſawing the bone: he recommends the application of hot irons, to ſear the orifices of the bleeding arteries; and indeed, the early Greek practitioners were more diſpoſed to uſe the actual cautery than the Romans.

The Arabian ſurgeons, who chiefly copied from the Greeks, made no material alteration in the mode of amputating; and were ſtrangely inattentive to the advantages of the needle and ligature, *which they well knew how to apply on other occaſions*. Perhaps this laſt aſſertion will be controverted; as a ſurgeon in Edinburgh has preſumed to tell the world, in two of his late publications, that the Arabians were ignorant of the needle and ligature for tying blood-veſſels, "and never uſed them otherwiſe, than by ſewing a wound juſt ſo much the cloſer and tighter in proportion to

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the bleeding." He ſays, "burning irons were uſed by the ancients, merely becauſe they knew of *no other* means of ſuppreſſing the bleeding." Again, "In the times before Paré, not being able to take up an artery," &c.

We ſhall elſewhere have opportunity to treat of the LIGATURE of bleeding veſſels; and therefore can only obſerve, by way of anticipation, that thoſe who (with Mr. John Bell) impute the firſt diſcovery of this practice to Ambroſe Paré, are greatly miſtaken, and not ſufficiently familiar with the writings of the old ſurgeons, whether Greeks, Romans, or Arabians. "It is not only entertaining but uſeful," ſays the late Dr. Hunter in his Commentaries, p. 62. "to ſee by what purſuits and ſteps an improvement was made; it gives clear ideas of the ſubject, makes a ſtronger impreſſion upon the memory, ſhews the moſt probable road to improvement in ſimilar inquiries, and raiſes emulation." But, ſays he, "if a man writes freely upon any ſubject, without knowing what has been ſaid by others, he riſques being made the object of ridicule or cenſure." Ibid. p. 60.

Guido de Cauliaco, who revived the languiſhing ſtate of ſurgery in Europe during the 14th century, agrees with Avicenna and Albucaſis, that it is better to cut off a mortified extremity than to let the whole body periſh. He adviſes, when the gangrene is near a joint, to ſeparate the articulation. In other caſes he directs us to apply a tight ligature on the edge of the healthy part as well as on the gangrenous part; cutting between them down to the bone, and then ſawing through, with a retractor interpoſed. But ſometimes Guido would wrap up a mortified limb, and allow it to fall off of itſelf; by which means he avoided the odium of amputating members that his patients might have thought capable of preſervation. After the example of his predeceſſors, he had recourſe to hot irons, boiling oils, and aſtringent powders, to ſtop the hæmorrhage; although he diſapproves the practice of Theodoric and others, who gave narcotic remedies to prevent or mitigate the ſuffering of their patients.

Methods of amputating, ſomewhat like that of Guido, were uſed by Bartholomew Maggius, Veſalius, and moſt ſurgeons in the 15th and 16th centuries: till Botallus and Regius propoſed to lop off the limb by a ſort of GUILLOTINE, at one ſtroke, after the manner in which criminals, formerly of Scotland, and lately of France, were decapitated. This ſummary treatment, however, cauſed ſo much contuſion and ſplintering, that it was very ſoon oppoſed as unſcientific and butcherly. The moſt important innovations made, about this time in amputating, were introduced by the celebrated Ambroſe Paré, a French ſurgeon; to whoſe induſtry, good ſenſe, and ſkill, we are chiefly indebted for the abolition of cauteriſing inſtruments, and the general uſe of a needle and ligature to ſuppreſs the bleeding, after this operation.

Paré recommended to cut off the whole of the gangrenous part, if the limb be mortified; but to encroach as little as poſſible on the living fleſh. At the ſame time he laid it down as a rule, not to leave a very long ſtump to an amputated leg; becauſe the patient could more conveniently, he ſays, make uſe of a wooden leg, having the ſtump only five fingers long below the knee, than if much more of the fleſh were to be preſerved. In the arm, however, he left the whole of the living and healthy portion of the member, only ſeparating the diſeaſed part from the ſound.

In preparing for amputation, he directs the ſkin and muſcles to be drawn upwards, and bound tight with a broad bandage, a little above the part where the inciſion is to be made. This fillet was intended to anſwer a threefold purpoſe: 1ſt, To afford a quantity of fleſh for covering the bone and facilitating the cure; 2dly, To cloſe the extremities of the divided blood-veſſels; 3dly, To dull the patient's feelings, by preſſure on the ſubjacent nerves. When this firm ligature has been applied, Paré directs an inciſion to be made down to the bone, either with a common large ſcalpel, or a curved knife: then, by a ſmaller curved knife, we are carefully to divide the muſcle or ligament remaining between the bones of the fore-arm or leg; after which we may proceed to ſaw off the bone, as high as poſſible, and to remove the aſperities occaſioned by the ſaw.

With the aſſiſtance of a curved pair of forceps, he drew out the extremities of the bleeding arteries, either by themſelves alone, or with ſome portion of the ſurrounding fleſh, to be firmly tied with a ſtrong double thread. He now looſened his bandage, brought together the lips of the wound over the face of the ſtump, and kept them as cloſe as he could, without actual ſtretching, by means of four ſtiches or ſutures. If the larger tied veſſels ſhould accidentally become looſe, he deſires the ligature or bandage to be again paſſed around the limb; or elſe, which is better, to let an aſſiſtant gripe the limb firm with both hands, and preſs with his fingers over the courſe of the bleeding veſſel, ſo as to ſtop the hæmorrhage; then, with a ſquare-edged needle about four inches long, and a thread four times doubled, the ſurgeon muſt ſecure the artery in the following manner: Thruſt the armed needle into the outſide of the fleſh, half a finger's breadth from the veſſel which bleeds, and bring it out at the ſame diſtance from the bleeding orifice; then ſurround the veſſel with the ligature, paſs it back again to within one finger's breadth of the place where it firſt entered, and tie a faſt knot upon a folded ſlip of linen rag, to prevent its hurting the fleſh. Paré, by this means, ſays, the orifice of the artery will be agglutinated to the adjoining fleſh ſo firmly, as not to yield one drop of blood: but, if the hæmorrhage were not conſiderable, he contented himſelf with the application of aſtringent powders.

The limb was afterwards treated according to the old plan, with "defenſatives, repurcuſſives, and agglutinatives." The firſt dreſſing was not removed for three or four days; but, when a ſuppuration came on, the "digeſtive, deterſive, and mundificative remedies" were employed, until the ligatures might be ſafely removed, and exfoliation of the bone took place. As the ſurgeon ſaw proper, it was alſo recommended by Paré to haſten the exfoliation by the actual cautery applied to the extremity of the bone only; and to keep down fungous fleſh by the uſe of burnt alum, blue vitriol, or red nitrated mercury.

Thus did this famous ſurgeon endeavour, by his ſingle example and precepts, to exclude the barbarous uſe of hot irons in amputation. He ſays, he knew not of any ſuch practice among the old ſurgeons; except that Galen recommended us to tie bleeding veſſels, towards their origin, in accidental wounds, and he thought proper to do the ſame in caſes of amputation: but in an apology at the end of his book, Paré has quoted, in his own defence, a dozen authors, who employed or recommended the ligature before him; and he might have cited many more.

From the ſtatement we have here given, it may be ſeen how far our beſt writers, of every country almoſt, have erred in aſcribing the original invention of tying arteries to Amb. Paré. Great merit, indeed, was due to him for the part he took in extending, and even reviving this incomparable practice; nay, it is not certain whether any one before him had ever applied the needle and ligature in ſimilar caſes, *i. e.* after amputation: but how very wide of the truth Mr. John Bell's recent account of this matter is, will appear to every perſon who will enquire into the facts themſelves; for not only were needles and ligatures in uſe among the ancients,

ients, but likewiſe the TENACULUM or hook to lay hold of the bleeding veſſels when they had buried themſelves in the muſcles. We refer our inquiſitive readers to Avicenna, Ætius, Albucaſis, Brunus, Theodoric, Guido de Cauliaco, John de Vigo, Bertapalia, Tagaultius, Petrus Argillata, Andreas a Cruce, &c. &c. where they will find enough to ſatisfy them on this head.

From the time of Paré to the commencement of the ſeventeenth century, a variety of petty reformations and alterations were propoſed in amputating; but the ſurgeons were backward to adopt the needle and ligature in ordinary practice, chooſing rather to apply aſtringent, vegetable, and mineral ſubſtances to the bleeding veſſels, or to cauterize them with burning irons. One ſurgeon of note (John Woodall, who was many years ſurgeon-general to the Eaſt India Company, and ſurgeon of St. Bartholomew's Hoſpital in London) ventured to deviate from the common rule of diſmembering in the ſound part of a gangrenous limb. He publiſhed a treatiſe in 1639, chiefly to recommend "the amputating of any member in the mortified part;" and declared that this had been his cuſtom ſince the year 1617, having amputated in that manner above a hundred limbs, "of which not one died in the cure." He uſed to wait till either the mortification had ceaſed, or till a circular line of ſeparation appeared between the gangrenous and the ſound part; then he would cut through the limb about one inch below the line, and gently remove the mortified portions of fleſh. To facilitate the exfoliation of the bone, it was burnt with the actual cautery, as had formerly been practiſed by Veſalius and other of his predeceſſors. The limb was afterwards fomented, and warm dreſſings applied to encourage the ſuppuration.

Woodall relates, that it was at this time no uncommon thing for criminals, who, in the Eaſt Indies, had their feet chopped off at the ancles, to get ſo well cured as to run on errands for their livelihood, after having put their ſtumps into large bamboo canes or reeds ſtuffed with cotton, &c.

Numerous applications, mechanical, chemical, and pharmaceutical, having been thought of to prevent bad and fatal hæmorrhages after bleeding, it occurred to our countryman, James Young, that a more ſecure way of compreſſing the artery during amputation would be as follows: He placed a hard wadd or bolſter of linen cloth upon the inſide of the arm or thigh, exactly in the courſe of the main artery; then, paſſing a towel or bandage around the member, he tied the ends together, and twiſted them ſo very tight with a ſtick or battoon, as to ſtop the circulation through the blood-veſſels. When the limb was amputated, he ſays, there was ſcarcely any bleeding, and the pain was greatly diminiſhed by the compreſs. Before the dreſſings were applied, he adviſes to looſen the tourniquet a little, in order to obſerve where our care and aſtringents are moſt wanted. This propoſal is deſcribed in a curious and ſcarce book, publiſhed at London, A. D. 1679, entitled, "Currus Triumphalis è Terebinthô:" where may be likewiſe ſeen the firſt hint of the method of amputating with a flap, ſince claimed as a diſcovery by two continental ſurgeons, Verduin and Sabourin; but whether or not theſe writers borrowed the ſuggeſtion from Mr. Young, is uncertain. As this mode of amputating is ſtill very frequently practiſed, and in many caſes is unparalleled for its ſimplicity and advantages, we extract part of the author's original account, where he thus addreſſes his friend:

"Sir, I find by yours, that you are ſurprized with the intimation I gave you, of a way of amputating large members, ſo as to be able to cure them per ſymphyſin in *three weeks*, and without fouling and ſcaling the bone.—I ſhall now entertain you with an account of the manner of this operation I would recommend to you, after I have told you that it was from a very ingenious brother of ours, Mr. C. Lowdham, of Exeter, that I had the firſt hints thereof. The ligatures and gripe being made after the common manner, you are with your catling, or ſome long inciſion-knife, to raiſe (ſuppoſe it the leg) a flap of the membranous fleſh covering the muſcles of the calf, beginning below the place where you intend to make exciſion, and raiſing it thitherward of length enough to cover the ſtump: having ſo done, turn it back under the hand of him that gripes, and as ſoon as you have ſevered the member, bring this flap of cutaneous fleſh over the ſtump, and faſten it to the edges thereof by four or five ſtrong ſtitches: having ſo done, clap a doſſil into the inferior part, that one paſſage may be open, for any blood or matter that may lodge between; but of that there ſeldom occurreth any: then lay on a common defenſative, *ex.* bole. fang. dracon. maſtich, terræ ſigil. cum alb. ovor. & aceto, and thereto girt it cloſe with your croſs bandage, and other compreſſes, after the uſual manner; the former, *viz.* the defenſative, not only defends from accidents, as heat, pain, fluxion, &c. but gently conſtipateth the veſſels, thereby contributing to the ſecuring the hæmorrhage, and very conſiderably aſſiſts to the agglutination: the latter, *ſcil.* the compreſs ligature, keeps the fleſh ſnug and cloſe to the ends of the divided veſſels, confirms the conſolidation, keeps the parts from cavity, and the blood from extravaſation, and hinders that deflux of humours which would otherwiſe deſtroy the intention of cure.

"In this ſort of amputation, that manner of compreſſing the thigh by ligature, or the arm near the ſhoulder, which I have recommended in the foregoing diſcourſe, is of excellent uſe; becauſe thereby you may retain the deſcent of the blood, till by your dreſs and bandage you have ſo far ſecured the part as that it can receive no damage thereby.

"In this way of cure, phlebotomy, juleps, ligature of the extreme parts, if need be, with what elſe may contemporate the blood, hinder defluxion and maturation, and promote conſolidation, though declaimed againſt in that diſcourſe, is in this caſe very uſeful and neceſſary.

"In the ſucceeding dreſſings, medicines healing per ſymphyſin are to be uſed: and amongſt them, perhaps, there are none better than that already mentioned, adding ſome powder of the roots of great comphrey thereto; the doſſil, if you uſe any, may be left out the next dreſſing, or that following it.

"That this method hath cured ſuch a ſtump in *three weeks*, is a truth I can vouch by ſufficient teſtimony; and I believe you will not much doubt it when you have peruſed this, and conſidered how eaſy and ſoon ſuch large conſolidation hath been made.

"I muſt not forget to intimate to you that this manner of diſmembering, &c. is not to be made uſe of where the part hath been much inflamed, tumefied from fluxion, or otherwiſe vexed therewith, nor in members amputated for chronic cauſes; as cancers, fiſtulas, &c. or where the body is pockt, or very cachectic, becauſe in ſuch digeſtion (which would deſtroy the unition) is neceſſary to rectify and ſweeten the maſs, which it doth by draining off the miaſma of the diſeaſe more than ten fontanels can do. It is alſo no leſs unavoidable; for the courſe of matter that hath that way diſcharged itſelf ſo long (as in a fiſtula), cannot of a ſudden be obſtructed, without hazard of a miſchievous apoſtumation: moreover, in ſuch ill habits as thoſe caſes either cauſe or reſult

ſult from, conſolidation is difficult, if not impoſſible to be ſo ſuddenly performed, as this manner of cure requireth; the dyſcraſis of the blood having deſtroyed or weakened its balſam that it cannot expedite the work, which, if not ſpeedily done, cannot be performed ſecurely and firm; and in parts inflamed and tumefied by fluxion, or by congeſtion, it is eaſy to imagine there muſt be a diſcharge of that concrete matter, which cannot be, and yet the wound cured by ſympathy.

"But in moſt of the amputations made at ſea in fight, or on land in battles, or whereſoever acute accidents, ſuch as wounds, recent lacerations require it, it may be done, and that with thoſe advantages of the other way it rivals."

The author next enumerates eight very ſingular advantages with which this *new* method is attended, and then concludes his letter as follows:

"Theſe are all the conſiderable advantages manifeſtly acquired by this *new way*: without doubt uſe and trial will diſcover more, equal to them, and an abundance of leſſer conveniences, which at preſent occur not to my conſideration: theſe are enough to ſhew the novelty to be conſiderable and worthy of imitation: let them have with you this acceſſional manifeſtation, that I am very ready to obey and ſerve you.

"*Plymouth, Aug.* 3, 1678. "JAMES YOUNG."

We thus have demonſtrated, though it is not commonly believed, that what the French call "OPERATION A LAMBEAU," claimed as the invention either of Verduin or Sabourin, was put in practice by ſurgeons of Exeter and Plymouth before the year 1678. The different improvements and ſuggeſtions of more modern authors, will be noticed in our account of the amputation of particular members.

Of the Cauſes which may render Amputation adviſeable.

Previous to the time in which the needle and ligature were generally had recourſe to, for ſecuring the divided arteries after amputation, this formidable operation was but rarely ventured upon, by even the moſt enterprizing ſurgeons; ſo that, we ſeldom read among the older authors of a limb having been amputated, from any other cauſe than a complete mortification. About the middle of the laſt century, however, the practice of inconſiderately taking off diſeaſed members was ſo common, that ſeveral eminent ſurgeons attempted to prove it was never, or ſcarcely ever, abſolutely needful. This opinion, although it originated from the beſt motive, was certainly untenable; ſince caſes daily occur, in which, for want of amputation, patients muſt either inevitably die, or would only preſerve their limbs at the hazard of dragging out a miſerable exiſtence, perhaps worſe than death itſelf. Two general cauſes, at leaſt, will therefore juſtify the performance of amputation: *Firſt*, when the life of the patient is conſiderably endangered, by keeping his limb; *ſecondly*, when its preſervation does not ſecure a more uſeful member than an artificial one.

The ſurgeon muſt know well how to diſtinguiſh the circumſtances in which the amputation of a limb is neceſſary, or may even be conſidered as a benefit; and in which, ſhould it be delayed, or conceived to be unneceſſary, the patient would run the riſk of loſing his limb or his life. To form a determination is no eaſy matter, and in many caſes extremely difficult; eſpecially as, in forming it, we have alſo to conſider whether, by means of the operation, the patient's life or limb can really be ſaved. For in the cure of limbs that have been materially wounded, the event often depends upon the conſtitution of the patient, his age, and the air in which he lives; and it is rarely poſſible to form a ſure prognoſtic at firſt, as the ſymptoms, from which it can be drawn, generally do not make their appearance till during the progreſs of the cure. Now, though it cannot be denied, that amputation has in many inſtances been performed when there was no neceſſity for it, it would be folly to imagine that it may in all caſes be avoided. For there certainly are numerous diſeaſes incident to the extremities, in which this operation is the only means of alleviating the ſufferings of the patient, and even of ſaving his life.

1. A CARIES OF THE BONES, whatever be its degree and magnitude, is not a ſufficient reaſon for amputation in a young ſubject, at leaſt not till every poſſible means have been tried for the preſervation of the limb: but when the diſeaſe has ſpread very far, ſo that no benefit can be expected from the common milder remedies; and when the caries is moreover advancing, and combined with deep ſpreading ulcers in the ſurrounding ſoft part, we have certainly no other remedy left but the operation. However, even in this caſe, it would be neceſſary previouſly to examine, whether benefit were really to be expected from the operation; that is, whether the caries were confined entirely to the part, or, whether it had not ſpread itſelf already too far to admit of a cure.

2. When the bones of a limb have been entirely ſhattered by a GUN-SHOT WOUND, and all the muſcles, ligaments, veſſels, and nerves have been ſo lacerated by it, as to render the circulation of the blood into the fore-part of the limb altogether impoſſible, and that its death is altogether inevitable; farther, when a whole limb, or a part of one has been torn off by a cannon-ball, or by any other means, in ſuch a manner that the bones are broken off into uneven ſplinters, and remain uncovered, and the muſcles and tendons likewiſe are of unequal lengths, and at the ſame time very much torn and bruiſed; in both theſe caſes the neceſſity of the operation is evident.

3. When a large ANEURISM of long ſtanding has deſtroyed the texture of the ſurrounding parts, and has produced a high degree of ſuppuration, eſpecially if it be in a joint, amputation is neceſſary, on account of the diſeaſed ſtate of the ſurrounding parts; for, on account of the aneuriſm alone, it would never be adviſeable. But it alſo becomes neceſſary when, after the operation for an aneuriſm has been performed, the limb does not acquire again its warmth and ſenſibility, but dies away. See the article ANEURISM.

4. In COMPOUND FRACTURES, let them have ever ſo unfavourable an appearance, amputation is never allowed, provided we are able immediately to procure for the patient all the requiſite medicines, reſt, attendance, pure and wholeſome air, and proper nouriſhment; for even in the moſt deſperate ſeeming caſes a cure has ſometimes been effected. But when, for example, in armies and fleets, every thing requiſite for the cure of the wound is wanting, we are obliged to proceed to amputation; which muſt either be performed very ſoon after the injury has been inflicted (eſpecially if the bones be ſhattered near a joint), or delayed until its moſt immediate effects and conſequences, namely, the ſwelling, inflammation, and fever, have made their appearance.

5. In LARGE WOUNDS, combined with much LACERATION and contuſion, it is extremely difficult to determine the neceſſity of the operation, which, conſequently, ought never to be performed immediately after the wound has been inflicted; but it is at moſt admiſſible afterwards, when the wounds ſuppurate ſo profuſely as to exhauſt the ſtrength of the patient, or when they become gangrenous, or when a

hæmorrhage

hæmorrhage is produced that can be ſtopped by no other means.

6. In WHITE SWELLINGS, when the bones have become carious, the operation is always indicated; but good effects can only be expected from it when the diſeaſe is ſtill merely or chiefly local. When it has already become general, or when it is the conſequence of a ſcrofulous habit of the body, it is in the firſt caſe always, and in the ſecond generally, unſucceſsful.

7. In large SWELLINGS of the BONES, that either endanger the life of the patient, or on account of their ſize, or from ſome other cauſe, become unbearable, the amputation of the limb is the only remedy that remains; provided there be no cauſe preſent that renders it inadmiſſible.

8. CANCEROUS SORES, which, in ſome rare caſes, attack the extremities, may indeed now and then be extirpated without amputating the limb; however, when the diſeaſe has already ſpread itſelf far among the ſurrounding parts, and has attacked the bones and ligaments, the amputation of the limb, above the diſeaſe itſelf, may be of ſome benefit.

9. In other extenſive and malignant ULCERS, that do not ariſe from any internal and general cauſe, and which materially vitiate the whole maſs of fluids, injuring the health, and, inſtead of yielding to the remedies that are employed, ſpread farther and farther, and become more and more obſtinate, we are obliged to adviſe amputation, as the patient's life is actually in danger.

10. INCYSTED TUMOURS are ſometimes very deep ſeated, or are even produced within the bone or upon the periofteum, and increaſe to a conſiderable ſize; ſo as by the preſſure they occaſion, to injure the texture of the ſurrounding parts, and not only to render the bones carious, but entirely to diſſolve them. In ſuch caſes the operation may, under certain circumſtances, be rendered neceſſary.

11. The extremities, and, according to Dr. Richter, moſt frequently the feet, are ſometimes affected with a ſingular kind of tumour, the peculiar character of which has not as yet been accurately defined, but for which no remedy has hitherto been diſcovered, except amputation. The reader will find it deſcribed under the head of OEDEMA.

12. Sometimes alſo the DISTORTION of a limb may be ſo conſiderable, and cauſe ſuch great inconvenience, on account of its ſtiffneſs, that the patient will rather loſe the limb than remain longer in that condition. If we are not able to cure or relieve the diſtortion by any milder means, we may with propriety comply with the deſire of the patient.

13. Finally, a GANGRENE may render the operation neceſſary; but that this is adviſeable in only a few caſes, the reader will find maintained under the head of GANGRENE.

When, therefore, it appears, upon due conſideration of every circumſtance, that the diſeaſed limb cannot be preſerved, and that the life of the patient can only be ſaved by immediately amputating it, the operation muſt be undertaken without arther delay. Conſidered of itelf, it is not ſo dreadful an operation by far as it formerly was, nor are its conſequences ſo precarious and troubleſome; and the cure is effected much more ſpeedily, provided that, in performing it, all the rules preſcribed by the preſent improved ſtate of ſurgery are obſerved.

For performing the operation moſt of the following inſtruments are requiſite:

1. Two ſtraight knives, the blade of one to be from ſix to ſeven, and that of the other from five to ſix inches in length. The firſt of theſe is uſed in amputating the thigh, and the ſecond for the reſt of the limbs.

2. A ſmall, narrow, ſtraight knife, or catlin, edged half way down the back, three inches and a half long, half an inch broad. This is uſed for cutting through the fleſh between the two bones, in the fore-arm and leg, and for dividing the perioſteum.

3. A fine ſharp ſaw, for ſawing through the bone. The blade may either be made of a ſteel ſpring, about ten inches long and half an inch broad; or of a wide ſteel blade, ſtrengthened by a firm back, as repreſented in the plate of amputating inſtruments. The handle ſhould be of a ſize proportioned to that of the blade; it alſo ſhould be ſmooth, and without much ornament.

4. A ſmaller ſaw, made of a watch-ſpring, for ſeparating ſplinters, and dividing the bones of the fingers, &c. The blade of this ſaw muſt be provided with a ſcrew, by which it may be turned in either direction.

5. A ſmall ſtraight ſaw without a frame, for ſeparating ſplinters in parts where the firſt ſaw cannot conveniently be applied.

6. A ſmall pair of ſciſſars, with long handles, for dividing membranes, ligaments, and tendons.

7. A pair of forceps, with a ſliding button, for laying hold of the arteries; or, which will anſwer the purpoſe better, a tenaculum, with a light handle.

8. A tourniquet. (See the deſcription of this inſtrument.)

9. A ſlip of parchment, eighteen inches long, and from four to five broad; it ought to have a ſlit as far as the middle, terminating in a circular hole. (See RETRACTOR.) Its uſe is to draw back the muſcles. We may alſo uſe inſtead of it, a broad leathern ſtrap, or a fillet of linen of the ſame ſhape.

10 Two tapes, half an inch broad, for tying round the limb, one above the other, under the place where we intend to make the inciſion. Still more uſeful for this purpoſe, eſpecially when the limb is fat and flabby, are narrrow leathern ſtraps with buckles, which hold the fleſh firmer than the others. But many ſurgeous uſe neither of them.

11. A quantity of adheſive plaiſter cut into ſlips.

12. Two ſingle headed bandages, the many tailed bandage, or a woollen cap.

13. A number of pledgets and compreſſes.

14. Lint, needles, and waxed thread.

General Rules of Practice.

In performing this operation the ſurgeon muſt be particularly attentive to the choice of the place where he ſhould amputate; to the prevention of any violent hæmorrhage during the operation; in cutting through the ſkin and muſcles, to the ſaving of as much of theſe parts as is neceſſary for entirely covering the ſtump; in tying up the arteries, he muſt be careful to ſpare the neighbouring nerves and other parts as much as poſſible; he muſt be attentive to the ſupport of the external integuments, that they may not ſhrink back again after the operation; and, finally, to the ſubſequent treatment of the patient, till he is completely cured. In general, a ſucceſsful event depends upon the ſurgeon promoting, by every means in his power, a ſpeedy union of the parts, or the healing of the wound without ſuppuration; the chief method by which this important point may be obtained, is by preventing all expoſure of the wounded ſurface, and retaining the integuments in cloſe contact with the ſubjacent bone, &c.

Ordinary Steps of the Operation.

Having determined on the propriety of amputating, and fixed the time in which it ſhould be performed, we ſhould prepare and arrange the neceſſary apparatus. Previouſly to commencing

commencing the operation, the ſurgeon will not fail to ſee every thing in the apartment that may be wanting, either for his own uſe or the patient's comfort. When the aſſiſtants have been properly inſtructed, a tourniquet is firſt to be placed over the main artery of the limb to be amputated, ſo as to ſtop the circulation entirely. On ſome occaſions a tourniquet cannot be applied, and in ſuch caſes a careful perſon is to be appointed to the office of preventing the hæmorrhage by other means. The limb being firmly ſecured, an inciſion is then to be made through the ſkin and cellular membrane, down to the muſcles, by one circular ſtroke, except when the *flap operation* has been reſolved on. The integuments are next to be raiſed, and turned back or drawn up from the muſcles, more or leſs, according to the circumſtances of the caſe, for the purpoſe of afterwards furniſhing a covering to the face of the ſtump: in thus ſeparating the integuments, we muſt have particular regard to the ſize of the limb. At the lower edge of the reflected ſkin and fat, the operator begins his ſecond inciſion, carrying it through to the bone, in an oblique direction upwards, by holding his knife a little ſlanting. The retractor, if one be wanting, is now to be applied; and, by means of the double-edged catlin, the fleſh, &c. is to be divided between the bones (in the fore-arm and leg). A ſmall line of ſeparation muſt alſo be made through the perioſteum, but it is not to be ſcraped, for the entrance of the ſaw; after which the bone or bones will be divided, by ſlowly repeated long ſtrokes with the ſaw, taking care not to make ſplinters. Having next ſecured the bleeding veſſels, by ligature alone, and wiped away the coagulated blood, after ſlackening the tourniquet entirely, we finiſh, by bringing the lips of the wound neatly in contact, retaining them by croſs ſlips of good adheſive plaſter, laying ſoft lint, &c. over the outſide, in the direction of the edges of the wound, and bandaging the ſtump, with the ligatures hanging out at one corner. Thus may we frequently effect a cure in twenty or thirty days, by healing without ſuppuration, and without danger, after taking off the largeſt extremities; eſpecially in quiet, airy ſituations, and with healthy young patients.

Amputation of the Thigh.

In this operation, the patient is to be reclined upon a table of the ordinary height. A common tourniquet muſt be applied as near as poſſible to the upper part of the thigh, immediately under Poupart's ligament, in ſuch a manner, that the compreſs comes to lie ſtraight upon the femoral artery: the fillet laid over it is to be ſcrewed or twiſted, by means of a ſhort ſtick, over a piece of horn or leather placed on the oppoſite ſide, ſo tight, that not only no blood can flow through the large artery, but ſo as alſo to ſqueeze together all the muſcular parts as cloſely as poſſible. A tourniquet of this kind (ſee the PLATE *of Surgery*) prevents a hæmorrhage, not only from the principal trunk of the artery, but alſo from all the lateral branches, and is therefore preferable in ſuch caſes to the ſcrew tourniquet. Some ſurgeons, during the operation, never make uſe of a tourniquet, but have the artery ſtrongly compreſſed by an aſſiſtant with his fingers and a cuſhion.

It is a general rule, that we ought never to amputate more of the thigh than the diſeaſe abſolutely requires; for the more of it we ſuffer to remain, the more uſeful the ſtump will be. Where the injury done to the limb is ſuch, that only the leg is damaged up the knee, we amputate the thigh about a hand's breadth over the knee, in order to gain a quantity of ſkin ſufficient for properly uniting the parts. The inciſion through the ſkin muſt be made at leaſt three fingers breadth lower than the ſecond cut, by which the muſcles are divided. In order to hit upon the right meaſure, we muſt principally attend to the thickneſs of the thigh, for the thicker it is the more ſkin we muſt endeavour to gain; but it is in general better to ſave too much, than too little, of the integuments.

Two aſſiſtants, who ſtand at the head of the patient, hold faſt his arms, and a third ſecures the ſound leg. The diſeaſed limb is held by two aſſiſtants in a horizontal poſition, with the knee moderately bent. One of theſe holds the limb, with both his hands under the knee, firm and immoveable; the other ſupports the thigh in the middle, holds it faſt, and at the ſame time draws the ſkin tightly upwards. The operator now applies one of the ſmall fillets to the place where he intends to make the firſt cut; namely, when the whole thigh is ſound cloſe over the patella, and draws it very tight in an exact circle round the limb. With the aſſiſtance of this fillet the cut may be made more even and circular; and the fleſhy parts, particularly the integuments, are prevented from ſhrinking and impeding the operation, being held faſt and tenſe at every point. This fillet, therefore, is of great and eſſential uſe in the operation, and ought certainly to be retained, though ſome may be inclined to reject it as ſuperfluous. But to apply a ſecond fillet above the cut, as ſome do, is unneceſſary. The operator, who ſtands on the outſide of the limb, now cuts through the ſkin and cellular texture, with a ſtraight, ſtrong, and ſharp knife, cloſe over the upper margin of the fillet, in an exact circle, without cutting into the muſcles. In performing this part of the operation, great attention is neceſſary, in order that the inciſion may not be made too ſuperficial, or too deep, or even crooked. When the operator has divided the ſkin all round, but not the faſcia lata, by this firſt cut, he next divides the faſcia cautiouſly, by repeated cuts, without penetrating into the muſcles; after which the ſkin may be more eaſily drawn back as far as he thinks proper. The ſkin is now to be retracted in an uniform manner, in order that the ſecond cut may alſo be made exactly circular; the firſt aſſiſtant muſt, therefore, be well acquainted with the method of performing this operation.

When the ſkin has been drawn back full three fingers breadth (too much is always better than too little), the operator, uſing the ſame knife as before, cuts the muſcles through down to the bone, cloſe to the margin of the retracted ſkin, with a perpendicular, even, and circular inciſion. Some ſurgeons, however, cut through *obliquely*, by ſlanting the edge of the knife upwards. If the operator has acquired ſufficient dexterity by practice, he will always be able to make this inciſion without carrying the knife twice round the limb.

"As it frequently happens, in amputating the thigh," ſays Profeſſor Murſinna (Neue Med. u. Chirurg. Beobachtungen. Berlin, 1796. 8. pag. 515), "after the circular inciſion through the muſcles, though theſe are divided three fingers breadths higher than the ſkin, that the flexor-muſcles of the leg contract more than the extenſors, and thus, at times, produce a deformity of the ſtump, which occaſions ſome inconvenience in wearing a wooden leg; this accident might be prevented, by keeping the patient's knee moderately bent, whilſt cutting through the extenſors, and extended whilſt making the inciſion through the flexors. The inciſion will, nevertheleſs, be even and circular; and when performed in the above mentioned poſitions of the limb, will prevent any deformity of the ſtump; for the flexors of the leg contract with much more force, after the inciſion, than the extenſors; in order to avoid which, the former muſt be cut through at their greateſt elongation, conſequently when extended, and the latter when contracted. By this practice

no time is loſt, nor any additional pain given to the patient; and both the cure is more ſpeedily effected, and the ſtump acquires a better form."

"Generally (ſays Dr. Richter in Medicin. u. Chirurg. Bemerk. &c. B. I. Gottingen, 1793. 8. pag. 232.) the flexor muſcles contract with much greater force than the extenſors after amputation of the thigh. They do the ſame during the progreſs of the cure alſo, and conſequently, even in the moſt rapid cure, attended with no ſuppuration, the ſtump generally grows uneven at the bottom, which cauſes inconveniences in the application of a wooden leg." He accedes therefore to Prof. Murſinna's opinion, that the extenſors ſhould be divided higher and the flexors lower, conſequently the firſt with the knee moderately bent, the ſecond with the knee extended. This practice deſerves, therefore, to be generally recommended.

According to Mr. Alanſon's method, the knife ought to be conducted in a ſlanting direction, with the edge directed upwards, in order to form a hollow cone; but few ſurgeons have any opportunity of acquiring the dexterity requiſite for performing the operation in this manner, by practiſing it upon dead bodies; and it is not done by ſome of the moſt noted ſurgeons on the continent. Profeſſor Calliſen (Tode Medicin. Journal, B. I. Copenhagen, 1793, p. 106.) does not make his inciſion in the form of a cone, but cuts through the ſkin at the requiſite diſtance from the place where the bone is to be ſawed through. He next ſeparates the ſkin from the muſcles, as far as is neceſſary, in order to turn it back like the cuff of a coat. He next cuts through the fleſh, ſaws off the bone, binds up the veſſels; and, laſtly, draws down the retracted ſkin over the ſtump, and folds it together in ſuch a manner as to make it form an oblong ſlit from above to below, out of which the ligatures of the veſſels hang.

"To hold the knife obliquely (ſays Prof. Murſinna in Neue Med. u. chirurg. Beobachtungen, p. 165.), with the edge turned upwards, in cutting through the muſcles, ſo as to form a conical inciſion, is a refinement upon the operation, which it is equally difficult and unneceſſary to practiſe."

"I am ſtill of opinion," Dr. Richter remarks (Med. und Chirurg. Bemerk. B. I. p. 232), "that the operation by means of which Mr. Alanſon endeavours to make the ſtump itſelf hollow, is very difficult, if not entirely impracticable." He performed the amputation in the following manner: the inciſion was made three fingers breadth above the knee. An aſſiſtant laid hold of the limb, with both hands, above the place of the inciſion, and ſecured the ſkin. By the firſt circular inciſion, the operator divided not only the ſkin, but alſo the cellular texture, as far as the external ſurface of the muſcle; this muſt neceſſarily be done, if we wiſh to be able to draw the ſkin much upwards. When the cellular texture has not been completely divided, we ſhall generally find that it becomes tenſe, whilſt we are drawing the ſkin upwards, and thus prevents its being retracted ſo far as it otherwiſe might. Whilſt, therefore, the aſſiſtant drew up the ſkin as much as poſſible, the operator made a ſecond circular inciſion, cloſe to the margin of the retracted ſkin, with which he again divided the cellular texture as deep as to the ſurface of the muſcles, whereby the aſſiſtant was enabled to draw up the ſkin ſtill much higher; ſo that now the upper margin of the ſkin was at leaſt three full fingers breadths diſtant from the lower. The ſeparating and turning back of the ſkin, according to Mr. Alanſon's method, he conſiders as a very tedious and difficult operation. With the third circular inciſion he cut into the muſcles along the margin of the retracted ſkin, not ſo deep as down to the bone, however, but only about half way through. He now directed this divided external layer of fleſh to be drawn upwards, as much as poſſible, with the ſlit compreſs; and with a fourth circular inciſion along the margin of the retracted ſkin, he cut through the remaining fleſh to the bone. The whole of the fleſh was now drawn back with the ſlit compreſs ſo ſtrongly, that the bone was laid bare the length of at leaſt two fingers breadths, and could be ſawed off to that height. When the ſkin and muſcles were drawn down, the ſtump formed a conically excavated ſurface, at the upper point of which the bone lay ſo deep within the fleſh, that it could not be ſeen. After the veſſels had been tied up, the ſtump was preſſed together on both ſides, ſo that the wound formed a ſlit in a ſtraight direction from before to behind. The edges of the ſkin were ſo cloſe to each other, that the wound reſembled a very narrow fiſſure. The ſkin was faſtened together with adheſive plaſter, and the fleſh and the ſtump were preſſed together by pads of lint applied to both ſides, and then confined by a bandage. The ends of the ligatures hung out at the loweſt and poſterior angle of the wound. Even on the fifth day, three quarters of the wound, from the top, adhered together, and were quite dry; the loweſt quarter, out of which the ligatures hung, was ſtill moiſt, but diſcharged only a very few drops of pus during the whole courſe of the caſe. On the eleventh day the ligatures were ſeparated, and the remaining ſmall orifice cloſed in the ſpace of a few days more.

When all the muſcles have been cut through to the bone (whether we have recourſe to Richter's or Alanſon's mode), the ſlit compreſs is applied; by means of which the remaining muſcular parts are covered, and theſe are, at the ſame time, ſomewhat drawn back by the hands of the aſſiſtant, in order that the operator may be able to uſe the ſaw with more freedom, and ſaw off the bones higher up. When this has been done, the perioſteum is divided circularly, as high as poſſible, with a ſhort, ſtrong knife, and peeled downwards. The ſaw is now applied horizontally, and the bone ſawed through. The operator ſaws ſlowly at firſt, but when the ſaw has laid proper hold of the bone, he moves it ſomewhat quicker; and, at the ſame time, the aſſiſtants hold the limb rather high at the ſuperior part, and low at the inferior, ſo as to bend it ſomewhat aſunder, in order that the ſaw may not get wedged in during the operation. When the bone is nearly ſawed through, the ſaw is again moved ſlowly and with ſhort ſtrokes, in order that the ſtump may become as ſmooth and even as poſſible. Should there ſtill remain any ſmall projection on the bone, this muſt immediately be removed.

As ſoon as this has been performed, the veſſels are to be ſecured by ligatures. The principal trunk is firſt tied up, and if it be at the diviſion of the artery, both branches are included in one ligature. For this operation a triple thread is uſed, which is faſtened together with wax, ſo as to form a flat ligature, in order that the artery may be tied faſt with it, without danger of its cutting through. This thread is inſerted into a crooked needle; the artery is laid hold of, at its orifice, with a tenaculum, or crooked ſharp hook; it is then drawn forwards, and the needle being introduced under the veſſel, in ſuch a manner as at the ſame time to perforate the cellular texture on both ſides, it is pulled through. The aſſiſtant now holds the hook, whilſt the operator takes hold of the ligature inſerted under the artery, and ties it faſt with a double knot, over which ſome ſurgeons make another ſingle one, about two lines above the extremity of the veſſel. The ligature is generally left of ſuch a length, that it can be conveniently faſtened upon the ſkin on the outſide of the wound. Should we find it difficult to diſcover the trunk of the ar-

tery in proper time, the tourniquet muſt be looſened, upon which the ſpouting of the blood immediately diſcovers its orifice. In order to diſcover the orifice of the lateral veſſels, the tourniquet muſt always be quite looſened, that they may alſo be bound up in the manner already deſcribed.

As the adheſion of the parts, and the healing of the wound depend upon the blood being entirely ſtopped, it is neceſſary that all the lateral veſſels which diſcharge any ſhould be tied up; for which purpoſe the ſurgeon, when he has looſened the tourniquet entirely, wipes the ſtump with a wet ſponge, examines whether any of the branches diſcharge blood, and ties up thoſe which do, be they never ſo ſmall. When no more blood is diſcharged, the ſtump is once more wiped with the ſponge, entirely cleanſed from the blood, and the lips of the wound are brought together.

The ends of the ligatures, if there be many, ought to be diſtributed between both angles of the wound, that they may not form a thick bunch, and occaſion inconvenience by their preſſure. When every part of the operation has been performed in manner above directed, the adheſion will take place eaſily; but if the directions are not obſerved, it will ſometimes not take place without much difficulty and pain.

The lips of the wound may be brought together in two different ways. Some preſs them together, on both ſides, ſo that the wound forms a perpendicular ſlit, which runs in a ſtraight line from the fore to the back part of the thigh, and let the threads of the ligatures hang out of the lowermoſt and poſterior angle of the wound. Others preſs them together, ſo as to form a horizontal fiſſure: in this manner the ſtump can lie conveniently, and the fluids may ſtill be diſcharged by the two lateral orifices of the wound, out of which the threads hang. By this method the ſtump alſo acquires a better form than when the fold is made perpendicularly.

When the lips of the wound are brought together in either of the abovementioned ways, they muſt be made to apply neatly to each other, and all the points of the ſides of the wound brought into cloſe contact. Whilſt the ſurgeon holds them together in this manner, an aſſiſtant applies from four to ſix ſlips of adheſive plaſters; then lays over the edges of the wound ſome looſe dry lint, and covers this with a quantity of the ſame ſubſtance, ſpread with a mild, healing ointment. The whole is finally ſecured with a long bandage, which is applied at the upper part of the thigh, and carried down in ſpiral folds round the limb to the bottom, where it is doubled round, and carried up again to the upper part; it is then doubled round, and brought over the fore ſide upon the wound from behind upwards; and theſe folds are repeated over both ſides of the thigh and over the wound, in ſuch a manner, that one fold always half covers the other. The whole thigh is thus ſurrounded with the bandage. Theſe folds are then ſecured by circular folds from below upwards, without croſſing the bandage over the ſtump, as that would be an impediment to the adheſion of the wound; but by this method of bandaging, the retraction of the ſkin is prevented, and the adheſion promoted.

After the bandaging has been completed, the patient is placed in a convenient poſture, and the thigh is laid upon a bolſter, gently bent; for if laid horizontally, or even lower than the horizontal line, it not only cauſes pain to the patient, but the flexor muſcles of the thigh conſtantly tend to bend it and bring it to the abovementioned poſition. If we attempt to counteract this tendency, by applying force to the limb, it becomes convulſed, and the adheſion is fruſtrated.

If no particular ſymptoms forbid it, the firſt dreſſings are ſuffered to remain on till the fourth, fifth, or ſixth day; and when all this is ſtill properly united, the adheſive plaſters are nevertheleſs left in their places, the wound is cleanſed from the impurites that have been diſcharged, and the limb is bandaged in the manner above deſcribed. If any of the plaſters have broken looſe, or the lips of the wound have ſeparated at any part, the plaſter is cut through over the wound, without pulling it off, and a new one, or if it be neceſſary, ſeveral are applied, in order to bring the ſeparated lips of the wound into proper contact

Inſtead of the circular bandage above deſcribed, ſome adviſe the limb to be rolled with Loder's twenty-ſeven-tailed bandage, (D. Juſt. Chr. Loder, Chirurg. Medicin. Beobachtungen, &c. lib. i. Weimar, 1794, p. 14. Tab. I. fig. 4, 5.) in which caſe a circular bandage is firſt applied to the upper part of the thigh, and carried down to the bottom in ſpiral folds, ſo cloſe to each other, as to prevent the retraction of the ſkin and muſcles, but not to excite pain, or obſtruct the circulation. The bandage is faſtened with a pin at the lower part of the ſtump, leaving for future uſe a piece large enough for folding two or three times round the limb. After the whole of the bandaging has been performed as above deſcribed, the remaining part of the fillet is folded twice or thrice round the limb, ſo that the preſſure can be increaſed or diminiſhed at pleaſure, and finally the twenty-ſeven-tailed bandage is applied.

While we apply the circular bandage, the tourniquet muſt be removed, but it muſt be again applied as ſoon as we have finiſhed the bandaging of the limb, in order that we may be able immediately to ſtop any hæmorrhage that may come on; for which purpoſe it muſt likewiſe be kept applied for ſeveral days after amputation has been performed.

When the patient has been put to bed, and a hooped frame laid over the ſtump, he ſhould immediately receive an opiate, in order to prevent involuntary ſpaſmodic motions of the ſtump. During the firſt days after amputation, an aſſiſtant ought frequently to examine the thigh with great care, in order that if he ſhould find blood to flow from any of the veſſels, he may draw the tourniquet as tight as is neceſſary to prevent any material hæmorrhage, till proper aſſiſtance can be obtained. If there exude only a ſmall quantity of blood from the ſurface of the ſtump, it is unneceſſary, on that account, to remove the bandages; but when the hæmorrhage is conſiderable, it can only be ſtopped by the application of ligatures; for were it even poſſible to ſtop it by compreſſion, this would fruſtrate our principal aim, namely, the ſpeedy union of the parts without ſuppuration. After we have ſtopped the bleeding, we muſt apply the bandages as before directed.

When every thing goes on according to our wiſh, the bandages are only renewed every two or three days, in order that we may not impede the uniting of the parts; but oftener, if the ſuppuration becomes more copious, or a new pain is perceived in the wound. Commonly about the 10th or 11th day, ſometimes later, the threads of the ligatures may be drawn out by gently pulling them; frequently they grow looſe and fall out of themſelves. When the threads have been detached, the open angles of the wound are to be united nearly in the ſame manner as before; after which the complete cicatrization of the wound takes place in a longer or ſhorter time, but commonly in a week or a fortnight more.

To prevent inflammation, the patient ſhould be ſtrictly treated during the firſt days after the operation, according to the antiphlogiſtic regimen; though this muſt be uſed with great caution in exhauſted and debilitated conſtitutions, leſt by too ſtrict a regimen we might impair the ſtrength of the body. When the pyrexia has abated, and the patient is in a

ſtate of debility, we give him Peruvian bark, preſcribe proper diet, and, at the ſame time, take care to keep his bowels open. As ſoon as the patient feels himſelf well, it is beſt to give him no medicines at all, but merely to enjoin attention to a proper diet.

It ſometimes happens, that in applying the dreſſings we find the parts red, tenſe, and painful to the touch, and the deges of the ſkin at a little diſtance from each other. As long as theſe circumſtances continue, we muſt omit the application of the adheſive plaſters, and cover the ſurface of the ſtump with a pledgit of ſoft lint ſpread with cerate, as in the firſt dreſſing; over this we are to apply a cuſhion of lint, which is to be ſecured with ſlips of adheſive plaſter, or croſs pieces of linen; and the whole of theſe dreſſings are to be confined with the circular bandage, the preſſure of which ought to be not ſtronger than is neceſſary for ſecuring the dreſſings. When the bandage is ſoiled, with the pus collected upon it, it ſhould be changed for another; otherwiſe it may be left in its ſituation. In general, we ought not entirely to lay aſide the bandages till the third or fourth week after the operation; but at that period we ſhould do it leſt the ſtump grow thinner than the other thigh. As ſoon as the wound is perfectly clean, and the pain and ſenſe of tenſion removed, the edges of the wound may again be drawn cloſely together with adheſive plaſter.

The amputation of the thigh has been performed only at its lower part, namely, at the adopted diſtance of three or four fingers breadths from the knee, for fear of a too copious hæmorrhage; but experience has ſhewn, that in caſes of neceſſity the operation may be ſafely performed very high upon the limb. Only in ſuch caſes the tourniquet muſt be ſecured with great care, that it may not ſlip off in conſequence of the retraction of the muſcles. For this purpoſe we may, according to Mr. Schmuker's method, (Vermiſche Chirurgiſche Schriften, lib. i. Berlin a Stettin, 1776, c. 8. p. 43.) lay under the tourniquet four pieces of tape about an inch broad, and two feet in length; directing two aſſiſtants to lay hold of theſe like handles, and draw them tight, two of them on the inner, and two on the outer ſide of the limb, whereby all ſuch diſagreeable conſequences will be prevented.

Amputation of the Leg.

It is adopted by many as a general rule, that the amputation of the leg ſhould never be performed juſt above the ankle, even though the diſeaſe be ſeated near the bottom of the limb; but always three or four finger-breadths under the knee: repeated experiments, however, have ſhewn, that amputation may be ſucceſsfully performed juſt above the ankles, and as near to them as the diſeaſe permits. The advantage of being able to uſe the knee-joint in walking is ſo great, that the ſurgeon ſhould not deprive the patient of it. (See our account of the *Flap Operation.*) The objection, that a long ſtump is an incumbrance, may be removed by the uſe of an artificial foot. In order to promote the cure of thoſe wounds, the projecting tendinous parts muſt be ſeparated with the ſciſſars. Mr. B. Bell conceives it to be better in every inſtance, where the circumſtances admit of it, to amputate a little above the ankle than at the upper part of the leg: amputation immediately under the knee he rejects entirely, as the cure of the ſtump is always tedious in this ſituation, the bones thick, and the ſoft parts deficient. In ſuch caſes he prefers amputating above the knee, though his opinion cannot be unconditionally adopted.

When we are to amputate immediately below the knee, the patient is placed upon a table, and ſecured in the ſame manner as in the amputation of the thigh. Some are of opinion that the tourniquet ſhould be applied a little above the knee, with the cuſhion upon the artery in the ham; but others apply it alſo in this operation immediately under Poupart's ligament, or in the middle of the thigh, which is the preferable method. The foot and leg are ſecured by an aſſiſtant, who ſits before the patient. A ſecond aſſiſtant draws up the integuments towards the knee. The ſurgeon ſtands on the inſide of the limb, and with his knife makes firſt a circular cut through the ſkin and cellular ſubſtance down to the muſcles; ſo that after as much of the integuments as will afterwards be neceſſary for covering the ſtump, has been ſeparated in this manner from the parts beneath, the muſcles and bones may be divided immediately below the part where the tendons and flexor muſcles of the leg are inſerted. When this has been done, the ſoft parts between the two bones muſt be divided with a two-edged knife (named a CATLIN), and the periоſteum ſeparated downwards. The ſkin and other ſoft parts muſt then be held faſt to protect them againſt the ſaw, which is to be applied ſo as to cut through both of the bones together. When this has been done, and the veſſels tied, the external integuments are drawn over the ſtump, and retained with adheſive plaſters. During the courſe of the cure the practice is the ſame as after amputation of the thigh.

In ſeparating the ſkin we muſt be very careful to ſeparate it from the ſubjacent parts in ſuch a manner as to have as much as poſſible, if not the whole, of the cellular ſubſtance attached to it. The more we deprive the ſkin of its cellular texture, the more lifeleſs it becomes, and the leſs fit for adhering ſpeedily to the ſtump. As the ſkin alſo on the fore part of the leg cannot be retracted with near the ſame facility as in other parts, for example, the thigh, where it lies upon muſcles, whilſt on the fore part of the leg; on the contrary, it is connected by a very denſe cellular ſubſtance immediately to the periоſteum, the aſſiſtant is always obliged to fold back as much of it as has been ſeparated, before the diviſion of the muſcles can be attempted, in order that the ſurgeon may be able to ſeparate them from the bone, and ſave as much of them as is requiſite for covering the ſtump.

The reaſon why the ſurgeon is directed to ſtand on the inſide of the leg in this operation is, that when the knee and foot are turned inwards, and the fibula raiſed, he may be able to ſaw through both bones of the leg together, which he cannot do when he ſtands on the outſide. Finally, he muſt take care not to ſuffer the bone to break off, or ſhould ſuch an accident happen, he muſt remove the inequalities that may be produced by it. Many have adviſed, in amputating the leg, after the muſcles have been cut through, to apply a ligature round both bones, in order to hold them faſt, and the ſame has alſo been adviſed in the amputation of the fore-arm; but this can be of no advantage, for it will be better to hold both the bones faſt with the hand, and inſert the forefinger between them, nearly under the ſpot where the ſaw is to go through, in order to prevent their coming into contact with each other.

When the leg is amputated immediately above the ankle, an artificial foot cannot eaſily be applied and ſecured upon the ſtump; the machine muſt be made heavier and thicker at the ankle, nor can the leg be made ſo equal in length and thickneſs as the other, as would otherwiſe be poſſible. When the ſtump is about nine inches in length from the knee, its dimenſions are reckoned to be in every reſpect the moſt convenient.

Of amputating with a Flap.

In the old method of performing amputation, the cures were very tedious, and the health of the patients much impaired;

paired; and as the ſtumps became ſo pyramidal and ſcantily covered with ſoft parts, an attempt was made to perform the operation in ſuch a manner as to ſave a quantity of fleſh and ſkin for the purpoſe of covering the ſtump. This operation we have ſhewn to have been firſt invented by Mr. Lowdham, of Exeter, and afterwards practiſed by Mr. Young, of Plymouth; though ſince their time Verduin, of Amſterdam, and ſtill later, Sabourin, of Geneva, have claimed the merit of this invention. In France this method met with many advocates, but it was never approved of in Germany. In England it had been wholly neglected for a long time, when it was anew propoſed by O'Halloran, with ſome alterations and ſuppoſed improvements of his own. (See his Treatiſe on Gangrene, 8vo. London, 1765.)

As it is very difficult to reſtrain the hæmorrhagy which may accidentally happen to ſupervene, after the flap has been applied in Mr. Young's manner, it being neceſſary for that purpoſe to undo the whole of the bandages, and ſeparate the flap from the ſurface of the wound; moreover, as the flap does not always adhere uniformly over the whole ſurface of the ſtump, and the pain, inflammation, and tenſion which ſupervene, are ſometimes much more violent than after the ordinary method of amputating, Mr. O'Halloran propoſed to dreſs the ſtump and flap as two ſeparate wounds for the firſt twelve or fourteen days; but afterwards, when the danger of a bleeding is over, the ſymptoms ſubſided, and ſuppuration eſtabliſhed, to turn the flap back over the ſurface of the ſtump, and ſecure it by adheſive plaſters, compreſſes, and bandages, till a complete adheſion has taken place. It ſeems that one grand cauſe of failure in the ſucceſs of the flap operation, as it was performed in France about a century ago, was "the monſtrous hæmorrhagy," as Mr. O'Halloran expreſſes himſelf; and, according to *their* uncouth mode of conducting the operation, we almoſt agree with the laſt named writer, that "it was abſolutely impoſſible for it to ſucceed." But we are ſurpriſed that Mr. Benjamin Bell, of Edinburgh, even in the new edition of his Surgery, ſhould miſrepreſent the ſucceſs of the *preſent mode*, ſo much as to deny its having cured "before the fourth week." Syſtem of Surgery, vol. vii. p. 330. 7th edition: this is certainly an unfair and imperfect ſtatement of Mr. B. Bell.

By Mr. O'Halloran's improvement the flap operation was rendered more ſafe and certain, but has not come into general uſe, as that which Mr. Alanſon invented in the mean time deſerves, in moſt caſes, the preference. The flap may, under various circumſtances, be employed with advantage. Where it is impracticable in the common way to cover the divided parts ſufficiently, we ought always to cut out a flap of muſcle or ſkin for that purpoſe: it is beſt, for example, when we amputate the arm at the ſhoulder joint, or a finger, or toe. It has alſo been preferred by ſome ſurgeons when the leg is to be amputated immediately under the knee, as the integuments are very thin at that part, and there is reaſon to ſuppoſe that the ſtump cannot be ſufficiently covered by any other means.

It has not been the common practice to make a double flap, although this is at preſent done with very great advantage by the ſurgeons of the Liverpool Infirmary. Their method is (excepting for diſeaſes of the feet) to take the flap from each ſide of the limb, in preference to above and below, as it affords a better outlet for any pus that may collect in the ſtump. Upon an average, we find, on making recent inquiry, the ſtumps are healed in about "*eighteen days*;" which is more than can be ſaid in favour of any other mode of amputating. The double flap likewiſe is free from the puckered appearance which remains after the ſingle flap; and in a few weeks, we are informed, "the cicatrix can hardly be perceived." Our own experience with the flap operation, even in the metropolis, is much in its favour; ſo that whatever objections have been raiſed againſt it (when properly performed), we are ſtrongly inclined to think they have been chiefly theoretical, and not founded on actual obſervation.

Amputation with a Flap immediately above the Knee.

This operation may be performed either with one or two flaps; but if it be done with only one, it ſucceeds beſt on the fore part of the thigh, as there is here a ſufficiency of ſoft parts for forming the flap and covering the bone; and as the matter thus paſſes off more readily when the flap is applied, and the patient laid down upon his back.

The patient being placed upon a table, and the tourniquet applied to the femoral artery below Poupart's ligament, an aſſiſtant draws the ſkin firmly up, and retains it in that ſituation. Whilſt this is doing, we ought to mark, with ink upon the ſkin, the circumference of the intended flap. The extreme angle of the flap ſhould reach to the bottom of the thigh unleſs the ſkin be much diſeaſed, in which caſe the flap muſt terminate where the diſeaſe of the integuments commences. The baſe of the flap muſt be at the place where we intend to ſaw through the bone. Its breadth muſt be proportionate to the dimenſions of the limb. If, for example, the diameter of a ſtump be twelve inches, a flap four inches and a quarter in length will be fully ſufficient to cover it. But as ſome allowance muſt alſo be made for the quantity of ſkin and muſcles that may be ſaved on the oppoſite ſide of the limb, by drawing them up before ſawing the bone, a thigh twelve inches thick will not require a flap more than three inches and a quarter long, and ſo in proportion to the ſize of the limb. The flap ſhould be as broad at the baſe as the breadth of the limb will permit; and it ſhould be continued nearly, though not entirely of the ſame breadth, till within a little of its termination, where it ſhould be cut circular, ſo as to correſpond, as accurately as may be, with the back part of the circumference of the wound.

When now the ſurgeon has marked out the circumference of the flap, he muſt place himſelf on the outſide of the thigh, apply the point of a ſtraight double-edged knife to the outer ſide of the baſe of the intended flap, and puſh it in to the depth of the bone; then, carrying the point cloſe to the bone, puſh it through the integuments on the oppoſite ſide of the mark. He muſt now carry the edge of the knife downwards in ſuch a direction as to cut out the flap according to the figure marked out; but towards the end he ſhould raiſe the edge ſomewhat from the bone, ſo as to make the lower part of the flap ſomewhat thinner than the baſe, whereby it will apply more accurately to the ſurface of the ſore. The flap muſt be held by an aſſiſtant, but the ſkin and muſcles on the back part of the limb muſt, with one ſtroke of the knife, be cut down to the bone, about an inch lower down than where the bone is to be ſawed. The muſcles are then to be ſeparated to this height from the bone, with the point of the knife, and all the ſoft parts muſt be drawn back with the ſlit compreſs, till the bone is ſawed. Any ſplinters that may have been left are then to be ſeparated, the arteries tied up, and the ligatures left hanging out at the edge of the flap.

The muſcles and integuments muſt now be drawn down, and ſecured with a roller, as has been directed above, in treating of the amputation of the thigh with the circular inciſion. The flap may now be laid down over the ſurface of the wound, the coagulated blood having firſt been carefully wiped off with a ſponge, and the flap may then be moderately ſecured to the ſtump with adheſive plaſters and ſutures. The under part of the ſtump ſhould be covered with a large

a large pledgit ſpread with cerate, and a cuſhion of lint or tow laid over it. The whole ſhould then be ſecured with croſs ſtraps of linen, and ſeveral turns of the circular roller. After the ſpace of three or four days, or even longer, the dreſſings may be renewed. As ſoon as all the ligatures are removed, and the tenſion and pain have abated, the ſkin may be drawn over every part of the wound which before was not covered, and ſecured with adheſive plaſters.

The method now deſcribed is generally to be preferred; but if, inſtead of effecting the cure by promoting a ſpeedy adheſion of the parts, the ſurgeon deems it adviſeable, he will treat the flap as a ſeparate wound according to O'Halloran's method; in which caſe, his eaſieſt mode of proceeding is as follows: The muſcles and ſkin being brought down and ſecured with the roller, the whole ſurface of the ſtump is covered with a ſoft pledgit ſpread on both ſides with an emollient ointment. Upon this the flap is laid down, and another pledgit of the ſame kind being laid over the flap, a cuſhion of lint or ſoft tow, and a compreſs of ſoft linen are applied, and the whole is ſecured with croſs ſtraps of linen and a circular roller; but with no more preſſure than is requiſite for the ſecurity of the dreſſings. At the end of three or four days the dreſſings may be renewed in the ſame manner; and about the tenth or twelfth day, or whenever the tenſion and inflammation are removed, the ligatures may be taken out.

When now a proper ſuppuration is eſtabliſhed, the flap may be applied to the ſtump. But previouſly, the matter muſt be wiped off from the ſurfaces of both ſores, with a ſoft ſponge, and theſe being brought into contact with the greateſt exactneſs poſſible, they may be ſecured either with adheſive plaſters or two or three ſutures.

Mr. Benjamin Bell, who prefers the latter method, aſſures us, that when, with a view to immediate adheſion, the flap is laid down directly after the operation, the pain, tenſion, and inflammation, which enſue, run often ſo high as to compel the ſurgeon to remove the dreſſings: whereas, when O'Halloran's method is adopted, the inflammation which enſues is very trifling, and the cure is accompliſhed even more quickly, than when the operation has been done according to the former method. We are, however, very much diſpoſed to think the inflammation, &c. is too often produced by tight bandaging or ſutures, in the caſes where it fails of ſucceſs.

The operation with *two flaps*, according to Ravaton's method, is performed in the following manner: When the tourniquet has been applied, an aſſiſtant draws up the ſkin tight, and makes a circular inciſion through the ſkin and muſcles at the lowermoſt part of the limb, with the edge of the knife turned obliquely upwards. A ſharp-pointed knife is now puſhed in on one ſide of the limb down to the bone, at the part where the bone is to be ſawed, and the under edge of the knife being turned obliquely outwards, the muſcles are divided down to the circular inciſion. The ſkin and muſcles on the oppoſite ſide of the limb are now divided by a ſimilar inciſion, and with theſe the intermediate ſoft parts that may have been left are likewiſe cut through. When now the bone has been ſawed, and the veſſels tied up, the ſurgeon muſt either lay both flaps together immediately (as we recommend), or keep them ſeparate for the firſt twelve or fourteen days, after which he may treat them in the manner above directed.

Of the Flap-Operation below the Knee.

This operation is performed nearly in the ſame manner as that above the knee; and the flap may be applied either immediately, or after the pain, tenſion, and inflammation are gone. Only we cannot here, as on the thigh, ſo commodiouſly cut out the flap on the fore part of the limb, as the leg has no muſcles there. On that account all writers direct the flap to be cut out at the back part: though this is attended with a very conſiderable inconvenience. For when the flap has been cut out of the calf of the leg, it is ſcarcely poſſible, after it has been applied to the ſtump, to prevent the accumulation and retenſion of the pus, as it does not find a free vent below, and we dare not apply more than a very moderate degree of preſſure to the ſtump.

Inſtead therefore of cutting the flap out of the back part of the leg, Mr. B. Bell adviſes us to do it from the outſide of the limb, where there is a ſufficient quantity of muſcles for the purpoſe, and where the flap can be no impediment to the diſcharge of the pus. He therefore performs the operation according to the following method: Let the point of the knife be entered on the outſide of the ridge of the tibia, at the place where the bone is to be ſawn, and after carrying it backward, in a direct line, to the oppoſite ſide of the baſe of the flap, let the edge be carried down the line previouſly marked with ink as a direction for the form and length of it.

When we amputate immediately above the ankle, we muſt cut out the flap behind, as there is not a ſufficient quantity of ſoft parts behind; but it is here to be repeated, what has already been obſerved, that the leg ought never to be amputated ſo immediately above the ankle, as to have the ſtump too long for an artificial leg and foot being conveniently adapted to it. In an adult we ought therefore to form the flap about nine inches under the knee, if we wiſh to perform the operation in this manner.

Amputation of the Foot, Toes, and Fingers.

When the whole foot is diſeaſed, we muſt perform the amputation in the manner above mentioned, above the ankle. This ſhould alſo be done even where the joint itſelf is ſound, but all the reſt of the foot diſeaſed. Some, indeed, have adviſed to take off the foot at the ankle joint; but as, when this is done, an artificial foot cannot well be applied, nor the ſtump covered with fleſhy ſubſtance, the amputation above the ankle is evidently to be preferred.

But when a conſiderable part of the foot is ſtill ſound, we ought to endeavour to preſerve it, and merely to remove what is diſeaſed; and this ſhould be our practice even where two of the metatarſal bones only remain ſound; for the patient may ſtill make great uſe even of a ſmall part of the foot in walking, provided he wears a ſhoe well made, properly ſtuffed out, and with a ſtrong unyielding ſole. This may be done, eſpecially when the bones on the inſide of the foot, or thoſe correſponding to the great toe, and thoſe next it, are left. Very remarkable, therefore, is the caſe of Mr. Turner's amputating the foot at the middle. The operation was performed on account of a painful tumour, which extended as far as the middle of the metatarſus; and it was thought unneceſſary to amputate above the ankle. A double inciſion was therefore made, and in order to preſerve as much as poſſible of the integuments, a ſmall part of them ſituated above the tumour, was included in the firſt inciſion. As the integuments could not be drawn back to any conſiderable length, it was impoſſible to preſerve ſo much of them as might have been wiſhed. The foot was ſawed through at the upper part of the metatarſus, the hæmorrhage was eaſily ſtopped, and in the courſe of ten weeks it was completely healed, without any violent ſymptom having ſupervened.

When only ſingle bones of the tarſus are diſeaſed, theſe bones alone are to be taken out. When only one part of a bone

bone is diſeaſed, this muſt be removed with the ſaw, chiſel, or trephine, but not the whole bone taken away.

In every amputation as much ſkin as is ſufficient for covering the wound muſt be ſaved; but this is particularly neceſſary in amputating any part of the foot, where bad effects are to be apprehended from friction in walking. As the ſkin of the ſole of the foot is commonly very thick, the flap which is to cover the ſore ought, if poſſible, to be taken from that part; for this will prevent the bad effects of friction upon the part, much more than could be done by the ſkin of the upper part of the foot which is thinner, and unaccuſtomed to friction or preſſure.

In performing this operation, the patient is placed on a table, and the tourniquet applied either below Poupart's ligament, near the upper part of the thigh, or over the knee, with a compreſs in the ham. The limb is ſecured by an aſſiſtant, and in ſawing through the diſeaſed bone, a piece of paſteboard, or a thin ſplint of wood, ſhould be inſerted between it and the contiguous ſound bone, in order to protect the latter from the ſaw. When the diſeaſed bone has thus been removed, and the arteries tied, the flap that has been ſaved is laid, with as much exactneſs as poſſible, on the ſore, and ſecured with ſlips of adheſive plaſter, and a roller. If ſutures are employed, they ought to be inſerted in ſuch a manner as not to injure the tendons of the flexor and extenſor muſcles of the foot and toes.

In amputating the fingers and toes, we proceed in the ſame manner as with the larger extremities, and the ſtump muſt here alſo be covered with a flap. The ſkin is drawn back as much as poſſible, after which the ſkin and fleſh are cut through with a ſtraight biſtoury, between the contiguous ſound fingers and the diſeaſed one, in a ſtraight line backwards, till ſomewhat above the joint, on both ſides; the ſkin and fleſh are alſo cut through above, round the joint; the finger is then bent towards the palm of the hand, and cut off from the out to the inſide; the inciſion terminating at the fore part in ſuch a manner, that ſtill ſome part of the fleſh is preſerved for the purpoſe of being afterwards applied over the wound to facilitate the cure. When we only leave a ſingle flap of integument on the finger, it has been recommended to let it be taken from below in labouring people, to afford a ſuitable ſtump for preſſure; but, where beauty is more an object than uſe, we may take the flap of ſkin from above, as it will then ſcarcely occaſion a viſible ſcar after the cure.

In as much as we here ſpeak of the caſe, in which the whole finger or toe is amputated from the contiguous metacarpi or metatarſi, we muſt alſo proceed in a ſimilar manner when amputating only one or two joints; and if we find it neceſſary to tie an artery, we ſhould do it by means of the tenaculum. The flap muſt be laid over the wound, and ſecured as accurately as poſſible with adheſive plaſters, and moderate preſſure with a roller. The objection which has been made that the union of the ſoft parts with the cartilage is precarious, is not founded in truth; for the ſkin unites with the cartilage, which covers the bone at the joint almoſt as readily as with other parts. It is therefore unneceſſary that we ſhould ſeparate the cartilaginous ſurface of the joint with a ſmall ſaw, as was formerly the general practice.

Amputation of the Arm and Fore-Arm.

This is performed in every reſpect in the ſame manner as has formerly been directed for the amputation of the thigh and leg. It ſhould be remembered, however, that a long ſtump will be more uſeful in the arm than a ſhort one. When we are to amputate at any other part than the joint, we may do it without cutting out a flap to cover the wound; for in theſe parts there is a ſufficient quantity of muſcles, cellular texture and ſkin, for covering the ſtump, if we draw back the ſkin, according to the directions formerly given, and firſt divide that, and afterwards the muſcles. Should this not be practicable in certain caſes, it would then undoubtedly be better to perform the operation with a flap.

Amputations in the Joint.

Theſe operations have been recommended on the authority of a number of caſes in which they have been performed. In ſuch an operation we are directed to cut firſt through the ſkin, nearly over the joint, with a ſtraight knife upon the upper or foremoſt ſide, making a ſemicircular inciſion; we then open the capſule of the joint on both ſides, and in doing this, we bend the limb (ſuppoſe it be the hand) in order to obtain room for cutting through the capſule all round, that we may the better be able to ſpare the cartilage of the ſound member. The reſt of the operation and cure is conducted in the uſual manner.

But though amputation at the joint is preferable to amputation above the joint, with the fingers and toes, and perhaps alſo with the hand, the application of the ſame practice to other joints, ſuch as the elbow, knee, and ankle joint, muſt be attended with very great difficulties. For, in the firſt place, this method of amputating is in fact more tedious than the operation above the joint. It is alſo equally painful, and the hæmorrhage equally dangerous; and as the ſoft parts in theſe joints are moſtly aponeurotic and tendinous, a favourable inflammation and ſuppuration are not ſo likely to enſue. Beſides it is very difficult at the elbow and ankle-joint to ſave ſo much muſcular ſubſtance and ſkin as are requiſite for covering the bone at the ſurface of the articulation, on which account a tedious ſuppuration and exfoliation generally take place; and there is reaſon to apprehend, that we may afterwards be ſtill compelled to amputate again above the joint, and ſaw through the bone.

We ſhall deſcribe the operation, as it has been done at the hip and ſhoulder-joint by eminent ſurgeons.

Amputation of the Arm at the Shoulder Joint.

Though this operation ought never to be performed when we can accompliſh our purpoſe by amputating below the ſhoulder-joint, it being always a hazardous operation, yet we ought not to heſitate to undertake it, when abſceſſes in the joint, caries of the humerus extending to the ſhoulder, complicated fractures reaching as far as the head of the bone, bad gun-ſhot wounds, or a ſphacelus render it neceſſary. Mr. Bromfeild has given the following directions for performing it; and he did it ſeveral times with ſucceſs. See his Chirurgical Obſervations, vol. i. p. 247, *et ſeq.*

When the apparatus is ready, place the patient upon his ſound ſide upon a table, and in a ſomewhat oblique poſture, that the ſurgeon may have room to move freely. Let an aſſiſtant then compreſs the ſubclavian artery at the place where it paſſes through the ſcalenus muſcle, in ſuch a manner that, by the reſiſtance of the firſt rib, the paſſage of the blood through the artery may be entirely prevented. In order to know whether the preſſure be ſufficient for this purpoſe, we have only to examine the pulſe at the wriſt.

The patient being properly ſecured by the aſſiſtants, and preſſure made firmly on the artery, the ſurgeon begins his inciſion on the inner ſide of the arm, at the edge of the deltoid muſcle, namely, at the place where the great pectoral muſcle paſſes over the axilla, to be inſerted into the os humeri. He cuts through the ſkin and muſcles, carrying his inciſion downwards, and rather obliquely outwards, till he arrives a little

little below the termination of the deltoid. He then continues his incision across to the outer side of the arm, but so as to make this cross incision semicircular, and continues it on the outer side of the arm as far as the fold of integuments in the axilla. By means of this semicircular incision, we obtain, provided the skin and muscles have been drawn upwards from the bone, a flap of the form of a crescent, with which we may fill up the axilla after the operation.

A second incision must now be made, commencing at the processus acromion, to be continued quite through the deltoid muscle in a longitudinal direction, and as far as the place where this muscle is inserted into the os humeri, terminating in the first semicircular incision. This incision, however, must not divide the flap into two equal parts, but it must be carried somewhat more inwards, so as to make the outer division of the flap the largest. The operator then passes his knife under the outer edge of the inner division of this flap, and separates it from the bone as high up as he is able. By these means, the tendon of the pectoralis major is laid bare. He now introduces under the tendon the fore-finger of his left hand, which serves as a conductor to a crooked knife provided with a guard at the point, with which he cuts through this tendon, near to the place where it is attached to the os humeri. If by these means the vessels have not yet been laid sufficiently bare to be easily taken up, he divides also the outermost head of the biceps muscle.

The vessels being now sufficiently in view, the surgeon first ties the artery with a strong ligature about eight inches in length. For this purpose he makes use of a peculiar kind of instrument, which is fixed to a flat handle, like a scalpel, and towards the point resembles a blunt crooked needle, having a transverse eye at its anterior extremity. When he has introduced the ligature under the artery, by means of this instrument, he directs his assistant to lay hold of the ligature, with a small tenaculum, on the other side, near to the eye of the needle; which being done, he draws back the needle. He now cuts through the ligature, at the tenaculum, by which means he obtains two ligatures. The one of these he lays hold of, and draws it a little forwards, in order to find its other end; after which he ties the artery with a surgeon's knot, about two inches below the head of the os humeri. The other ligature is applied about half an inch lower down, and the artery is then divided a little below the second ligature. The great brachial vein must also be tied with the same care, without, however, including the nerve, and then cut through in the same manner as the artery. He then delivers the ends of the ligatures to an assistant, who holds them up with one hand, towards the upper part of the thorax, and with the fingers of the other compresses the vessels at the axilla.

The surgeon then divides the nerve as high as possible, and much higher than the artery. He now separates the outer part of the flap also, as high up as sufficiently to expose the capsule of the joint; he then cuts through the muscles and the capsule at the superior and lateral part, and presses the arm a little backwards, upon which the head of the bone is immediately dislodged from the socket of the joint, after which the remaining part of the capsule is easily divided. He now completes the operation with the third grand incision, which he commences at the inside of the shoulder, where the vessels must be protected by the fingers of the assistant from the knife; and continues it in a semicircular direction through the fleshy parts, which cover the inner side of the joint, till this incision terminates in the first incision on the outside of the arm. Should any of the vessels still throw out much blood, it must be drawn out with the tenaculum and tied, taking care not to include the nerve in the ligature. The ends of the ligatures are then drawn to the outside of the arm, and the inner part of the flap let fall down in such a manner, as to fit into the semicircular incision. The surgeon then passes a large crooked needle with a thread through the inner flap, about an inch and a half under the upper and inner part of the wound, and carries the point of it through the skin of the wound in the same line, forming the interrupted suture in the usual manner, in order to promote the speedy union of the parts. The same operation he repeats twice with the outer flap, then draws out the ends of the threads through the middle incision in the deltoid muscle, and lets them hang out till they come away spontaneously, which may be in about eight or ten days.

When the socket of the joint is not carious, the operator, before drawing out the ends of the vessels, is recommended (but, we think, very improperly) to separate the cartilaginous substance which lines its socket with a scalpel, and to cover the bone with dry lint, which is to remain there till it comes away of itself. He also makes use of dry lint when the socket of the joint and the adjacent bones are carious. Every long sinus that does not proceed perpendicularly upwards must likewise be laid open by an incision.

After the operation he covers the stump with a double piece of flannel, which he draws together with a needle and thread, in such a manner as to make it lie close upon the upper part of the shoulder, so that it cannot fall down. This he further secures with other stripes of flannel, from three to four fingers-breadth broad, and from six to nine feet in length, according as the strength of the patient requires, sewing such a stripe of flannel on each side to the upper edge of the bandage; the foremost of which he carries behind over the back of the patient, and the hindmost forwards over his breast, so that they cross each other over the shoulder, and again on the opposite side at the axilla, after which their ends are brought back to the stump, and there secured with pins. Two other stripes of flannel are fixed on the inner and outer side, to the inferior margin of the flannel bandage on the stump, one of which is carried across the back, and the other across the breast at the lower part of the sternum; they are then made to cross each other at the axilla of the sound arm, then brought round to the shoulder, and crossed again; after which the end that was brought out under the axilla, and carried to the shoulder, is now passed along the lower part of the neck to the bottom of the stump. The other end is brought forwards, and secured to the bottom of the stump with pins.

Mr. Benjamin Bell advises us to perform this operation, after a method somewhat different from that of Bromfeild; although he seems not to have done it himself. He directs us to place the patient upon a table of a convenient height, covered with a mattress and a blanket. Let him be laid upon his back, as near as possible to the edge of the table, and properly secured by assistants. Hæmorrhagy is guarded against by an assistant compressing firmly with his finger and a cushion on the subclavian artery, as it passes over the first rib directly above the clavicle. The diseased shoulder is then made to project somewhat over the side of the table, and the arm is stretched out at nearly a right angle with the body, and supported by an assistant.

The incision is made exactly at the insertion of the deltoid muscle into the humerus, in a circular form through the skin and cellular substance; the integuments are retracted about half an inch, and along their margin all the muscles are divided with a perpendicular cut down to the bone. All this is performed with the common amputating knife; the rest of the operation is performed with a strong round-edged scalpel. With this instrument a perpendicular incision is made

made down to the bone, commencing at the acromion, and terminating in the former circular inciſion, ſo as to paſs ſtraight between the centre of the deltoid muſcle and its outer edge, and end about an inch above, or rather on the outſide of the brachial artery. A ſimilar inciſion is made on the back part of the arm, commencing alſo at the acromion, and terminating in the circular inciſion. This ſhould be at ſuch a diſtance from the firſt perpendicular inciſion, that the two flaps formed between them may be both nearly of equal breadth. The brachial artery muſt be tied, as ſoon as it has been divided by the circular inciſion through the muſcles; and any other anaſtomoſing branches of arteries that may have been cut muſt likewiſe be tied in a ſimilar manner. The two flaps muſt now be ſeparated from the bone, care being taken not to injure the great brachial artery, in ſeparating that part of the flap near which it lies. An aſſiſtant muſt then preſs both the flaps aſunder, ſo as to bring the capſular ligament of the joint into view. Into this ligament an opening is now made, and the bone diſlocated, by dreſſing the arm backward. The operation is then finiſhed by dividing the remaining part of the ligament.

Any arteries that may have been cut about the joint muſt be tied, and the ligature ſuffered to hang out at the moſt depending part of the wound. When the parts have been cleared of all the coagulated blood, the two flaps are laid together, in ſuch a manner as to cover the joint as exactly as poſſible, and retained in this ſituation by one or two more ſutures. A pledgit ſpread with emollient ointment is laid upon the joint, and over this a cuſhion of lint with a ſoft compreſs of linen. All this is ſecured by a flannel roller, applied ſo as to make only a moderate preſſure, by which the flaps will be kept in contact with the parts beneath. The patient muſt, in other reſpects, be treated according to the directions formerly given. In the courſe of eight or ten days, Mr. Bell ſays, the ligatures will eaſily come away; but to avoid any riſk from ſudden hæmorrhage, he adviſes an aſſiſtant to watch the patient for the firſt few days after the operation.

This method is undoubtedly more eaſy and ſimple than that of Bromfeild: for the muſcles are divided at once, down to the bone, with a circular inciſion; and not, as in Mr. Bromfeild's method, firſt one muſcle cut and then another. As the attachments of all the muſcles to the humerus are removed by the arm being taken away, it is not neceſſary we ſhould divide them with ſuch ſlowneſs and caution; one ligature alſo upon the brachial artery is ſufficient, if applied with the requiſite care and attention by means of the tenaculum. Neither is it neceſſary to ſcrape off the cartilage from the acetabulum of the joint; for, as has been already obſerved, the ſoft parts will adhere to cartilage as readily as to bone.

Another method of amputating the arm at the joint was employed by Mr. Deſault, of Paris, which ſeems not only to be far more expeditious, but alſo leſs painful to the patient, and eaſier to execute than any other. The manner in which it is performed is as follows:

The patient being placed upon a chair, and the ſubclavian artery compreſſed by the finger of an aſſiſtant at the place where it paſſes through the ſcalenus muſcle, the arm is raiſed in ſuch a manner as to form nearly a right angle with the trunk of the body. A two-edged ſcalpel, having a ſtraight blade ſix inches in length, and half an inch in breadth, is thruſt into the joint at the place where the long head of the biceps muſcle enters it, and brought out again an inch below the axilla; in this manner the capſule of the joint is cut through forwards; and, at the ſame time, the knife is carried round the head of the os humeri on the ſame ſide of the arm, care being taken to keep it always quite cloſe to the bone. By cutting downwards in this manner, all the fleſhy ſubſtance is at once ſeparated three finger-breadths below the joint, ſo as to form a triangular flap, in which the axillary artery and vein are contained. This flap is immediately laid hold of by an aſſiſtant, who holds it off from the bone, and compreſſes the veſſels with his fingers. The arm is then bent a little backwards, the knife introduced again into the joint, the remainder of the capſule and ligaments cut through, and, by carrying the inſtrument downwards from the back part next the bone, and at the ſame diſtance from the joint as before, another triangular flap is formed ſimilar to the former in ſhape and ſize. The arm being entirely cut out in this manner, the axillary artery and vein are tied as high up as poſſible.

When the acetabulum of the joint is quite free from diſeaſe, the cure is endeavoured to be effected by reunion, for which purpoſe Mr. Deſault alſo conceived it to be unneceſſary to ſcrape away the cartilage. The two flaps are now laid together, ſo as to fill up the ſocket of the joint, and the lips united by means of the interrupted ſuture. Over the fleſhy parts dry lint is applied, and over that a compreſs, in the form of a croſs of Malta, ſpread with ointment; then again a round compreſs and two longuettes, which are all finally ſecured with a flannel roller. Under the axilla an oval piece of linen is applied, partly in order to reſiſt the impetus of the blood in the axillary artery, and partly to preſs the fleſhy parts more cloſely to the hollow of the ſcapula, with a view to facilitate the healing of the wound. The whole of theſe dreſſings are likewiſe ſecured with a roller.

The knife uſed in this operation muſt be ſharp, and ſomewhat ground off on both ſides, like a pair of ſciſſars. The blade ſhould not be made of too hard ſteel, leſt it break during the operation; on the contrary it ſhould be rather flexible, but at the ſame time tough, in order that when it is carried round under the head of the os humeri, it may apply the more aptly to the bone.

Amputation of the Thigh at the Hip Joint.

The propoſal of this operation muſt at firſt ſtrike a feeling mind with horror; and, indeed, it is ſo terrible as well as difficult to perform, that many eminent men have thought it impracticable to be done with ſucceſs. This opinion has even been advanced by Schmucker, in his Vermiſche Chirurgiſche Schriften, &c. B. i. p. 48. Berlin, 1776; where the author ſays, "he is perſuaded that no patient on whom it may be performed can ever ſurvive." He very properly diſſuades us from relying on experiments which have been made on dogs, and from thence inferring, that ſimilar trials will ſucceed equally well on the human ſubject; but Schmucker ought certainly to have ſpoken with ſome degree of diffidence, after the publication of facts which ſeem to eſtabliſh an oppoſite opinion to his own. That a perſon may actually *ſurvive* this dreadful operation, will appear from what we ſhall preſently ſtate for the reader's information.

The poſſibility of performing amputation at the hip-joint with ſucceſs, was diſcuſſed ſo early as the year 1739; and was maintained in a public theſis, at one of the medical ſchools at Paris, A. D. 1748. The members of the Royal Academy of Surgery at Paris, likewiſe believing that it was practicable, gave out the following prize queſtion in 1756: "*Dans le cas où l'Amputation de la Cuiſſe dans l'Article paroîtroit l'unique Reſſource pour ſauver la vie à un Malade, déterminer ſi l'on doit pratiquer cette Opération, et quelle ſeroit la Methode la plus advantageuſe de la faire;*" but not being ſatisfied with the anſwer it met with, they again propoſed the ſame ſubject for the year 1759. On the former occaſion, twelve memoirs were received by the Royal Academy; on the

the latter, thirty-four. Diſput. Chirurg. Halleri, tom. v.—Opuſcules de Chirurgie par M. Morand.—Prix de l'Académie, tom. iv.—Journal de Médecine en 1759.

Who would have imagined, à priori, that a patient could ſurvive the complete dilaceration of an arm, with the ſcapula, and all the muſcles attached to it? Yet this is a fact that cannot be controverted. The thigh of a young lad, at the Hotel Dieu d'Orleans, was ſpontaneouſly ſeparated at the hip-joint, except the round ligament and ſciatic nerve: the other thigh, which was much ſphacelated likewiſe, was preſently afterwards cut off by his ſurgeon; and the ſore on both ſides went on well till the fifteenth day from the firſt operation, when a fever ſupervened and deſtroyed the patient. Another inſtance of an amputation of the limb at the hip-joint is recorded by M. Sabatier, (De la Méd. Opér. tom. iii. p. 330.) which had been performed in conſequence of a violent contuſion, followed by gangrene: the cure was effected in eighteen months, and remained permanent; ſo that this man was afterwards married, and had a fine child. Laſtly, we beg leave to copy an intereſting account of a caſe publiſhed by Mr. William Kerr, of Northampton, in vol. vi. p. 377, of Dr. Duncan's Medical Commentaries; from which we may farther preſume on the reaſonableneſs of this operation, under certain circumſtances of extreme danger.

"A girl, between eleven and twelve years of age, was brought into the hoſpital, from Kettering, in December laſt. She had a tumour on the outſide of her right thigh, extending from the middle to near the great trochanter; ſhe was very much emaciated, had a conſtant cough, night ſweats, and many more hectic ſymptoms. She told us that ſhe had been ailing upwards of two years, during which period ſhe had frequently had fevers, and that her lameneſs had been gradually increaſing from her firſt illneſs. That at firſt ſhe had little pain, but a few months before ſhe came into the houſe, it became very acute from the groin all round the hip, and till then ſhe never obſerved the tumour before mentioned.

"She ſuffered great pain upon the leaſt motion of the joint, and upon every ſuch attempt there was a very perceptible grating to be felt. Being engaged myſelf," ſays the author, "I directed Mr. Warden, houſe-ſurgeon, to open the tumour the day after ſhe came into the hoſpital; there was diſcharged about half a pint of ill-conditioned matter, and we had the ſame kind of diſcharge, in a very great quantity, at every dreſſing, from that time till the operation, which was performed the Saturday following.

"Flattering myſelf that the hectic ſymptoms might be the effects of abſorption, convinced that the joint was diſeaſed, and concluding, therefore, that there was no other method of cure but by amputating the limb at the articulation, I ſet about it in the following manner:

"Having laid the patient upon the ſound ſide, upon a table of a common height, and putting the diſeaſed thigh at right angles with the trunk, I began my inciſion immediately behind the top of the great trochanter, carrying it obliquely, backwards and downwards, to the inſide of the thigh, and from thence obliquely upwards to within two inches of the crural artery.

"I then began a ſecond inciſion at the ſame place with the former, carrying it in an oppoſite direction over the upper extremity of the trochanter, and from thence obliquely forwards and downwards to within the ſame diſtance of the veſſel as in the former.

"Theſe inciſions were made only through the ſkin and fat, which being well drawn back by my two aſſiſtants, I cut down into the joint, and from thence carried two other inciſions through the muſcles in the ſame order and direction, and to the ſame extent as thoſe which were made through the outer teguments.

"I then turned the head of the femur out of the acetabulum, that I might with more eaſe and ſecurity accompliſh the moſt important part of the operation, namely, the taking up the artery. From the foregoing deſcription you will eaſily conceive that a flap about four inches in breadth, conſiſting of all the integuments with the artery included, was ſtill undivided. This flap I graſped firmly betwixt the fingers and thumb of my left hand, (my fingers on the ſkin ſide of it, and my thumb on the muſcular) and cut it through immediately below my hand, and between three and four inches from the paſſage of the artery under the ligamentum fallopii.

"The inciſion here was made from above downwards, firſt through the muſcular part of the flap, and then through the fat, veſſels, and ſkin. It was done in this manner that the ſkin might correſpond with that which was divided by the firſt inciſions, and that the edges of the wound, we cannot ſay ſtump, might thereby be kept neat and uniform.

"The next ſtep was to ſecure the artery, which I effected by paſſing a ſtrong ligature round it with a needle, and getting one of my aſſiſtants to tie it up; ſuch a compreſſion being all the while made upon it by my left hand in the manner related above, as to prevent the loſs of a ſingle drop of blood, and the hæmorrhage from the other arteries was full as inconſiderable as in any other amputation of the thigh. By ſaving a good portion of ſkin the wound was much more decent and ſeemly than you can well imagine; but, to my great mortification, I found not only the acetabulum carious, but alſo the adjacent parts of the oſſa innominata, to a very conſiderable extent. From her almoſt conſtant cough, I was under the greateſt apprehenſion that the artery would be forced open; yet no miſchief enſued, and the ligature fell off at the fourth or fifth dreſſing: the aſpect of the ſore, in the mean while, giving us the moſt ſanguine hopes of her recovery. But about the tenth or eleventh day her reſpiration became more difficult, expectoration ceaſed, her mouth and tongue were covered with aphthæ, and ſhe died on the 18th day from the operation. The appearance of the ſore, even to the laſt, was ſuch as to afford good reaſon to ſuppoſe that the immediate cauſe of death was the daily increaſe of the hectic ſymptoms, and that without theſe the operation would have ſucceeded; I therefore had her opened, and our ſuppoſition was, I think, pretty ſtrongly confirmed by the following phenomena. The lungs were almoſt totally reduced to matter, eſpecially on the right ſide, in which there was ſcarcely a veſtige of pulmonary ſubſtance remaining. The left lobe alſo was full of abſceſſes, and reduced to leſs than half the natural ſize. An abſceſs (commonly called the pſoas abſceſs) was likewiſe found on the right ſide, in the abdomen, which communicated, by a corroded opening with the acetabulum, with the joint.

"I have given you an exact narrative of the circumſtances of the caſe, the operation, and the event of it; at leaſt, I do not recollect any other of conſequence. I ſhall not comment farther upon it than juſt to obſerve, that the total deſtruction of the ligamentum rotundum by the ſuppuration within the joint, contributed greatly to the facility with which the operation was accompliſhed; for I imagine, if that ligament had been entire, the diviſion of it would have been attended with perhaps conſiderable embarraſſment; I think, however, it might be effected in a ſound joint.

"With regard to the expediency of the operation, I am ſo much convinced of it in certain caſes, that in ſuch I ſhall not, for the future, heſitate to perform it when they occur."

Concluding Obſervations.

It ſtill remains for us to notice two propoſals, one of which is directed to the prevention, the other to the improvement, of the operation of amputation. In caſes of ſcrofulous tumours, or, as they are termed, white ſwellings of the joints; of collections of matter in the cavities of joints, which often ſupervene upon ſimple inflammation; of gunſhot wounds and compound fractures of the joints; often alſo of the moſt ſimple, but, at the ſame time, penetrating wounds, a variety of morbid ſymptoms take place, which render timely amputation of the limb the only means by which the unfortunate patient's life can be ſaved. In theſe diſeaſes, when they affect the knee and elbow-joint, Mr. Park has propoſed, inſtead of amputating the whole limb, as is generally practiſed, another remedy, which conſiſts in the complete extirpation of the joint, or rather, in the amputation of the extremities of the bones which form the joint, together with the whole, or at leaſt the greater part of the capſular ligament, the cure is afterwards effected by means of callus, which occupies the place of the bones that have been ſawn off, or the femur is attached to the tibia by a ſynoſtoſis. But in the elbow, the humerus ſynoſtoſes with the radius and ulna, without the joint retaining any perceptible power of motion. With this view he made the following experiment:

Two inches above the upper end of the patella he made an inciſion, and carried it down to its lower extremity; he then placed the leg in an extended poſture, and made a croſs inciſion immediately above the patella, through the tendons of the extenſor muſcles, down to the bone, and nearly half round the limb, ſo as to form a right angle with the former inciſion. The lower angles which were formed by this inciſion, he widened ſo as to lay bare the capſular ligament, and took out the patella. The upper angles he likewiſe widened, ſo as to lay bare the head of the femur, and to enable him to paſs a ſmall knife acroſs the poſterior flat part of the bone immediately above the condyles, taking care to keep one of the flat ſides of the point of the inſtrument cloſe to the bone all the way. He then withdrew the knife, and introduced an elaſtic ſpatula in its place, to guard the ſoft parts during the ſawing through of the femur. He then carefully diſſected out the head of the femur that had been ſawn off. The head of the tibia was then eaſily turned out; this he ſawed off, and cut away as much as poſſible of the capſular ligament, leaving only the poſterior part to cover the veſſels, which he found, upon examination, to be not only unhurt, but alſo that they were ſufficiently covered with the remaining part of the ligament, and that, during the whole of the operation, they had been ſufficiently far from the courſe of the knife. Although the wound had a formidable appearance, he ſaw no reaſon to doubt that nature would be able to repair the breach; as the limb below would not be deprived of its nouriſhment, and every healthy freſh-inciſed ſurface, both of bone and of ſoft parts, has a natural tendency to granulate.

The next operation he performed upon the elbow-joint. He made an inciſion, commencing two inches above the tip of the olecranon, and terminating at the ſame diſtance below it; he then raiſed the integuments, and endeavoured to ſeparate the lateral ligaments from each other, in order that he might be enabled to draw the bones aſunder. But as he found this to be difficult, he firſt ſawed off the olecranon, whereby he looſened the joint to that degree, that he could very eaſily draw it aſunder, without being under the neceſſity of making a croſs inciſion. He then turned out the lower end of the humerus, and ſawed it off, and afterwards the heads of the radius and ulna. He does not, however, flatter himſelf that this method will prove equally ſucceſsful in all caſes; as, in ſome, amputation is indiſpenſably neceſſary; for example, when the diſeaſe has ſpread too far, when the ſoft parts are too much injured, and the caries too extenſive. In general, he thinks the operation is more to be recommended in caſes of external injury than in ſcrofulous affections.

The other propoſal, which has Mr. Wrabetz for its author, refers to the amputating of limbs without the knife, by means of ligatures. Mr. Plouequet (Von der unblutigen Abnehmung der Glieder. Tuebingen, 1786, 8vo.) deſcribes it as follows: Take a flaxen, or rather a cotton cord, of thickneſs and ſtrength proportionate to the ſize of the limb; lay it in ſpirit of turpentine, mixed with fine powder of tobacco-leaves, the ſeeds of the ruta, cantharides, and camphor; and after it has lain in this liquid for the ſpace of twelve hours, apply it to the limb in the following manner. Draw back the ſkin as much as poſſible towards the ſound part of the limb, and apply it above the diſeaſed part round ſome perfectly ſound part of the limb; draw it tight with a turn-ſtick, and ſecure the latter. About two inches above the cord rub a quantity of the above-mentioned mixture, till ſmall bliſters are raiſed, which muſt be opened and dreſſed with a drawing plaſter. By this application and by poultices the requiſite degree of inflammation is promoted. As long as the cantharides are employed, the uſe of which is very beneficial to debilitated habits, the patient muſt drink mucilaginous liquids, with which cordials are to be combined, ſuch as camphor, Peruvian bark, arnica, &c. and, at the ſame time, blood-letting and refrigerant remedies, eſpecially nitre, are to be adminiſtered. As the cord ſinks into the fleſh, and grows looſer, it muſt be tightened; and the crevice which it leaves above it muſt be filled up with a fine powder of Peruvian bark, camphor, and alum, in equal parts. This powder may alſo be made into a liniment with ol. hypericon. and rubbed into the above-mentioned crevice. That part of the limb which we wiſh to ſeparate ſhould be ſwathed in a cloth ſoaked in a mixture of a ſolution of alum, lime-water, and ſome aromatic ſpirit. Mr. Wrabetz has in one caſe ſucceeded in amputating the humerus according to this method, and aſſures us, that he has often ſeparated ſmall limbs by means of ligatures: it is, however, a practice that cannot be recommended for imitation, although Mr. Mariguet has endeavoured to demonſtrate the advantages of this operation; for, on the one hand, his obſervations are too defective to prove any thing, and on the other, the operation ſhould only be attempted in a perfectly ſimilar caſe.

For an account of the means of ſupplying defective members, *ſee* LIMBS, *artificial*.

AMPUZITZA, in *Geography*, a town of Beſſarabia, 26 miles weſt-north-weſt of Iſmael.

AMPYX, in *Antiquity*, a kind of golden chain, which ſerved to bind the hair of the horſes on the forehead. Homer deſcribes by this ornament the ſteeds of the god of war, calling them χρυσαμπυκες. The term was afterwards uſed more generally to denote a band or fillet, which formed a part of the dreſs, and which encompaſſed the hair. It was ſometimes encircled with gold and precious ſtones.

AMRAM, in *Scripture Biography*, was the ſon of Koath, of the tribe of Levi, and married Jochebed, by whom he had Aaron, Miriam, and Moſes. He died in Egypt, aged 137. Exod. vi. 20.

AMRAN, in *Geography*, a town of Arabia, 20 miles north-weſt of Sana.

AMRAPHEL, in *Scripture Hiſtory*, was king of Shinar, and confederate with Chedorlaomer, king of Elam, and two

other kings, in making war againſt the kings of Sodom, Gomorrah, and the three neighbouring cities. The kings, who were in league with him, plundered theſe cities, and carried off many captives, among whom was Lot, Abraham's nephew; but Abraham purſued them, retook Lot, and recovered the ſpoil. A. M. 2092, B. C. 1912.

AMRAS, in *Geography*, a caſtle or palace of Germany, in the county of Tyrol, called by ſome writers *Arx Ambroſiana*, and alſo *Ombraſs*, and ſituate at the foot of a mountain, two miles ſouth eaſt of Inſpruck. In the heat of Summer it is a place of retirement for the archdukes. It is famous for its collection of antiquities, gold medals, cameos and intaglios, moſt of which were ſent to it by Charles V. On the walls and ceilings are many curious paintings, and one, in particular, of Noah's ark by Baſſano, for which the grand duke of Tuſcany is ſaid to have offered 100,000 crowns. Here are alſo a library, a gallery full of buſts, and many pictures of great value. N. lat. 47°. E. long. 11° 40′.

AMRU, or Amrou, Ebn-Al-As, in *Biography* and *Hiſtory*, a famous Saracen commander, was the dubious progeny of Aaſi, of the tribe of Koreiſh, by a notorious proſtitute. In his youth he was impelled by the paſſions and prejudices of his kindred: his poetic genius was exerciſed in ſatirical verſes againſt the perſon and doctrine of Mahomet; and his dexterity was employed by the reigning faction, to purſue the religious exiles who had taken refuge in the court of the Ethiopian king. From this embaſſy he returned a ſecret proſelyte, having renounced the worſhip of idols; and making his eſcape from Mecca with his friend Caled, he joined the fugitive prophet at Medina. His impatience to lead the armies of the faithful was checked by the reproof of Omar, who adviſed him "not to ſeek power and dominion, ſince he who is a ſubject to-day may be a prince to morrow." Amru, having acquired a high degree of military reputation, was the chief in Irak, when Caled ſummoned all the Arabian generals to his aſſiſtance, in the ſiege of Damaſcus. In Paleſtine, he ſerved during the Caliphate of Omar, under Abu Obeidah, who was the commander in chief. On his arrival in this country he was informed, that Conſtantine, the ſon of the emperor Heraclius, lay encamped with a body of troops near Cæſarea. As he was advancing towards the ſiege of this city, this prince deputed ſome Chriſtian Arabs to reconnoitre the Moſlem camp; when one of them was diſcovered, and cut to pieces. Amru was much offended, and iſſued orders that all ſpies ſhould be brought to him for examination, before they were thus puniſhed; alleging, that ſuch ſpies might probably, in caſe of conviction, rather embrace Iſlamiſm than ſuffer death. About this time Conſtantine expreſſed a deſire to have a conference with Amru. When the Arabian chief was introduced to the prince, he declined making uſe of a ſeat that was offered him, and took his place croſs-legged on the ground, after the Arabian manner, with his ſword upon his thigh, and his lance laid acroſs before him. Conſtantine made overtures for a pacification, but they were rejected with great inſolence by Amru, who inſiſted upon his paying tribute or embracing the religion of Mahomet. This conference cloſed with a declaration on the part of Amru, "that the Arabians were tired of living in their ſcorching deſerts, and were reſolved to re-enter into the poſſeſſion of the delightful country, which was the inheritance of their progenitors." Accordingly both parties prepared for action; which terminated in the capture of Cæſarea by Amru, and the ſubjugation of all the maritime towns of Syria, A. D. 638. Upon the death of Obeidah, Amru aſſumed the chief command in Syria, in which, notwithſtanding the oppoſition of Othman, he was confirmed by Omar. Determining to proceed to Egypt, he left his ſtation at Gaza, and advanced forward at the head of only 4000 Arabs; but in his progreſs he was overtaken by a meſſenger from Omar, with inſtructions contained in a letter which he did not open, becauſe he entertained ſome ſuſpicion of its contents, till his tents were pitched within the territory of Egypt. "If you are ſtill in Syria," ſaid the ambiguous mandate, "retreat without delay; but if, at the receipt of this epiſtle, you have already reached the frontiers of Egypt, advance with confidence, and depend on the ſuccour of God and of your brethren." After peruſing this letter in the preſence of his officers, he declared his ready obedience to the commands of the Caliph. After a ſiege of 30 days, he took poſſeſſion of Farmah or Peluſium, and this key of Egypt, as it has been juſtly called, unlocked the entrance of the country, as far as the ruins of Heliopolis, and the neighbourhood of the modern Cairo. From Peluſium, he marched to the ancient Memphis, or Miſrah, the ſiege of which was protracted to ſeven months: and as the invaders were, by this delay, threatened with the inundation of the Nile, they ſtormed the place and drove the remnant of the Greeks to their boats and the iſle of Rouda. On this ſpot, the eaſtern bank of the Nile, recommended to the conqueror by its eaſy communication with the gulf and the peninſula of Arabia, he built a city called Foſtat; and the contiguous quarters of Babylon and Foſtat are confounded in their preſent decay, by the appellation of old Miſrah or Cairo, of which they form an extenſive ſuburb. After this conqueſt, the Coptic Chriſtians, or Jacobites, negociated, by means of their governor, Mokawkas, a treaty of peace and amity with Amru; agreed to pay a ſtipulated tribute; ſwore allegiance to the Caliph, and promiſed an hoſpitable entertainment of three days to every Muſſulman, who ſhould travel through their country. Their patriarch Benjamin, at the earneſt requeſt of Amru, emerged from his deſert; and, after the firſt interview, the courteous Arab affected to declare, that he had never converſed with a Chriſtian prieſt of more innocent manners and a more venerable aſpect. In the march from Memphis to Alexandria, the lieutenant of Omar entruſted his ſafety to the zeal and gratitude of the Egyptians; and in every ſtep of his progreſs, he could depend on a conſtant ſupply of proviſions and intelligence. The fugitive Greeks were purſued to Alexandria, and the road thither was laborioufly cleared by the victorious Saracens, in 22 days of general or partial combat. After a ſiege of 14 months, and the loſs of 23,000 men, the city was taken A. D. 640. See Alexandria. During the progreſs of this memorable ſiege, Amru "was betrayed by his imprudent valour; his followers, who had entered the citadel, were driven back; and the general, with a friend and a ſlave, remained a priſoner in the hands of the Chriſtians. When Amru was conducted before the præfect, he remembered his dignity and forgot his ſituation; a lofty demeanour, and reſolute language, revealed the lieutenant of the Caliph, and the battle-axe of a ſoldier was already raiſed to ſtrike off the head of the audacious captive. His life was ſaved by the readineſs of his ſlave, who inſtantly gave his maſter a blow on the face, and commanded him, with an angry tone, to be ſilent in the preſence of his ſuperiors. The credulous Greek was deceived; he liſtened to the offer of a treaty, and his priſoners were diſmiſſed in the hope of a more reſpectable embaſſy, till the joyful acclamations of the camp announced the return of their general, and inſulted the folly

of the infidels." After the capture of Alexandria, the whole of Egypt ſoon ſubmitted to the arms of the conqueror; and in the adminiſtration of it he balanced the demands of juſtice and policy. In the management of the revenue he diſapproved the ſimple, but oppreſſive mode of a capitation, and preferred with reaſon a proportion of taxes, deducted on every branch, from the clear profits of agriculture and commerce. A third part of the tribute was appropriated to the annual repairs of the dykes and canals ſo eſſential to the public welfare. Under his adminiſtration the fertility of Egypt ſupplied the dearth of Arabia; and a ſtring of camels, laden with corn and proviſions, covered almoſt without an interval the long road from Memphis to Medina. The genius of Amru opened the maritime communication which had been attempted or achieved by the Pharaohs, the Ptolemies, or the Cæſars; and a canal, at leaſt 80 miles in length, was opened from the Nile to the Red Sea. From Egypt, Amru extended his conqueſts to the neighbouring parts of Africa; but on the acceſſion of Othman, he was ſuperſeded in his government of Egypt by Abdallah-ebn-Said. The diſmiſſion of Amru was conſidered as a public loſs, and even diſpoſed the Egyptians to revolt. This change in the ſentiments of the people induced Conſtantine, the Greek emperor, to meditate the reduction of Alexandria, and he eaſily effected his purpoſe. Upon this loſs Amru was reſtored to his former dignity; and employed in the recapture of the city. After a vigorous reſiſtance, on the part of the beſieged, and great ſlaughter, he took it by ſtorm; and though by his authoritative interpoſition he reſtrained the maſſacre of the inhabitants, he diſmantled it, and utterly demoliſhed all the walls and fortifications. After this exploit, he was again diſplaced by Abdallah, and recalled to Medina; but Othman found it neceſſary to avail himſelf of his influence in quelling a ſedition, which he was unable to effect.

Upon the acceſſion of Ali, Amru joined the mal-contents, and quitting his command in Paleſtine, arrived at Damaſcus, which was then the reſidence of Moawiyah, the competitor of Ali, and ſwore allegiance to him. When it was propoſed to decide the difference between theſe two rivals, by ſingle combat, Amru perſuaded Moawiyah to accept the challenge; but he declined it, and aſcribed Amru's recommendation of it to ſelfiſh motives, and to his deſire of obtaining the caliphate for himſelf. Notwithſtanding this unjuſt ſuſpicion, Amru maintained his attachment to Moawiyah, and ſerved him in the buſineſs of the arbitration between theſe two competitors. See Ali. He alſo took poſſeſſion of Egypt in Moawiyah's name, after having defeated Mahomet-ebn Abubeker, Ali's governor, whom he took priſoner, and put to death in a barbarous manner. Amru was now conſidered of ſuch importance, that he was one of the three conſpirators, whom the ſect of the Kharijites determined to aſſaſſinate, with a view of reſtoring peace to the Saracen empire. Amru fortunately eſcaped; being prevented, by a fit of the colic, from attending in the moſque on the day when one of the conſpirators went to kill him, but Kharijah, a friend whom he appointed to perform the office of Imam, as his ſubſtitute, was ſtruck by the conſpirator, who miſtook him for Amru, and fell down dead with the blow. In the year of the Hegira 43, A.D. 663, during the caliphate of Moawiyah, Amru ended his days in the palace and city, which he had founded on the banks of the Nile. Of him Mahomet is reported to have ſaid, that there was not a Moſlem more ſincere and ſtedfaſt in the faith than Amru. He was juſtly eſteemed one of the greateſt men amongſt the Arabs of the age in which he lived; diſtinguiſhed by his quick apprehenſion, ſolid judgment, undaunted courage, and ſingular reſolution, as well as his profound ſagacity and penetration; always excellent in his advice, firm in his purpoſe and ſpeedy in its execution. The two firſt ſucceſſors of Mahomet were not inſenſible of his merit. To his arms they were indebted for the conqueſt of Paleſtine; and in all the battles and ſieges of Syria, he united with the temper of a chief, the valour of an adventurous ſoldier. In a viſit to Medina, the caliph wiſhed to ſurvey the ſword which had cut down ſo many Chriſtian warriors; Amru unſheathed a ſhort and ordinary ſcymetar; and as he perceived the ſurpriſe of Omar, "Alas!" ſaid the modeſt Saracen, "the ſword itſelf, without the arm of its maſter, is neither ſharper nor more weighty than the ſword of Pharezdak the poet." This ſaying is preſerved by Pocock, and juſtly applauded by Mr. Harris, in his Philoſophical Arrangements, p. 350. After the conqueſt of Egypt, Amru was recalled by the jealouſy of the caliph Othman; but in the ſubſequent troubles, the ambition of a ſoldier, a ſtateſman, and an orator, emerged from a private ſtation. His powerful ſupport, both in council and in the field, eſtabliſhed the throne of the Ommiades; the adminiſtration and revenue of Egypt were reſtored by the gratitude of Moawiyah to a faithful friend, who had raiſed himſelf above the rank of a ſubject; and in the poſſeſſion of this lucrative dignity his life terminated. His dying ſpeech to his children, in which he deplored the errors of his youth, and particularly his offence in ſatirizing Mahomet, is celebrated by the Arabians as a model of eloquence and wiſdom. Ockley's Hiſt. of the Saracens, vol. i. and ii. Mod. Un. Hiſt. vol. i. p. 315, &c. Gibbon's Hiſt. vol. ix. p. 425, &c.

AMSBEG, in *Geography*, a town of Swifferland, in the canton of Uri, ſeven miles ſouth of Altorff.

AMSDORF, Nicholas, in *Biography*, a Lutheran divine, was born at Meiſſen, in 1483. After ſtudying at Wittemberg, he became a diſciple of Luther, who appointed him miniſter of Magdeburg, and afterwards of Naumberg. He was diſtinguiſhed by his oppoſition to the Roman Catholics, and by his controverſy with Melancthon and his adherents, on the ſubject of good works; in the heat of which he extravagantly maintained, "that good works were an impediment to ſalvation." From this imprudent and unwarrantable expreſſion, the flame of controverſy received new fuel, and broke forth with redoubled fury. The ſentiments of Melancthon in oppoſition to thoſe of Luther and his partizans, were ably defended by George Major, an eminent teacher of theology at Wittemberg; who, in 1552, maintained the "neceſſity of good works," againſt the extravagant aſſertions of Amſdorff; who died at Magdeburg in 1541.

AMSDORFIANS, in *Church Hiſtory*, a ſect of Proteſtants, in the 16th century; were ſo denominated from their leader *Amſdorf*. They maintained, that good works were not only unprofitable, but even oppoſite and pernicious to ſalvation. Moſheim's Eccl. Hiſt. vol. iv. p. 328.

AMSEGETES, in *Antiquity*, thoſe whoſe grounds abutted on the highway. Vide Feſt. de Verb. Signif. in voc.

The laws of the Twelve Tables decree, *amſegetes viam muniunto.*

AMSOMOE, in *Geography*, an iſland in the German Ocean, near the weſt coaſt of Denmark. N. lat. 54° 40'. E. long. 8° 25'.

AMSTEL, a river of Holland, which paſſes by Amſterdam, and joins the Y or Wye.

AMSTELLAND, a ſmall diſtrict of South Holland, takes

takes its name from the river Amſtel, which runs through it. Thoſe parts of this diſtrict, which are not healthy, afford good paſturage. It contains ſeveral villages; ſuch as Ouderkirk, or Gudekerk, called alſo Altenkirchen, which is the burial-place of the Portugueſe Jews of Amſterdam; Diemen ſituate between this city and Munden, Amſtelveen belonging to Amſterdam, &c. The lakes of Diemer and Beilmer are drained and made arable.

AMSTERDAM, or AMSTELDAM, formerly called *Amſtelredam*, *i. e.* the dam or dyke of the Amſtel, the capital of Holland and of the United Provinces, is ſituated at the influx of the river Amſtel, from which it derives its name, into the arm of the ſea, called Y or Wye, and which forms a port, capable of receiving a thouſand large veſſels, about two leagues from the Zuyder ſea. Although the Pampus, which is the only channel leading to it from the ſea, is ſhallow, and ſhips of conſiderable burden are lightened before they can paſs through it; and they are afterwards under a neceſſity of waiting for an eaſterly or north-eaſt wind, in order to proceed through the Marſdiep into the North ſea; yet upon the whole its commercial ſituation is advantageous, on account of its eaſy connection with the other towns of the province, and its ſmall diſtance from all the ports of North-Holland, Frieſland, Overyſſel, and Guelderland. The ſoil, on which this city is ſeated, is marſhy, and therefore its buildings are founded on oaken piles, which gave occaſion to the witticiſm of Eraſmus, "that in his country vaſt multitudes of people lived on the tops of trees." This circumſtance reſtricted the uſe of coaches to great men and phyſicians, who paid a tax for this privilege; and goods are conveyed from one part of the town to another on ſledges. In the beginning of the 13th century Amſterdam was a very inconſiderable fiſhing town, containing a few huts that were the reſidence of perſons engaged in this occupation; but its inhabitants were gradually multiplied, and the earls of Holland gave it the title and privileges of a city; nevertheleſs, till the year 1490, it was ſurrounded merely by a weak palliſado. At this time it was encompaſſed by a wall of brick, conſtructed by order of Mary of Burgundy, in order to defend it from the incurſions of the inhabitants of Utrecht, who were frequently quarrelling with the Hollanders; but it was ſoon afterwards reduced to aſhes. The people of Guelderland beſieged it in 1512; but not ſucceeding in their attempts to take it, they ſet fire to the ſhips in the harbour. In 1525, the town-houſe of Amſterdam was attacked by a party of wild enthuſiaſts, under an anabaptiſt leader; but they were defeated by the citizens, and moſt of them were cut to pieces. Tumults of a ſimilar kind were renewed by perſons of the ſame deſcription in 1535, (ſee ANABAPTISTS,) and theſe were followed by a regular and deep-laid conſpiracy againſt the magiſtrates of Amſterdam, with a deſign to wreſt the government of the city out of their hands. Van Geelen, the head of theſe inſurgents, marched his fanatical troop to the town-houſe, on the day appointed, with drums beating and colours flying, and fixed there his head-quarters. He was attacked by the burghers, aſſiſted by regular troops, and headed by ſeveral of the burgomaſters of the city; and after an obſtinate reſiſtance, he was ſurrounded, with his whole troop, and they were put to death, in the ſevereſt and moſt dreadful manner. In 1578, Amſterdam was beſieged by the Hollanders, and after a reſiſtance of ten months, capitulated; on this condition, among others, that the Roman Catholics ſhould be allowed the free exerciſe of their religion. The condition, however, was not obſerved by the Proteſtants; for they drove the eccleſiaſtics, monks, and nuns, out of the city, broke the images, and demoliſhed the altars. From this time Amſterdam became the general rendezvous of perſons of all ſects and nations; and by them it was raiſed to that degree of opulence and ſplendour to which it afterwards attained, and which it long continued to enjoy. The city has been frequently enlarged to accommodate its new acceſſion of inhabitants; particularly in 1585, 1593, 1612, and 1658; and in 1675 it was extended to its preſent ſize, ſurrounded by a wall and a large ditch, 80 feet wide, and full of running water, and fortified on the land ſide with ramparts and 20 baſtions, on each of which was afterwards placed a windmill. It has alſo eight gates towards the land, and one towards the water. The land ſide of the town may be eaſily inundated. Amſterdam is interſected by ſeveral navigable canals, which divide the town into a number of iſlands, joined to each other by wooden and ſtone bridges, and which are connected with the Wye and the Amſtel. Theſe canals, on the ſide of which are generally planted rows of trees, ſerve the convenience of trade, and contribute to render the ſtreets through which they paſs clean and pleaſant; though in hot and calm weather they occaſionally emit fœtid effluvia. Of theſe canals the principal is that called the Ammarack, formed by the waters of the Amſtel, which admits the influx of the tide, and it has on its ſide two large quays. It has alſo ſeveral bridges; the chief of which, next the ſea, is called Pont Neuf, or the New Bridge; it is 600 feet long and 70 broad, with iron balluſtrades on each ſide; it has 36 arches, 11 of which are very lofty, and eight are ſhut up to incloſe the yachts. This bridge affords a fine proſpect of the city, port, and ſea. The port is a mile and a half in length, and above 1020 paces in breadth; and it is filled with a multitude of veſſels, the maſts of which appear like a foreſt, and forming a kind of floating city. Towards the ſide of the Wye, or of the haven, the city is incloſed by double rows of piles, driven into the ground, and connected by large horizontal beams. Between theſe piles are openings, through which the ſhips paſs in and out, and which are ſhut every evening at the ringing of a bell. The ſtreets are generally narrow, but well paved, and the houſes, which are built of brick or ſtone, have the air of neatneſs, peculiar to thoſe of the Dutch. In the interior of the city there are agreeable walks, but the communication with the environs is chiefly by water; though there is a pleaſant road to Oudekirk, through gardens and groves. The population of Amſterdam is eſtimated at 212,000 perſons; and its commercial connections ſupply a very conſiderable, but fluctuating, acceſſion of foreigners, who reſort to this city from all nations, and are tolerated in their religious worſhip; though the government is reſtricted to perſons of the reformed or Calviniſtic profeſſion. For perſons of this profeſſion, which is the eſtabliſhed religion of the country, there are eleven churches, whoſe miniſters are maintained by the ſtate, and which are allowed the uſe of bells. The Engliſh have alſo had three churches; one for the Preſbyterians, whoſe miniſters have been paid by the magiſtracy; a ſecond for the church of England, provided for by his Britannic majeſty; and a third for the Browniſts, who maintain their own miniſters. Theſe churches or congregations were formerly eſtimated to comprehend about a third part of the inhabitants. The Roman Catholics, who had about 27 places of worſhip appropriated to their uſe, amounted to another third part of the population; and the other third part included Jews, Lutherans, Arminians, Anabaptiſts, &c. The Jews had two ſynagogues, one of which, *viz.* the Portugueſe, is the largeſt in Europe; and annexed to it are

ſeveral

ſeveral ſchool-rooms, in which children are taught the Hebrew language, and inſtructed in the Jewiſh religion. The moſt remarkable of the churches at Amſterdam is that called the New Church, and dedicated to St. Catherine. It is ſaid to have been begun in 1408, or 1414, and not to have been finiſhed for 100 years. The ſteeple, intended to be conſtructed before this church, and ſtanding upon a great number of piles, is not yet completed. The pulpit is a curious ſtructure, and is adorned with various kinds of ſculpture, particularly that of the four evangeliſts. The paintings in the glaſs windows exhibit, amongſt other figures, the emperor Maximilian preſenting an imperial crown to the burgomaſters of Amſterdam, for the creſt of the arms of the city. The organ has been much admired and extolled, on account of its ſize, and its powers of execution. It has a ſet of pipes that counterfeit a chorus of voices, and has 52 whole ſtops, beſides half ſtops, with two rows of keys for the feet, and three rows for the hands. Its ſound, when it plays, ſeems to reſemble that of the human voice. The grate, by which the chancel is ſeparated from the body of the church, is conſtructed of Corinthian braſs. The branches of the candleſticks are the richeſt in the ſeven provinces. In the church is alſo a marble monument, erected to admiral Ruyter, who was killed at Meſſina.

The largeſt and moſt ſtately edifice, not only of Amſterdam, but of all the United Provinces, is the Stadthouſe, founded in 1648 on 13,659 piles, and comprehending in breadth 282 feet, in depth 235, and in height 116 feet. On the front is a marble pediment, on which is a female figure in relievo, holding the arms of the city, ſeated in a chair, which is ſupported by two lions, and bearing an olive branch in the right hand: on each ſide are four Naiads, preſenting her with a crown of palm and laurel, and two other marine goddeſſes, offering her different ſorts of fruit; there is alſo Neptune with his trident, accompanied with Tritons, a ſea-unicorn and a ſea-horſe. Above are placed three ſtatues in bronze, repreſenting juſtice, ſtrength, and plenty; and on the top of the ſtructure is a round tower, 50 feet above the roof, adorned with ſtatues, and an harmonious chime of bells, the biggeſt of which weighs about 7000 pounds; and they are made to play different tunes every month. The entrance into this edifice is by ſeven doors, intended to repreſent the ſeven Provinces. In the great hall are two globes, celeſtial and terreſtrial, made of black and white marble, and inlaid with jaſper and copper, 22 feet in diameter, and 69 in circumference. All the chambers are enriched with paintings, carvings, and gildings. Under the ſtadthouſe is the treaſury of the bank of Amſterdam, which is ſtrongly ſecured, and entruſted to the care and inſpection of the burgomaſters, and opened only in the preſence of one of them. In other vaults are the priſons for debtors and criminals, and alſo the guard-room for the citizens, in which the keys of the city are depoſited every night. At the end of the great hall is the chamber of the ſchoppen or aldermen, where civil cauſes are tried; and there are alſo other apartments and offices of various kinds. In the ſecond ſtory is a large magazine of arms; and in the top of the building are ſix large ciſterns of water, as a ſupply in caſe of fire, for the prevention of which the chimnies are lined with copper.

Another public building that deſerves notice is the bourſe or exchange, conſtructed of free-ſtone, and ſtanding upon 2000 wooden piles. Its length is about 250 feet, and its breadth 140. The galleries are ſupported by 26 marble columns, upon each of which are the names of the people that are to meet there. They are all numbered; and there is a place fixed for every merchandiſe, under ſome one of theſe numbers. A ſuperb ſtaircaſe on the right hand of the gate leads to the galleries; on one ſide are ſeveral ſhops, and on the other a place in which cloths are ſold. This exchange reſembles that of London. The admiralty-office is in a houſe which formerly belonged to the princes of Orange. The arſenal for their men of war, 200 feet long and 22 feet broad, is in the harbour; and contains, on the ground floor, bullets, on the ſecond the arms and cordage, and on the third, ſails, pulleys, flags, &c. and many curioſities. The conſervatory of water on the top of the building holds 1600 tons of water, which, in caſe of fire, may be diſtributed into 16 different parts, by leaden pipes. Near this edifice is the dock or yard, in which the men of war are built, and which is 508 feet long. The Eaſt India company occupy a large building, divided into ſeveral offices or apartments, which ſerve as magazines or warehouſes for goods of various kinds. They have alſo a kind of arſenal, of conſiderable extent. The academy, called "the illuſtrious ſchool," is alſo a good building; it was formerly a convent belonging to the nuns of St. Agnes; it is now devoted to inſtruction in Latin, the oriental languages, theology, philoſophy, hiſtory, &c. The lawyers and phyſicians have likewiſe their ſchools. Beſides theſe, there are ſeveral hoſpitals, or houſes for the accommodation and relief of the aged, of orphans, of ſick perſons, of perſons infected with the plague, and of lunatics, &c. The principal houſes of correction are the raſp-houſe and ſpin-houſe. In the former offenders are employed in ſawing and raſping Brazil wood; and thoſe who will not perform their taſk are placed in a cellar, into which the water runs, ſo that if they neglect to work the pump, they are expoſed to the danger of being drowned. The ſpin-houſe is appropriated to debauched women; in this they are employed in ſpinning wool, flax and hemp, and other work. The hoſpitals are maintained partly by voluntary contributions, for receiving which the poor's boxes are fixed in different parts of the city, and partly by taxing all public diverſions. Thoſe who have the management of theſe public charities, are called, "deacons." The governors are ſelected from the moſt conſiderable perſons in the city, and are nominated by the magiſtrates. The places of diverſion appropriated to the lower claſſes are called, "ſpiel houſes," in which the amuſements are muſic and dancing. To this city belong two ſuburbs, one at the gate of the regulars, and the other extending as far as Overtoon, a village at a ſmall diſtance, where boats that come from Leyden are forwarded over land upon wooden rollers.

Amſterdam is governed by a ſenate or council, called Vroedſchap, and compoſed of 36 perſons, who repreſent the whole body of the people, and are inveſted with the ſupreme power. Their office is for life, and the ſurvivors ſupply vacancies occaſioned by death. This ſenate elects deputies to be ſent to the ſtates of Holland, and appoints the chief magiſtrates, called "burgomaſters," or "echevins," reſembling our aldermen. Their number is 12, and four of theſe are annually choſen to execute the office, and are denominated "burgomaſters regent." Three are diſcharged every year, and three new ones ſupply their places. During the term of the office of each, which is three months, they may be compared to the lord mayor of the city of London. To them it belongs to diſpoſe of all offices, that become vacant during their regency. They have likewiſe the direction of all public works, which concern the ſafety, peace, and embelliſhment of the city. The keys of the bank of the city are in the cuſtody of theſe magiſtrates.

The college conſiſts of new burgomaſters, who are judges

in

in all criminal affairs, without appeal; but in civil cauſes they may appeal to the council of the province. There are two treaſurers, a bailiff, and a penſionary. The bailiff continues in office three years, and it is his buſineſs to ſearch after criminals, to take care of their proſecution, and to ſuperintend the execution of ſentence. The penſionary is the miniſter of the magiſtracy, and is ſuppoſed to be well verſed in the laws; and it is his province to defend the intereſts of the city. Amſterdam has in former times contributed to the public income tax above 50,000 livres per day, beſides the exciſe of beer, fleſh, and corn, which amounts to above 1,600,000l. a year; and this ſum is more than the amount of the payments of all the other provinces; and yet Amſterdam bears only the fifth rank in the aſſembly of the ſtates of Holland, with this diſtinction, that as the other cities ſend two members, this ſends four.

The militia of Amſterdam is conſiderable, and has uſually conſiſted of 60 companies, each of which has from 200 to 300 men. From this ſervice the Jews and Anabaptiſts are excluded, as they are not allowed to bear arms; but they are obliged to contribute to the maintenance of the city-guard, which is compoſed of 1400 ſoldiers, and to the night-watch, who patrole about the ſtreets, and proclaim the hour. Beſides theſe, there are trumpeters on every church ſteeple, who ſound every half hour; and if a fire happens, they ring the fire bells, and announce where it is. The trade of Amſterdam, before the late war, and the revolutions and changes that have attended it, was very great; and it was juſtly regarded as the magazine or ſtore-houſe of Europe. What alterations may take place in its internal government or foreign relations, in conſequence of the peace that has been lately eſtabliſhed, cannot now be aſcertained. Amſterdam is diſtant 44 leagues from Bruſſels, 49 from Liege, and 112 from Paris. N. lat. 52° 22′ 45″. E. long. 4° 45′ 30″.

Amsterdam, now called Tongataboo, an iſland in the South Pacific ocean, ſaid to have been diſcovered by Taſman, a Dutch navigator, in 1643. It was viſited by Captain Cook, and other later navigators. Its extent is about 16 miles in length, and its greateſt breadth about eight. It is about ſix leagues weſt of Middleburgh. S. lat. 21° 9′. W. long. 174° 46′.

The ſhore of this iſland is ſurrounded by a coral rock, and its moſt elevated parts are not above ſix or eight yards above the level of the ſea. Its interior parts are highly and univerſally cultivated, the whole iſland conſiſting of incloſures, with reed fences, about ſix feet high, interſected with innumerable roads; and its plantations ſupply ſome of the richeſt productions of nature. It abounds with bread-fruit, cocoa-nut trees, plantains, bananas, ſhaddocks, yams, ſugar-canes, and a fruit like a nectarine, called by the natives "fig-hega." Caſuarinas, pandangs, and wild ſago palms appear here with their various tints of green, and barringtoniæ of the ſize of the largeſt oaks. As the coral rock, which forms the baſis of this ſpot, is but thinly covered with mould, the bread-fruit does not thrive with the ſame luxuriance as at the Society iſlands; neither does this iſland afford an equal ſupply of water, though the ſhips were furniſhed with as much as they wanted from a pool to which they were directed by the chief.

The men and women are of the common European ſize; their colour is that of light copper; and they are well ſhaped, have regular features, and are lively and active. They have fine eyes, and in general good teeth even to advanced age. The women are merry and talkative; many of them are modeſt, and others of a different character. They ſwarm about the ſhips, without any covering, like amphibious creatures; and were eaſily perſuaded to come on board; though they would not ſtay after ſun-ſet, but returned to paſs the night on ſhore with the other inhabitants, under the ſhade of the wood that lined the coaſt, where they had large fires, and were heard converſing together almoſt during the whole night. Their hair is black, and worn ſhort, excepting a lock on the top of the head, and a ſmall quantity on each ſide. The men ſhave their beards cloſe by means of two ſhells; and the hair of many was obſerved to be burnt at the ends, and ſtrewed with white powder, which was found to be lime made of ſhell or coral, which had ſinged the hair; ſome uſed blue powder, and others an orange-coloured powder, made of turmeric. The dreſs of both ſexes conſiſted of a piece of cloth or matting, wrapped round the waiſt, and hanging below the knees. From the waiſt upwards they were generally naked; and it ſeemed to be a cuſtom with them to anoint thoſe parts of the body every morning. The practice of tattowing, or puncturing the ſkin, prevailed amongſt them; the men performed this operation from the middle of the thigh to the part above the hips; the women performed it ſlightly and only on their arms and fingers. The ornaments worn by men as well as women, were amulets, necklaces, and bracelets, the bone, ſhells, and beads of mother-of-pearl, tortoiſe-ſhell, &c. The women alſo wear on their fingers neat rings, made of tortoiſe-ſhell, and occaſionally pieces in their ears, about the ſize of a ſmall quill. They have alſo a curious apron, made of the cocoa-nut ſhell, and compoſed of a number of ſmall pieces, ſo diſpoſed as to form ſtars, half-moons, little ſquares, &c. and ſtudded with beads and ſhells, and covered with red feathers, ſo as to produce an agreeable effect. They have cloth ſimilar to that of Otaheite, but not ſo fine; and they have a method of glazing it, which renders it more durable, and capable, for ſome time, of reſiſting rain. Their colours, which they procure from vegetables, are black, brown, yellow, purple, and red. Of matting they have different ſorts, uſed for cloathing, for bedding, and for ſails to their canoes; they have alſo ſeveral kinds of baſkets made of the ſame materials with their mats, or of the twiſted fibres of the cocoa-nut, which they form of different colours, and ſtud with beads made of ſhell or bones. They appear to be ingenious in deſigning and executing various articles of this kind. Their fiſhing implements are much the ſame with thoſe of the other iſlands; their nets are formed of ſtrong though ſlender threads. Although their diſpoſition is friendly, they poſſeſs very formidable weapons; ſome of their ſpears being furniſhed with many barbs. This iſland is often ſtained with the blood of human victims; nor do the ideas of property, which prevail among the inhabitants, prevent their ſtealing from ſtrangers. The Miſſionaries, in their voyage, ſome of whom were left on this iſland, imparted uſeful arts to the natives; but the rats were found very deſtructive to the European plants. Theſe, with hogs, dogs, and guanos, were the only quadrupeds in the iſlands, till cats were left there in 1797. The morais are here called fiatookas; and are conſtructed in the form of terraces, with high ſteps, and the material of which they are formed is coral. In the miſſionary voyage of 1797 there is an intereſting map of this iſland.

Amsterdam, an uninhabited iſland in the Frozen Sea, near the weſt coaſt of Spitzbergen. This is alſo the name of an iſland in the Indian Sea. S. lat. 38° 42′. E. long. 76° 54′. (for an account of which, ſee St. Paul); and of another in the Chineſe Sea, between Japan and the iſland of Formoſa.

Amsterdam, New, a name originally given by the Dutch to the city of New York, in America. Amſterdam

is alſo the name of a new townſhip in Montgomery county, New York; containing 235 inhabitants, who are electors.

AMSTOTTEN, a town of Germany, in the archduchy of Auſtria, eight miles ſouth-weſt of Ips.

AMTITZ, a ſeignory of the circle of Guben, in Luſatia, containing the market town of Amtitz, with a citadel, and ſeveral villages.

AMTRUSTIO, in *Ancient Charters*, denotes a ſworn or liege tenant, or vaſſal, of the ancient French or German kings.

The word is alſo written *antruſtio*. Spelman derives it from the German *ampt*, *office*, *buſineſs*, and the Engliſh *truſtee*.

AMTSZELL, in *Geography*, a town of Germany, in the circle of Swabia, eight miles eaſt of Ravenſburg.

AMU, or AMOL, or AMU-DARIA, called alſo GIHON, and ſaid to be the *Oxus* and *Bactrus* of the ancients, a river of Independent Tartary, in Bucharia, which formerly diſcharged itſelf by two channels or mouths into the Caſpian ſea; but theſe are become dry, and the ſtream has been diverted by art into the ſea or lake of Aral. In the reign of Cyrus it was the boundary of the Perſian monarchy, and ſome authors have ſuppoſed it to be the Araxis of the ancients. Its ſource is in the mountains of Paropamiſſus.

AMU. See AMOL.

AMUDA, in *Ancient Geography*, a town of Syria, diſtinguiſhed in the Notitia Imperii from *Amida;* but its ſituation is not known.

AMUDARSA, a town of Africa Propria, in the territory of Bizacium, mentioned by Antonine, and placed by M. d'Anville north of Septimunicia. It was an epiſcopal ſee.

AMULET, AMULETUM, formed from *amoliri, to remove*, a kind of external medicament, to be worn about the neck, or other part of the body, for preventing or removing diſeaſes. Such are quills of quickſilver, or arſenic, which ſome hang on the neck, or wear under the ſhirt, againſt the plague, and other contagious diſeaſes; as alſo the bloodſtones worn by others againſt hæmorrhages; and that worn by the women of the Eaſt Indies to bring the *menſes*.

Amulets are alſo frequently no other than a ſort of ſpells, or charms; conſiſting of quaint words and characters, ſuppoſed to have the virtue of warding off miſchief, witchcraft, and diſeaſe, and to which credulity and ſuperſtition have annexed wonderful properties. Pliny makes frequent mention of them.

Perſons of all ages and nations have uſed them. The materials of which they were formed, the characters inſcribed upon them, and the ſuperſtitious ceremonies with which they were prepared, were very various. Amongſt the ancient Egyptians they were very common, and thoſe denominated abraxas were peculiarly diſtinguiſhed. The Perſians, having obſerved in Egypt the practice of ſuſpending to the neck ſmall cylinders, adorned with figures and hieroglyphics, adopted a ſimilar cuſtom, and inſtead of the Egyptian deities, they ſubſtituted repreſentations of ſubjects deduced from their hiſtory and theology, and annexed to them hieroglyphical characters, diſpoſed in the form of a prayer, which, in their opinion, gave a ſecret virtue to theſe amulets. A ſimilar practice prevailed alſo among the Etruſcans. The Jews confided in their efficacy for driving away diſeaſes, and they are prohibited by the Miſchna, unleſs they had been effectual in the cure at leaſt of three perſons. Chriſtians alſo in former ages had recourſe to amulets, made of the wood of the croſs, or ribbands with texts of ſcripture written on them, as preſervatives againſt diſeaſes.

The Greeks called this kind of remedies φυλακτηρια, *phylacteries*; περιαπτα, [illegible] βρεττια, and τυχολπια. The Latins call them *amuleta*, *appenſa*, *pentacula*, &c.

Some think this word derived from *amula*, a ſmall veſſel with luſtral water in it, anciently carried in the pocket by the Romans, for the ſake of purification and expiation. This laſt opinion appears the more probable, in that ſome amulets were made in the ſhape of little veſſels, as appears from the teſtimony of Pliny, who obſerves, that pieces of amber, cut in form of little veſſels, were hung about children's necks for amulets.

Amulets are by ſome conſidered as a natural ſpecies of *taliſmans*. Others rather make taliſmans a ſpecies of amulets. The *bulla*, worn by the ancients; the *abraxas* of the Baſilidians, &c. were alſo amulets. See ABRAXAS, ABRACADABRA, and TALISMAN.

The ancients made great uſe of gems for amulets; the whole Eaſt, according to Chifflet, wore a kind of jaſper for this purpoſe.

That ſpecies of amulets compounded of poiſons, uſed as preſervatives from the plague, are more particularly denominated *zenechta*.

Under amulets, ſome alſo include medical or other ſubſtances fixed to brutes, or even plants, to preſerve them from certain diſeaſes and dangers.

Charms, words, ſcrolls, magic figures and numbers, make a large claſs of amulets, to which the Turks are ſtill greatly devoted. Their amulets, called *chaimaili*, are little bits of paper of two or three fingers breadth, rolled up in pieces of ſilk, containing ſhort prayers or ſentences cut out of the Alcoran, with circles and other figures, in which they inſcribe the name of Jeſus, the figure of the croſs, &c. They hang them about their necks, or place them under their arm-pits, or in their boſom near their hearts, and eſpecially when they go to war, as a preſervative againſt the dangers of it.

The pope is ſuppoſed to have the virtue of making amulets, which he exerciſes in the conſecration of *Agnus Dei's*.

Amulets are now much fallen from the repute they were anciently in; yet the great Mr. Boyle alleges them as an inſtance of the ingreſs of external effluvia into the habit; in order to ſhew the great poroſity of the human body.—He adds, that he is perſuaded ſome of theſe external medicines do anſwer: for that he himſelf, having once been ſubject to bleed at the noſe, and reduced to uſe ſeveral remedies to check it, found the moſs of a dead man's ſkull, though only applied ſo as to touch the ſkin till the moſs was warm thereby, the moſt effectual of any. The ſame Mr. Boyle ſhews how the effluvia, even of cold amulets, may, in tract of time, pervade the pores of a living animal; by ſuppoſing an agreement between the pores of the ſkin, and the figure of the corpuſcles. Bellini has demonſtrated the poſſibility of the thing in his laſt propoſitions, De Febribus; and the like is done by Dr. Wainwright, Dr. Keill, &c. However, theſe are principally uſed at preſent by empirics, women, and credulous ſuperſtitious perſons.

AMULET, in a more particular ſenſe, is reſtrained to ſuch medicines as do not operate by any phyſical virtue, or to thoſe wherein there is no proportion between the cauſe and effect.

In this ſenſe medicines, which operate by effluvia, odours, and the like, do not belong to the claſs of amulets.

In this ſenſe alſo thoſe eſſence-veſſels worn by hyſterical women on their breaſts, called by the Greeks καρδιοφυλακια,

and by the Latins *domus pectoris*, were not properly amulets.

Amulet is ſometimes alſo applied, in a more extenſive ſenſe, to all medicines, whether internal or external, whoſe virtue or manner of operation is *occult*.

Amulet, in *Cookery*. See Omelet.

Amuletics, in *Medicine*, is uſed by ſome writers for what is more frequently called an *amulet*.

Amuletics amount to the ſame with what are otherwiſe called *ſympathetics*, and have been chiefly uſed in late times to ſtop bleeding; ſuch are the *perſicaria*, *lapis hæmatites*, dried toads, &c. alſo againſt warts, *ſarcomas*, &c.

Sir Kenelm Digby's ſympathetic powder is one of the principal amuletics in caſes of hæmorrhages; and with many the *ancora ſacra*.

AMUNCLA, in *Ancient Geography*, a town of Africa Propria, ſituate between the two Syrtes.

AMUND, in *Ancient Writers*, denotes a perſon free or diſcharged from tuition or wardſhip. The word is alſo written *aamund*, *amod*, and *amont*; and is compounded of the privative *a*, and the Saxon *mund*, *defence*, *tuition*.

AMUR, or Amoor, in *Geography*, a river of Aſiatic Ruſſia, or rather of Chineſe Tartary, is formed of two rivers, Argoon and Shilka, and firſt takes this name on their conjunction in the Chineſe territory, E. long. 121° 14′, and diſcharges itſelf into the Pacific ocean, oppoſite to the iſland of Sakkhalen, E. long. 142° 14′. N. lat. 53°. The Shilka riſes in the Yablonnoy mountains, E. long. 109° 14′. N. lat. 49°, being formed of the tributary ſtreams, called Ingoda, Onona, and Nertcha, paſſes by Nertchinſk, through the Nertchinſkoi diſtrict, and joins the Argoon. The Argoon has its ſource in a lake upon the frontier that parts Ruſſia from China, and forms the border all the way to its exit, in the Shilka. By the treaty of 1727 the Amoor belongs entirely to China; otherwiſe, the ſhip-building on the ſea of Okhotſk would be much facilitated to the Ruſſians, as great part of their materials might then be brought by water, which are now conveyed by land at a great expence.

AMULO, in *Biography*, was born in France, and after having been deacon of the church of Lyons, under Agobard, was on his death raiſed to the archbiſhoprick of that ſee in 841. He condemned the veneration that was paid to relics as an occaſion of error and ſuperſtition; he alſo wrote a letter againſt Goteſchalcus, and ſome other pieces upon Grace, Predeſtination, and Free-will; and "a book againſt the Jews," addreſſed to king Charles, the brother of the emperor Lotharius. Amulo, conſidering the time in which he lived, and his high rank in the church, was a man of diſtinguiſhed liberality and moderation; he was much eſteemed on account of his talents and eloquence; and ſhared in an eminent degree the favour of Charles the Bald. He preſided in the council of Lyons in 845. His book againſt the Jews was publiſhed in 1656 by Father Chifflet, under the name of Rabanus Maurus. All his works, except this, were publiſhed by Baluze, with notes, at the end of his edition of Agobard, whence they were transferred to the Bibliotheca Patrum. Trithemius ſays, that Amulo was well ſkilled in the ſcriptures and ancient writers, very converſant in ſecular learning, famous for his knowledge of the Hebrew as well as Latin tongue, and of a quick and lively genius. Cave, H. L. tom. ii. p. 29. Moſheim, vol. ii. p. 332.

AMURACORY, in ſome *Writers of the Middle Age*, denotes a kind of Turkiſh ſoldiery belonging to the corps or order of janizaries.

They ſeem to be the ſame with thoſe otherwiſe called *Seraptarii* and *Pociliatores*.

AMURATH, or Morad, I., in *Biography* and *Hiſtory*, Sultan of the Turks, was the ſon of Orchan, and the brother of Solyman, and ſucceeded his father, A. D. 1360. In purſuing the conqueſts of the Greek empire, he ſubdued without reſiſtance the whole province of Romania or Thrace, from the Helleſpont to mount Hæmus, and the verge of the capital, and made choice of Adrianople for the royal ſeat of his government and religion in Europe. He afterwards marched againſt the Sclavonian nations, between the Danube and the Adriatic, *viz.* the Bulgarians, Servians, Boſnians, and Albanians, and having vanquiſhed theſe hardy and warlike tribes, he converted them by a prudent inſtitution into the firmeſt and moſt faithful ſupporters of the Ottoman greatneſs. Being reminded by his vizir, that, according to the Mahometan law, he was intitled to a fifth part of the ſpoil and captives, and that the duty might be eaſily levied, by ſtationing vigilant officers at Gallipoli to watch the paſſage, he ſelected for his uſe the ſtouteſt and moſt beautiful of the Chriſtian youth, and educated many thouſands of the European captives in religion and arms. This new militia was conſecrated and named by a celebrated derviſh, who, ſtanding in the front of their ranks, ſtretched the ſleeve of his gown over the head of the foremoſt ſoldier, and pronounced his bleſſing in theſe words: "Let them be called Janizaries, (*yenghi cheri*, or new ſoldiers); may their countenance be ever bright! their hand victorious! their ſword keen! may their ſpear always hang over the heads of their enemies! and whereſoever they go, may they return with a white face!" Such was the origin of the Janizaries. By the aſſiſtance of theſe troops, Amurath extended his conqueſts in Europe and Aſia; and he ſuccoured the emperor, John Palæologus, againſt the Bulgarians. When a rebellion was concerted by the eldeſt ſons of theſe two ſovereigns againſt their fathers, Amurath puniſhed his own ſon by depriving him of his ſight, and inſiſted on the ſame penalty being inflicted on the ſon of the emperor. After a prolonged courſe of ſucceſs, Amurath was oppoſed by a formidable league of the Walachians, Hungarians, Dalmatians, Triballians, and Arnauts, under the command of Lazarus, prince of Servia. By the battle of Coſſova, Lazarus was defeated and taken priſoner, and the league and independence of the Sclavonian tribes were finally cruſhed. But as the victor walked over the field, viewing the ſlain, and triumphing in his ſucceſs, a Servian ſoldier ſtarted from the crowd of dead bodies, and pierced Amurath, at the moment of his exultation, in the belly with a mortal wound. Others have attributed his death to a Croat, who is ſaid to have ſtabbed him in his tent; and this accident was alleged as an excuſe for the unworthy precaution of pinioning, as it were between two attendants, an ambaſſador's arms, when he was introduced to the royal preſence. Amurath died in the 71ſt year of his age, and 30th of his reign, A. D. 1389. His character has been highly extolled by the Turks, and he has been repreſented as mild in his temper, modeſt in his apparel, temperate in his mode of living, and a lover of learning and virtue; he was reproached, however, by the Moſlems for his abſence from public worſhip, and he was corrected for his negligence by the firmneſs of the mufti, who refuſed to admit his teſtimony in a civil cauſe. The ſultan, it is ſaid, profited by the reproof, and atoned for his fault by erecting a magnificent moſque at Adrianople. Gen. Dict. Gibbon's Hiſt. vol. xi. p. 444, &c.

Amurath, or Morad, II., ſucceeded his father Mahomet I., in 1422, at the age of 18 years. His reign commenced

menced with the capture and death of an impoſtor, who pretended to be Muſtapha, the ſon of Bajazet, and who was ſupported by the Greek emperor. He then inveſted Conſtantinople; but his attention was diverted by the rebellion of Muſtapha, his younger brother, who was impriſoned and ſtrangled in his preſence. In 1424 he reſtored the diſcipline of the Janizaries, and reformed the abuſes of the Spahis; and in 1426 he laid waſte the iſle of Zante, belonging to the Venetians. In the next year he invaded and ſubdued the Morea, and obliged the Grecian emperor to pay him tribute; and having taken Theſſalonica, or Saloniki, he compelled the Venetians to make peace. In 1434 he ſuppreſſed the rebellion of Karaman-Ogli; and when a war broke out between the Ottoman empire and the king of Hungary, in which the famous Hungarian general, John Huniades, gained ſeveral victories, Amurath croſſed the Danube, and laid ſiege to Belgrade, but Huniades obliged him to raiſe it. He alſo invaded and ſubdued Servia, which was reſtored in the peace between Hungary and Poland; and on this occaſion it was ſtipulated, that neither party ſhould croſs the Danube in a hoſtile manner into the dominions of the other. Amurath, having awed Karaman-Ogli, who was renewing his attacks, into ſubmiſſion, and granted him peace in compliance with the intreaties of his wife, found his dominions in a ſtate of tranquillity; and formed a reſolution of abdicating the Turkiſh throne. Accordingly, in 1443, at the age of 40 years, perceiving the vanity of human greatneſs, he reſigned the empire to his ſon, Mahomet, and retired to Magneſia, where he joined the ſociety of derviſes and hermits, and adopted all their auſterities and fanatic rites. If his motives in this extraordinary proceeding had not been debaſed by an alloy of ſuperſtition, we might have extolled his magnanimity. From this dream of enthuſiaſm, as it may be juſtly called, he was ſoon rouſed by the Hungarian invaſion. Ladiſlaus, the king of Hungary, and his auxiliaries, inſtigated by Karaman-Ogli, the inveterate foe of the Turkiſh empire, penetrated into the Muſſulman territories, and Amurath, urged by the earneſt intreaty of his ſon, and the wiſhes of the people, conſented to take the command of the army. Advancing by haſty marches from Adrianople, at the head of 60,000 men, he met the Chriſtians at Warna; and on the firſt onſet the Turkiſh wings were broken; and Amurath perceiving the flight of his ſquadrons, deſpaired of his fortune, and that of the empire. During the heat of the engagement, a copy of the treaty of peace between himſelf and the Hungarian king, was diſplayed in the front of the ranks, and it is ſaid, that the ſultan in his diſtreſs, lifting his eyes and hands to heaven, implored the protection of the God of truth, and called on the prophet Jeſus himſelf to avenge the impious mockery of his name and religion. Whilſt the battle was in ſuſpenſe, the young king of Hungary ruſhed forward in the confidence of victory, till his career was ſtopped by the impenetrable phalanx of the Janizaries. If we may credit the Ottoman annals, his horſe was pierced by the javelin of Amurath; he fell among the ſpears of the infantry; and a Turkiſh ſoldier proclaimed, with a loud voice, "Hungarians, behold the head of your king!" The death of Ladiſlaus was the ſignal of a total defeat. Ten thouſand Chriſtians were ſlain in the diſaſtrous battle of Warna; and of the number was cardinal Julian Cæſarini, diſtinguiſhed by his talents and learning, and by a volatile genius, equally adapted to the ſchool, the camp, and the court. The circumſtances of his death are variouſly related; but it is believed, that a weighty incumbrance of gold impeded his flight, and tempted the cruel avarice of ſome Chriſtian fugitives. However, it is allowed, that he fell a juſt victim to that pernicious caſuiſtry by which he quieted the mind of Ladiſlaus in the violation of his oath, and abſolved him in the pope's name from the guilt of perjury. The loſs of the Turks, more conſiderable in numbers than that of the Chriſtians, bore a ſmaller proportion to their total ſtrength, and yet Amurath himſelf was not aſhamed to confeſs, that his ruin muſt be the conſequence of a ſecond and ſimilar victory. This battle happened on the 10th of November, A. D. 1444; and was followed by the retirement of Amurath a ſecond time to the ſtillneſs and devotion of private life. In 1446 he was again called forth to public ſervice by an inſurrection of the Janizaries, who filled Adrianople with rapine and ſlaughter. Having quelled this tumult, he turned his arms againſt the famous Scanderbeg, prince of Epirus, who had revolted; and followed him to Albania, at the head of 60,000 horſe and 40,000 Janizaries. The conqueſts of the ſultan were confined to the petty fortreſs of Sfetigrade; and he retired with ſhame and loſs from the walls of Croya, the caſtle and reſidence of the Caſtriots. Amurath, by the alternative of death or the Koran, converted all the Epirots to his own faith. The Hungarians renewed their invaſion of the territories near the Danube; and Amurath fell in with them near Coſſova, the place where Amurath I. had been victorious. The reſult of many partial but bloody actions was the route of the Chriſtian forces, and the capture and impriſonment of Huniades, the ſupreme captain and governor of Hungary, in his retreat. Amurath returned to Adrianople; and having given up all thoughts of reſignation, he married his ſon Mahomet to the daughter of the prince of Elbiſtan, and appointed him to the government of Aſia Minor. By his diſappointment at Croya, and the fatigues of his retreat, his laſt days were not only embittered, but probably ſhortened; for on his arrival at Adrianople he was ſeized with a diſorder in his head, which terminated his life in the 47th year of his age, and the 29th of his reign. According to Cantemir, the hiſtorian of the Othman empire, he lived 49, and reigned 30 years, ſix months, and eight days. According to this hiſtorian, "he was a juſt and valiant prince, of a great ſoul, patient of labours, learned, merciful, religious and charitable; a lover and encourager of the ſtudious, and of all who excelled in any art or ſcience; a good emperor, and a great general. No man obtained more or greater victories than Amurath: Belgrade alone withſtood his attacks. Under his reign, the ſoldier was ever victorious; the citizen rich and ſecure. If he ſubdued any country, his firſt care was to build moſques and caravanſeras, hoſpitals, and colleges. Every year he gave a thouſand pieces of gold to the ſons of the prophet, and ſent 2500 to the religious perſons of Mecca, Medina, and Jeruſalem." It ſhould be conſidered, however, that cruelty and violence have been ſanctioned by zeal in propagating the Mahometan faith; and that, in the hands of the Turks, the ſcymetar was the only inſtrument of converſion; after all the abatements that ought to be made in the preceding panegyric, it is generally allowed that the moderation and juſtice of Amurath have been atteſted by his conduct. In the vigour of his age and military power, he ſeldom engaged in war till he was juſtified by a previous and adequate provocation; when victorious, he was diſarmed by ſubmiſſion; and in the obſervance of treaties, his word was ſacred and inviolate. Mod. Univ. Hiſt. Gibbon's Hiſt. vol. xii. p. 150, &c.

AMURCA, in *Pharmacy*, a medicine made of the refuſe or recrement of expreſſed olives.

Amurca, being boiled in a copper veſſel to the conſiſtence

of honey, becomes a drug of ſome uſe in medicine, being reputed an aſtringent and drier; and as ſuch ſometimes preſcribed in ulcers, as well as againſt diſeaſes of the teeth, eyes, &c.

Hippocrates applies the term amurca to a crude, immature, putrid ſtate of the liver.

Some authors have alſo given the name amurca to the juice or fluid found in the RENES *ſuccenturiati*.

AMUSKEAG FALLS, in *Geography*, are on Merrimack river, in New Hampſhire, America, 16 miles below Concord, and ſeven below Hookſet falls. There are three of them, one below the other, ſo that the water falls about 80 feet in the courſe of half a mile. In the middle of the upper part of the ſecond fall is a rocky iſland, in which are found ſeveral excavations or pits, by the circular motion of ſmall ſtones, impelled by the force of the deſcending water, which are capable of holding ſeveral tons of water. A little below the falls is a bridge 556 feet in length, and 20 in breadth, conſiſting of 2000 tons of timber. N. lat. 42° 59′.

AMUTRIUM, in *Ancient Geography*, a town of Dacia, according to Ptolemy.

AMUY, in *Geography*, a town of India, beyond the Ganges, near the weſtern bank of the lake Chamai, on the confines of the kingdom of Kanduana.

AMWELL, a village of England in the county of Herts, 21 miles north of London, and one ſouth-weſt of Ware, in which is the ſpring of the New River, that ſupplies a conſiderable part of London with water. This river or canal was projected by Sir Hugh Middleton, in 1606.

AMY, N. in *Biography*, advocate in the parliament of Aix, in France, died in 1760, and is known by ſome valuable works, in natural ſcience, *viz.* "Experimental Obſervations on the Waters of the Seine, Marne, &c." 12mo. 1749; "New Filtrating Fountains." 12mo. 1757. "Reflections on Copper, Lead, and Tin Veſſels," 12mo. 1757.

AMY, in *Law*, the perſon next of kin to an orphan, or infant, who is to be intruſted for him; properly called PROCHEIN *amy*.

The word in French literally ſignifies *friend*.

AMY, *alien*, is a foreigner here, ſubject to ſome prince, in friendſhip with us.

AMYBUS, in *Ancient Geography*, an iſland of the Red Sea, ſuppoſed to be the ſame with AMICUS, or *Amici Inſula*.

AMYCI CAMPUS, a name given by Polybius to a plain in the midſt of which runs the river Orontes, between Libanus and Antilibanus.

AMYCI PORTUS, was ſituated on the Thracian Boſphorus, north of Nicopolis, and ſouth of Fanum Jovis. It derived its name from Amycus, an ancient king of the Rebrices, who was killed in a combat with Pollux, and on whoſe tomb was planted a laurel, Gr. *Daphne*, whence the port was called *Daphnis portus*.

AMYCLÆ, a city of Peloponneſus, in Laconia, ſituate ſouth-weſt of Sparta, and near it. Although ſmall, it was famous for its fruit-trees, ſo that it was called by Statius (Theb. ix. v. 769.) "virides Amyclæ." According to Polybius, the temple of Apollo in this place was the moſt celebrated in Laconia, whence it was denominated by Statius, "Apollineæ Amyclæ;" and it was pretended that Leda, the mother of Caſtor and Pollux, reſided in this place, whence Silius Italicus, (lib. xi. v. 434.), deſcribes it thus:

"Ledæis veniens victor Xanthippus Amyclis.

Venus had alſo a ſtatue in this place, executed by Gitiades. When this part of Laconia was attacked by the Romans, Q. Flammius encamped near Amyclæ, and ravaged its territory; and the city was afterwards deſtroyed. In the time of Pauſanias, there were ſome remains of its ancient magnificence.

AMYCLÆ was alſo a town of Italy, in Upper Calabria, ſaid to have been peopled by a colony from Amyclæ, in Laconia, but its ſituation has not been aſcertained; though it is ſuppoſed to have been between Cajeta to the ſouth-eaſt, and Terracina to the north-weſt. Pliny and Solinus ſay, that the inhabitants were ſo infeſted with ſerpents, as to be under a neceſſity of abandoning their dwellings. The Amyclæ were diſtinguiſhed among the ancient poets by the epithet, "taciti," or ſilent, as ſome ſay, becauſe it was built by the Lacedæmonians, who, having adopted the ſyſtem of Pythagoras, recommended ſilence; or, according to others, becauſe a law was enacted in this place, for the purpoſe of preventing falſe rumours, by which the people were alarmed, which prohibited any perſon from reporting the approach of an enemy; but this law was in the end the cauſe of the ruin of the city; for the Dorians arrived unexpectedly at the walls, and took the city. To this circumſtance Silius refers, lib. viii. v. 530:

"—Quaſque evertere ſilentia, Amyclæ."

AMYCLÆI, a people of Africa, who, according to Dionyſius Periegetes, inhabited Cyrenaica.

AMYCLÆUM, a town and port of the iſland of Crete, according to Euſtathius.

AMYDON, a town of Macedonia, upon the Axius, in Pæonia, mentioned by Steph. Byz.

AMYGDALA, in *Natural Hiſtory*, a ſpecies of ECHINUS, in the claſs molluſca of worms, ſo called, becauſe in ſhape it reſembles an almond.

AMYGDALÆ, in *Surgery*, denotes ſuperfluous fleſh growing at the root of the tongue.

AMYGDALÆ, in *Anatomy*. See ALMONDS.

AMYGDALATE, an artificial milk, or emulſion, made of blanched almonds, &c.

AMYGDALE. See ALMOND.

AMYGDALIS SIMILIS, in *Botany*. See THEOBROMA.

AMYGDALOID, in *Natural Hiſtory*. See TOAD-STONE.

AMYGDALUS, in *Botany*, a genus of the *icoſandria monogynia* (*polyandria monogynia*, Gmelin,) claſs and order, of the natural order of *pomaceæ* and *roſaceæ* of Juſſieu; its characters are, that the *calyx* is a perianthium, one-leafed, tubulous, inferior, quinquefid, deciduous, diviſions ſpreading and obtuſe; the *corolla* of five petals, oblong-ovate, obtuſe, concave, inſerted into the calyx; the *ſtamina* have filaments about 30, filiform erect, ſhorter by half than the corolla, inſerted into the calyx, anthers ſimple; the *piſtillum* has a roundiſh, villoſe germ, ſimple ſtyle, of the length of the ſtamens, and headed ſtigma; the *pericarpium* is a roundiſh, villoſe, large drupe, with a longitudinal furrow; the *ſeed* is a nut, ovate, compreſſed, acute, with prominent ſutures on each ſide, reticulated with furrows, and dotted with ſmall holes. Obſ. the nut of the almond is covered with a dry ſkin; that of the peach with a ſmall pulp. There are ſeven ſpecies. 1. A. *perſica*, with all the ſerratures of the leaves acute, and the flowers ſeſſile and ſolitary. There are two varieties, *viz.* the *peach-tree*, with downy fruit, and the *nectarine*,

nectarine, with ſmooth fruit. For a particular account of both theſe, their varieties, and different qualities, and the method of their culture and propagation, See AMYGDALUS, in *Gardening*, *infra*. 2. A. *communis*, the almond tree, with the lower ſerratures of the leaves glandulous, and the flowers ſeſſile and in couplets. Some reckon three varieties, *viz.* α. A. *ſylveſtris*, the common or wild almond; β. *ſativa*, ſweet or Jordan almond; and γ. A. *amara*, bitter almond. Miller makes three ſpecies of the almond, *viz.* 1. A. *communis*, or common A. cultivated more for the beauty of its flowers, than for its fruit; of which there are two varieties, one with ſweet, the other with bitter kernels, which often ariſe from the fruit of the ſame tree. 2. A. *dulcis* or Jordan A. the nuts of which are frequently brought to England; theſe have a tender ſhell, and a large ſweet kernel. The leaves are broader, ſhorter, and grow much cloſer than thoſe of the common ſort, and their edges are crenate. The flowers are very ſmall and of a pale colour, inclining to white. Theſe trees have been often raiſed from the almonds which came from abroad, and the plants have been found to maintain their difference from the common almond. 3. A. *ſativa*, with narrow ſharp pointed leaves, flowers much ſmaller than thoſe of the common almond, and white; the ſhoots of the tree ſmaller and joints cloſer than thoſe of the common ſort; and the tree is leſs hardy, and ſhould therefore have the advantage of a warm ſituation, otherwiſe it will not thrive. This ſort flowers in the Spring, and rarely produces fruit in England. From an old tree, placed againſt a wall, with a ſouth aſpect, the fruits have ſome years been ripe, and well flavoured, but their kernels have been ſmall.

Duhamel gives ſeven ſpecies and varieties of the almonds, *viz.* 1. Common A. with a ſmall fruit. 2. Sweet A. with a tender ſhell. 3. Bitter A. with a tender ſhell; a variety of the preceding. 4. A. with a ſmall fruit, and a tender kernel: Amande-ſultane,—and, with a ſtill ſmaller fruit, amande-piſtache. 5. Sweet A. with a large fruit. 6. Bitter A. with a large fruit, a variety of the preceding. 7. Bitter A. probably a variety of the firſt. He alſo mentions another, which he calls amandier-pecher, and ſuppoſes to have been produced from the impregnation of the almond, by the farina of the peach.

The *common almond* has leaves which reſemble thoſe of the peach, but the lower ſerratures are glandular; they proceed from buds both above and below the flowers, and not as in the peach, from the ends of the ſhoots above and not below the flowers. The form of the flowers is not very different, but they uſually come out in pairs, and vary more in their colour from the fine bluſh of the apple-bloſſom to a ſnowy whiteneſs. The chief obvious diſtinction is in the fruit, which is flatter, with a coriaceous covering, inſtead of the rich pulp of the peach and nectarine, opening ſpontaneouſly when the kernel is ripe. The ſhell is not ſo hard as in the firſt ſpecies, and is ſometimes tender and very brittle; it is flatter, ſmoother, and the furrows or holes are more ſuperficial. This tree is a great object in ſome parts of Italy, and in the ſouth of France, and there are large plantations of it in Provence and Dauphiné. It is common in China, and moſt of the Eaſtern countries; and alſo in Barbary, where it is a native. In the time of Cato it ſeems not to have been cultivated in Italy; for he calls the fruit *nuces græcæ*, or Greek nuts. With us it is valuable as an ornamental tree in clumps, ſhrubberies, &c. within view of the manſion; for it diſplays its delicate red-purple bloom in the mouth of March, when few other trees have either leaves or flowers. An almond-tree, covered with its beautiful bloſſoms, is one of the moſt elegant objects in nature. In a forward Spring, they often appear in February; but in this caſe, the froſt generally deſtroys them, and they bear little or no fruit; but when they flower in March, they ſeldom fail to bear plenty of fruit, very ſweet, and fit for the table when green, but they will not keep long.

3. A. *pumila*, perſica africana nana, &c. of Herm. lugdb. A. perſica nana, &c. of Pluk. phyt. perſica amygdalus of Miller, double-flowered dwarf-almond, with leaves veined-wrinkled, or leaves lanceolated and double ſerrated, Willd. The braches are ſmooth, two or three feet high, and dark-purple; the flowers are generally two in a bud and ſeſſile; the calyx reddiſh; the petals emarginate (acuminate, Reichard), red, longer than the tube of the calyx; filaments paler; germ and ſtyle pubeſcent at bottom; ſtipules linear and very deeply ſerrate; varies with double flowers; and its native country is Africa. Theſe ſhrubs make an agreeable variety amongſt low flowering trees, in ſmall wilderneſs quarters; the ſingle ſort flowering in the beginning of April, and the double commonly three weeks later. It was cultivated by Miller in 1731. 4. A. *nana*, A. indica nana of Pluk. and Miller, prunus inermis, &c. of Gmelin, Sibir, armeniaca perſicæ foliis, &c. of Amm. Ruth. common dwarf almond, with leaves attenuated at the baſe. The leaves are lanceolated, ſubpetiolated, ſcattered, ſomewhat rigid, ſmooth, the ſerratures very ſharp and ſomewhat ſpinoſe; the ſtipules linear, long and deciduous; the flowers very abundant on the twigs, appearing with the firſt leaves from all the buds; the calyx ſubſeſſile and reddiſh; ſegments acute, green, and very finely ſerrulate; petals of a fine roſe-colour: ſtamens about 20, the inner ones gradually ſhorter; piſtil very villoſe; fruit uſually ſolitary, ſeſſile, ſomewhat compreſſed, very hirſute, with a harſh yelloviſh wool, the ſize of a hazel nut, which is of a ſharp ovate form, yelloviſh-grey colour, and grooved at the ſutures; the kernel reſembles that of the peach and colour in taſte; the wood hard, of a yelloviſh cheſnut colour, and veined, but the trunk ſeldom an inch in thickneſs. It varies much in ſize; on the banks of the Volga, it is annually ſet on fire, and never riſes to any height, but is low and ſhrubby, creeping very much at the root, and obſtructing the plough. In Cherſon it ſcarcely attains a ſpan in height, but in the Ukraine it grows a fathom high, as it does in gardens, where the leaves are broader, and ſometimes five inches long. It blooms in April, when all the young ſhoots are covered with flowers of a peach-bloſſom colour, and makes a fine appearance among ſhrubs of the ſame growth. It is a native of the northern parts of Aſia, abounds in Calmuc Tartary, and is very common on the banks of the Volga; cultivated in Kew garden by Mr. Sutherland, in 1683. See AMYGDALUS *infra*. 5. A *incana*, hoary dwarf A. with leaves lanceolate, ſerrate, wrinkled, ſubſeſſile, white tomentoſe beneath. It may be doubted whether this be not a variety of the preceding ſpecies. 6. A. *orientalis*, A. argentea of La Marck, ſilvery-leaved A. with leaves lanceolate, quite entire, ſilvery, perennial, and petiole ſhorter. The flowers are ſmall, and are not ſucceeded by fruit in England. It was found growing near Aleppo, whence the fruit was ſent to the duke d'Ayen, in France, who raiſed ſeveral plants in his garden at St. Germain's, and ſent ſome to Mr. Miller, who cultivated them at Chelſea, in 1759. It is a native of the Levant. 7. A. *cochinchinenſis*, with leaves ovate, quite entire, and racemes, ſmall, and ſubterminal. This is a large tree, with ſpreading branches, acuminate, waved, ſhining, and alternate leaves, white corolla, drupe about half an inch in diameter, and kernel like the common almond, in

form

[illegible] and ſmall; a native of the vaſt woods of Cochinchina. For the culture and propagation of almonds, ſee AMYGDALUS *Communis*.

For the nature and medicinal properties and uſes of Almonds, ſee ALMOND.

AMYGDALUS *Æthiopica*. See BRABEIUM.

AMYGDALUS *Indica*. See TERMINALIA.

AMYGDALUS, in *Gardening*, is applied to the *almond*, *peach*, and *nectarine trees*; the claſs, order, and genuine characters, as well as the different ſpecies of which, have been given above. In order to render their culture and modes of propagation as clear and intelligible as poſſible, it may be proper to conſider each of them ſeparately.

1ſt. *Amygdalus, almond-tree*. This ſort of tree is cultivated both for the advantage of the fruit, and as being highly ornamental in ſhrubberies, plantations, and other deſcriptions of pleaſure ground, from its coming into bloom early in the Spring. It is, however, leſs important in the former than the latter point of view, as the fruit is often liable to miſcarry in this climate. All the ſpecies and varieties of this tree are deciduous, and of a hardy nature, thriving well in moſt common garden ſoils. Thoſe of the tree kind frequently riſe to fifteen or twenty feet in height, dividing in many ſpreading branches, which ultimately form beautiful heads, that are generally well adorned in the beginning of March with innumerable flowers, which continue in full bloom for a fortnight or three weeks, and are followed by the leaves, which are long and narrow, and the fruit takes its growth. This is downy, rather large, and of an oval form, conſiſting of a thick, tough, leathery ſubſtance that embraces an oblong nut or ſtone, in which the kernel or almond is incloſed, which is the only part of the fruit that is capable of being made uſe of.

The dwarf ſhrubby ſorts of this tree do not, however, in general, exceed three or four feet in height, having ſlender ſtems, which ſend forth a great number of ſmall branches near to the ground; and in the ſingle-flowered kind various ſuckers are frequently ſent up from the root. And in both the double and ſingle flowered almond tree, all the young branches are thickly beſet with flowers in the Spring, which, from their having a fine pale red colour, and continuing ſome time in blow, are highly ornamental. The ſingle ſort have their flowers coming out about the end of March, and the double kind in the beginning of April, each remaining about a fortnight in blow.

The ſorts chiefly cultivated for uſe in this country, are, according to Mr. Forſyth, the *tender-ſhelled almond*, the *ſweet almond*, the *common* or *bitter almond*, the *ſweet Jordan almond*, and the *hard ſhelled almond*. Thoſe propagated only for ornament are the *dwarf* and the *double-flowering almonds*.

Methods of Propagation, &c.—Theſe are either by budding them upon plum, almond, or peach ſtocks, or by ſowing the ſtones of the fruit. It is obſerved in the "Univerſal Gardener," that in the firſt way they much ſooner form full and regular heads, and attain the ſtate of flowering and producing fruit; and that if it be intended to continue the *ſweet-kernelled*, or any other particular ſort, it can only be effected with certainty by inoculation, as when raiſed from ſeed they are apt to vary, all the varieties often proceeding from the fruit of the ſame tree. This operation is generally performed about July or Auguſt, and may be done either for dwarfs, half, or full ſtandards. Mr. Forſyth remarks, that the Spring after being budded they may be trained for ſtandards, or let grow for half-ſtandards; but that the moſt common method is to bud them at ſuch a height as the ſtem is deſigned to be; and the ſecond year afterwards to plant them out for good. If they are to be tranſplanted into a dry ſoil, it is recommended to be done in October, when the leaves begin to decay; but if into wet ground, in the month of February. Such as are budded on plum ſtocks are found to grow the beſt in wet ſoils, and thoſe on almond and peach ſtocks in dry ones.

In raiſing trees of this kind from the ſtones, it is beſt to plant them in the early Autumn or Spring months, as October and November, or February and March, being careful to chuſe thoſe of the laſt Summer's growth, drilling them in, in a bed of good light ground, two or three inches in depth. The plants appear in the Spring, and in the Autumn or Spring following, may be tranſplanted into the nurſery, and put in rows for the purpoſe of being trained for ſtandards, half-ſtandards, or dwarfs, according to the intention of the planter.

When it is intended to bud any of them with peaches or almonds, they will ſome of them be in a proper ſtate for the operation; for dwarfs the firſt, and all of them the ſecond Summer after tranſplanting; but for ſtandards, in order to be trained with proper ſtems, they ſhould conſtantly have three years growth.

The dwarf ſorts, beſides being propagated by budding upon plum or almond ſtocks, may be eaſily raiſed by ſuckers from the roots, and by layers. The common method in pruning trees of this ſort is, in the Spring, to ſhorten the firſt ſhoot from the bud to four or five eyes, in order that the trees may put forth lateral ſhoots in proper quantity, ſo as to form regular full heads. But it is adviſed by Mr. Forſyth, that when the young trees are brought from the nurſery, they ſhould never be cut till the young ſhoots begin to break. And, that, as after wet Autumns, when the wood is not well ripened, hard Winters are apt to kill the ſhoots, they ſhould in ſuch caſes be cut down to the ſound wood, care being taken to prune out all ſuch croſs ſhoots as rub againſt others, leaving the tree open in the middle, cutting the ſhoots about the ſame length as for apricots, and in proportion to their ſtrength. The cankery parts and decayed wood muſt always be wholly cut out and removed.

Whether made uſe of as ſtandards or half-ſtandards, it is recommended that they be planted in ſheltered ſituations, which have a ſouthern aſpect. In ſome caſes it may be neceſſary to protect them by ſome ſort of light covering, againſt the injury that may be expected from the froſts in February and March. Trees of this ſort are alſo ſometimes planted againſt walls and on eſpaliers.

The fruit of the almond-tree, after being properly dried, may be preſerved in either bran or ſand.

2d. *Amygdalus-Perſica*, or *peach-tree*. Its native country is not known. It came to the Romans from Perſia, as its Latin name, *Malus Perſica*, indicates; and it has been cultivated from time immemorial in moſt parts of Aſia; it has been adoped by almoſt every nation of Europe, and now flouriſhes abundantly in America, where it has been introduced by the Europeans. Of this tree we have only one diſtinct ſpecies, but there are a great many varieties, and by producing them from the ſeed or kernel, they may be almoſt indefinitely increaſed. But though they are capable of being greatly augmented in this manner, it is probable that but very few poſſeſs the neceſſary qualities, as nurſerymen ſeldom cultivate more than twenty or thirty ſorts. As in the cultivation of this ſort of tree much expence is conſtantly required in walls or other ſuitable buildings, none but ſuch as produce fine fruit ſhould be attended to.

This ſort of trees will grow to a conſiderable height as ſtandards, but in order to produce and ripen fruit, requires the ſhelter of warm walls. They flower early in the Spring in

in common, the flowers appearing before the leaves, moſtly on the ſhoots of the preceding year, and either ſingly or in pairs along their ſides. They are formed each of five ſmall petals, with many ſtamina in the middle, and a ſmall round germen that becomes the peach.

The fruit is diſtinguiſhed into two ſorts, the *peach* and *pavie*, from the circumſtances of the fleſh or pulp quitting or adhering to the ſtone, as in the former it eaſily ſeparates, while in the latter it adheres firmly.

There are various ſorts of peaches that may be cultivated, but for ſmall gardens Mr. Forſyth recommends the following as the moſt ſuitable; the *early avant*, *ſmall mignonne*, the *Anne peach*, *royal George*, *royal Kenſington*, *nobleſſe*, *early Newington*, *Galland*, *early purple*, *chancellor*, *nivette*, the *Catharine*, the *late Newington*.

Againſt north and eaſt walls he thinks the *early avant*, *early Anne*, *early Mignonne*, *royal George*, *red Magdalen*, *royal Kenſington*, *nobleſſe*, *groſs mignonne*, and *Millet's mignonne* are by much the beſt. In this method a regular ſucceſſion of fine peaches, may, it is conceived, be procured until the late ſorts againſt the ſouth and weſt walls come in. But late ſorts ſhould never be planted on a north or eaſt wall.

Methods of Culture and Propagation.—It is obſerved by Mr. Forſyth, that peaches require a lighter ſoil than either pears or plums, and that a light, mellow loam is the moſt proper for them. Where the natural ſoil is a ſtrong brick mould, inclining to clay, it will be neceſſary to take ſome of it away in firſt preparing the borders for the trees, in order to be mixed with ſome light mould, ſand, or old lime rubbiſh. And in making them up, where the trees are to be planted, the earth ſhould be taken out to the depth of three feet, and the breadth of four, and the reſt worked well together with rotten leaves or ſtreet dung, and the above mixture, throwing them up as ſoon as convenient into rough ridges, to be expoſed to the action of the froſt, and the influence of the atmoſphere.

The borders, when it is intended to plant theſe trees againſt walls, ſhould never be narrower than three or four feet, and when made ſix or ſeven feet, they are more proper. The moſt advantageous aſpects for trees of this deſcription, are thoſe which have the moſt command of the ſouth ſun, but on an eaſtern or weſtern aſpect, they ſometimes anſwer tolerably well.

Where the ſoil is wet, drains laid deep are recommended by Mr. Forſyth to be made acroſs the borders, to draw the water from the roots of the trees. Theſe may be filled with old bricks or ſtones at bottom, and above with gravel, having the depth of two feet of good mould upon the latter. And when water is retained after rains from the ſtiffneſs of the ground, the borders ſhould be formed with ſuitable ſlopes for the ſame purpoſe.

If the ſoil be a ſour, moiſt clay, he adviſes brick-bats to be thrown into the bottoms of the borders, and to be covered with lime rubbiſh, or the core from the ſcreenings of lime; which ſhould be then watered, and, when nearly dry, well rammed to form a ſolid ſurface, and prevent the roots of the trees from penetrating the wet earth below, as well as to aſſiſt in taking off the water.

When water is permitted to ſtagnate near the roots of tender trees, in ſtrong land, it is remarked, that it is certain to bring on the mildew, and thereby totally ſpoil them. They may, however, in ſome inſtances, he thinks, be recovered by moving them to another aſpect. All the French peaches, it is obſerved, are extremely liable to this diſeaſe on lands of the ſtrong adheſive kind.

The propagation of peach-trees is accompliſhed either by ſetting the ſeed, or by budding upon plum-ſtocks. The fine varieties of this fruit have been moſtly obtained in the firſt method, though it is tedious, and often attended with but little ſucceſs, from the great tendency to deviate from the nature of the variety from which the ſeed was taken.

The manner of proceeding in this way is to ſow or ſet the ſeeds, in beds of good mould, in ſmall drills two or three inches deep, about October or November; or where this cannot be done, to preſerve them in ſand till February. They will be up in the Spring following; and after one or two Summers' growth, according to circumſtances, they will be fit to be tranſplanted into the nurſery, which ſhould be done in rows, either in the Autumn or Spring months. After having remained about twelve months in this ſituation, ſome of them may be taken out, and planted againſt a paling or other proper fence, in order to be trained.

But the moſt certain method of propagation for preſerving the variety, according to the authors of the "Univerſal Gardener," is that of budding, as by this means peach-trees are produced that afford fruit in ſize, colour, and taſte, exactly ſimilar to that of the tree from which the bud was taken. Beſide, in this way, the trees become much ſooner in a bearing ſtate. Though peaches may be budded on different ſorts of ſtocks as thoſe of their own kind, the almond, the apricot, and the plum, yet the plum is always to be preferred for the purpoſe, as being more hardy and ſuitable for continuing the trees in a proſperous and full bearing condition. It is alſo more adapted to grow well in different kinds of ſoil. The muſcle plum-ſtock is by much the beſt, where it can be procured.

Stocks for this uſe may be raiſed from the different varieties of plums, as well as from peaches, almonds, and apricots, by ſowing the ſeed or ſtones in the manner that has been already deſcribed. The true muſcle-plum cannot, however, be produced with certainty in this way, as it is liable to great variety when raiſed by ſeed. The only mode of procuring it with certainty is by layers in the Autumn, or ſuckers from peach or other trees that are known to have been worked upon that ſort of plum-ſtock. Theſe are to be collected in October or November, or in the early Spring months, ſuch being choſen as are about the ſize of the little finger; the knots of old wood adhering to the roots, and the ſide branches being then trimmed off, they are to be planted in rows two feet and a half diſtant, and the following Summer ſome of them will be ready to bud for dwarfs. For forming dwarfs, the moſt proper ſized ſtocks for budding upon are thoſe from half an inch to an inch in thickneſs; but for half or full ſtandards the ſtocks ſhould be allowed to ſtand till the ſtems are an inch thick at the bottom, and four or five feet in height. See Stock.

The beſt ſeaſon for budding them is Auguſt, though ſome gardeners perform the operation in June or July; but when budded too early the buds are liable to ſhoot weakly the ſame ſeaſon, and to be ſo greatly injured by the Winter, as to make but little progreſs. See Budding and Inoculation.

As it is moſtly neceſſary that trees of this kind are trained againſt ſome ſort of fence, they ſhould be principally budded ſo as to form dwarfs, that their branches may come out low. Where the fences are high, they may, however, be budded for half or full-ſtandards, and trained accordingly. In performing this buſineſs, care ſhould conſtantly be taken that only one bud be inſerted into each ſtock, the head of which ſhould remain perfect until the Spring; when about March the whole of the heads ſhould be cut over, in a ſloping direction, juſt above the places where the buds were inſerted. Shortly after this the buds moſtly ſhoot out, producing each a ſtrong

ereſt ſhoot, which by Autumn has generally attained a conſiderable height, and the trees have obtained their firſt ſtate of formation. They ſhould, therefore, in the early Autumn or Spring months, as October and November, or February and March, be tranſplanted either againſt ſuitable walls, where they may remain, or againſt ſome fence, merely with the view of being properly trained before they are finally planted out into their intended ſituations; but in either caſe, in the Spring, they muſt have the firſt ſhoot from budding headed down to a few buds or eyes, in order that a proper ſupply of lateral ſhoots may be produced below. In two or three years they are generally in a ſtate to bear fruit. See HEADING DOWN TREES.

Planting the Trees.—In chuſing this ſort of tree, Mr. Forſyth well obſerves, that ſuch plants ſhould be preferred as have the ſtrongeſt and cleaneſt ſtems; and if ſuch as have been headed down, and are of two or three years growth, they will bear and fill the walls much ſooner than thoſe that have not been managed in this way. Where they have only one ſtem they are better than with two, as, in the latter caſe, one of them muſt be cut off; for, if planted with both, the middle of the tree would be left naked, and a large portion of the wall remain uncovered. He is aware that it is frequently the practice to chuſe the trees with the ſmalleſt ſtems; but, he thinks, they always afford weaker ſhoots than the others.

The ſeaſons of planting are either the Autumn or the Spring. In dry, warm ſoils, October or November, as ſoon as the leaves begin to fall, may be the beſt periods for this buſineſs; but in very moiſt or wet ſoils the Spring months, as February and March, are to be preferred.

In whatever ſeaſon the work is done, if the borders be new, the ground ſhould be well trenched before the trees are planted; and where they are to ſupply the places of ſuch as have been removed, or where the trees have died, the whole of the old roots ſhould be carefully removed, and freſh mould put into the place where the old tree was removed from; the new earth being raiſed ſufficiently above the old, as where this is not the caſe, the trees are frequently injured by being planted too deep. Where they are not kept at firſt above the level of the old ground, Mr. Forſyth ſays, they ſeldom thrive well. After the trees have been planted, the roots ſhould be well watered in order to ſettle the mould round them, letting it remain in that ſtate for ſeveral days till the whole of the water has been taken up. The earth is then to be well trodden round them, and the holes filled up to the top. The freſh planted trees ſhould remain without being pruned until the Spring when planted in the Autumn. The authors of the "Univerſal Gardener," however, adviſe, that trees of this ſort, as well as moſt others that are deſigned for walls, be planted out into their permanent ſituations, when they are only of one year's growth from the bud, and with their heads entire, as in this way they may be more perfectly pruned and trained the two firſt years, which are the chief points in forming good wall-trees. Where walls are to be immediately covered, trained trees from the nurſery muſt, however, be procured, and of ſuch ſizes as may be the moſt ſuitable to the views of the planter. The proper diſtance of planting peach trees is about fifteen feet from each other. Where the walls are high, half or full ſtandards may ſometimes be planted between the dwarfs to fill up the upper parts, until the dwarfs grow up ſo as to cover them. The general rule is, where the walls are not more than ſix or eight feet high, to plant none but dwarf trees at the diſtance mentioned above; but when they are nine feet in height, half ſtandards of three or four feet ſtem may be put betwixt; and when the walls are ten or twelve, full-ſtandards of five or ſix feet ſtem may be had recourſe to, in order to cover the top parts; the lower branches of the ſtandard trees being annually removed, as the branches of the dwarf trees advance, and the trees themſelves at laſt wholly taken away, to admit the dwarfs to ſpread over the whole ſpace.

In removing the trees from the nurſery great care ſhould always be taken to preſerve their roots as much as poſſible, and that ſuch parts as are bruiſed be cut away. The long ſmall roots may alſo be a little ſhortened. The trees are then to be planted three or four inches from the wall, with the buds outwards, and the heads inclining to the fence, to which they ſhould be immediately tacked, in order to prevent the winds from injuring them. When the enſuing Spring proves dry, they ſhould be moderately watered once or twice a week, according to circumſtances. See PLANTING OF FRUIT-TREES.

When planted with their heads entire, they ſhould be headed down about March, when they juſt begin to bud. This is done by ſhortening the firſt main ſhoot within a few eyes of the bud, in a ſloping direction next the wall, as before directed. This muſt be done to all the trees that are to be planted againſt fences, whether dwarfs, half, or full-ſtandards; as by ſtopping their upward direction, it induces them to ſend out lateral ſhoots near the parts where they are budded from, which, by proper training, are formed into good trees. Where this operation is then omitted they run up, leaving the ſtem naked to ſome height. The next thing is to attend to the ſhoots that are made from the few eyes that were left, rubbing ſuch off cloſe, as come out *fore-right*, either from the front or back of the branches, only retaining thoſe that are ſent off laterally, which, about June, when of ſufficient length to be laid in, ought to be nailed well to the fence, keeping them to it, without being ſhortened during the Summer.

About November, when the leaves have fallen, or in the March following, they ſhould have their firſt Winter pruning. This is to be performed according to the number of ſhoots that have been produced from the heading down. If there ſhould be two ſhoots, one on each ſide, both of them may be retained, being ſhortened to eight, ten, or more inches, in proportion to their ſtrength, to promote a further ſupply of wood, nailing them horizontally to the fence. When there are three ſhoots, the middle one, if not regularly placed, or of too ſtrong growth, ſhould be cut out cloſe to its origin, the others being ſhortened and nailed as above; but when of a moderate growth, and regularly placed, it ſhould be ſhortened and nailed in an upright direction. When there are four ſhoots, they muſt be ſhortened as above, and trained regularly two on each ſide; the principle to be chiefly attended to at this period of their growth, being that of keeping the ſhoots of as equal a ſtrength as poſſible, and of equal number and regularity on each ſide; which is beſt accompliſhed by leaving only two or four good branches, to be trained with exactneſs both to the right and left, as theſe will ſupply others to cover the fence in an upward direction. See WALL-TREES.

In the ſecond year's pruning, during the Summer, all the ſhoots that proceed from the upper or under ſides of the horizontal branches of the former year, are to be retained entire and trained, the whole of the *fore-right* ſhoots ariſing from both the front and backs being carefully rubbed off as uſeleſs, reſerving all ſuch as are regular to be trained in at full length, as in Summer the ſhoots ſhould, but in few inſtances, be ſhortened.

The ſecond Winter pruning may be performed about the ſame periods as the firſt, in which the branches are to be ſhortened as directed above, and kept in as much regularity and uniformity as poſſible, both in number and ſize, by removing ſuch ſhoots as are weak. By conſtantly keeping the loweſt branches the moſt extended, where there are five, ſix, or eight branches on a ſide, and theſe trained at the diſtance of four, five, or ſix inches from each other, very handſome trees will be formed, from which ſome fruit may be expected in the ſummer following.

The trees being by theſe means brought to the proper form for bearing, they are to be preſerved and kept in order by proper Summer and Winter pruning. It may be obſerved, that both the peach and nectarine trees conſtantly produce their fruit on the former year's ſhoots, or the ſhoots that are formed each Summer bear fruit the next; and that the ſame ſhoots ſeldom bear more than once, except ſometimes, on very ſhort caſual lateral ſpurs; nor farther do the ſame ſhoots, after the firſt year, furniſh a regular ſupply of ſucceſſional bearing wood; it is moſt generally afforded by the year old ſhoots. Hence the great object in pruning is to procure an annual ſucceſſion of young wood, in every part of the tree. This is principally effected by the ſhortening of each year's branches in the Winter prunings, as by this means they are made to afford both a ſupply of bearing wood and a crop of fruit.

The manner of pruning and training, ſo as to render theſe trees regular and uniform in their ſhape and appearance at firſt, has been already explained.

But the general Summer prunings chiefly conſiſt in reforming the irregularity of the numerous ſhoots then produced, and training, to the wall at full length, in every part, an abundant ſupply of all the regularly placed ones as ſucceſſion wood for the next year's bearing; and the general Winter prunings are intended to reform generally the branches and ſhoots of all ages, ſizes, and ſituations, ſo as to render the trees healthy, beautiful, and productive. The times of performing theſe different prunings have been mentioned above. See PRUNING of FRUIT-TREES.

After the trees have been pruned they ſhould be immediately nailed to the fences, and the beſt method is to nail them as the pruning advances, that is, as ſoon as a tree is pruned to ſecure the branches by nails, before another is begun. In performing the operation care is to be taken that the branches be laid with order and regularity in a horizontal direction, having their extremities but very little higher than their bottoms, where there is ſufficient room between the trees. And in other caſes the degrees of obliquity ſhould be as little as the nature of the ſituations will admit. Where more wood has been left than can be laid in, it muſt either be cut out altogether or down to an eye, for the purpoſe of a ſhoot the next year. See NAILING of FRUIT-TREES.

Peach trees are very liable to be affected with the blight, a diſeaſe in which the leaves are ſhrivelled, or curled up, and conſiderably thickened. This ariſes from inſects and other cauſes, and is to be remedied by removing the leaves that are moſt diſeaſed, and waſhing the trees in hot weather well with water, by means of a garden engine, afterwards letting them be well fumigated with tobacco ſmoke, or ſprinkled over with the powder of it. See FUMIGATION, and DISEASES of FRUIT-TREES.

As theſe trees come into bloſſom early, it frequently becomes neceſſary to protect them from the effects of the froſts, in order to ſecure the fruit. For this purpoſe various means have been attempted, but thoſe that ſeem the moſt effectual are either thin light mats nailed over them, or a ſtrong open canvaſs. Theſe ſhould be nailed up in the evenings, and removed during the ſunny part of the day. Or in ſevere weather they may be kept on the whole day.

From the fruit of theſe trees ſetting too thick, or in cluſters, it often becomes neceſſary to thin them, which ſhould always be done according to the vigour and ſtrength of the tree, and the ſize of the fruit. Where the trees are ſtrong, and the fruit ſmall, they may be left thicker than where they are weak and the fruit large. In each caſe the largeſt, faireſt, and thoſe that are beſt placed ſhould be left; and where the leaves cover the fruit too much, they ſhould alſo be thinned away, by being pinched off. Trees of this kind, from the period of their being headed down, to their ſixth or ſeventh year, may be conſidered in the ſtate of training, though in their ſecond or third they will generally begin to bear fruit. When properly managed they are alſo much more durable than is commonly ſuppoſed, as they will continue thirty or forty years. It is likewiſe of much utility in the culture of peach trees, to dig a little dung occaſionally into the borders in which they are ſituated, and to permit none but the ſmaller kind of garden plants to be grown about them.

Peach and nectarine trees are often cultivated in *houſes*, *frames*, and *hot walls*, in order to obtain their fruit early. For theſe purpoſes the early ſorts ſhould always be procured. See PEACH HOUSE, FORCING FRAMES, and HOT WALLS.

The *double bloſſomed* and *dwarf peach trees* are moſtly planted out in ſhrubberies and pleaſure grounds, as beautiful or ornamental trees; the latter ſometimes in pots, as being curious.

3. *Amygdalus Nuciperſica*, or *the Nectarine Tree.* This is now generally conſidered as a variety of the peach, but the two trees cannot by any circumſtances in their growth, wood, leaves, or flowers, be diſtinguiſhed from each other with any degree of certainty. The fruits are, however, readily diſcriminated in all their different ſtages of growth, that of the nectarine having a ſmooth, firm cuticle, or rind, while in the peach it is covered with a ſoft downy ſubſtance. Beſides, the pulp or fleſh of the former is much more firm than that of the latter.

There are many varieties of the nectarine that may be cultivated; but thoſe that chiefly deſerve attention are the *Fairchild's*, the *violet*, the *Elrouge*, the *Newington*, the *Roman*, the *Temple*, and the *Virmaſh*. The white nectarine may alſo be cultivated both for the goodneſs of its fruit, and as being a curious variety.

The culture and management of this tree is, in every circumſtance, the ſame as that of the peach. It alſo requires the ſame ſort of ſoil and ſituation. See AMYGDALUS *Perſica*.

AMYLACEOUS, formed from "Amylum, ſtarch;" a term applied to the fine flower of farinaceous ſeeds, in which conſiſts their nutritive part.

AMYLON, in *Ancient Writers*, a kind of aliment anſwering, as ſome apprehend, to our furmity.

The word is Greek, αμυλον, thus called, becauſe made *fine mola*.

AMYLUM. See STARCH.

AMYNTA, in *Literary Hiſtory*, a beautiful paſtoral comedy, compoſed by Taſſo; the model of all dramatic pieces, wherein ſhepherds are actors. The *Paſtor Fido*, and *Filli di Sciro*, are only copies of this excellent piece.

AMYNTÆ, in *Ancient Geography*, a people of Theſpotis. Steph. Byz.

AMYNTAS, in *Entomology*, a ſpecies of HESPERIA in the Fabrician ſyſtem, with tailed wings: above blue, margin black; beneath cinereous with black points. Two ferruginous ſpots at the anal angle of the poſterior wings. This is a ſmall

a ſmall inſect, and inhabits Auſtria. Fabricius.—This is the Papilio Tiresias of Eſper.

AMYNTICA *emplaſtra*, in *Pharmacy*, defenſative, or ſtrengthening plaiſters.

AMYNTOR, properly denotes a perſon who defends or vindicates a cauſe. The word is αμυντης, formed of the verb αμυνω, *I defend* or *avenge*.

In this ſenſe Mr. Toland entitles his defence of Milton's life, *Amyntor*, as being a vindication of that work againſt Mr. Blackhall, and others, who had charged him with queſtioning the authority of ſome of the books of the New Teſtament, and declaring his doubts that ſeveral pieces under the name of Chriſt and his Apoſtles, received now by the whole Chriſtian church, were ſuppoſititious.

Amyntor, in *Entomology*, a ſpecies of Hesperia. Wings indented, tailed, black: a fulvous ſpot at the baſe, and yellow ſtripe at the tip. The wings are entirely black above, except the fulvous ſpots and yellow ſtripes: beneath yellow, with an arched black band; poſterior end of the lower wings black with white dots. A native of India. Fabricius.

AMYOT, James, in *Biography*, was born at Melun in 1514, and roſe from an obſcure original to the high ſtation of biſhop of Auxerre, and great almoner of France. At the age of ten years he fled, for fear of chaſtiſement, from the houſe of his father, who, as ſome ſay, was a currier; but according to Thuanus and others, a butcher; and being taken ill on the road, he was removed to the hoſpital at Orleans, where he was not only reſtored to health but charitably furniſhed with 16*d.* for defraying the expence of his journey home. This relief was requited, on his ſubſequent proſperity, by a legacy of 1200 crowns to the hoſpital. He was afterwards a diligent ſtudent in the univerſity of Paris, where he was maintained either by the induſtry of his parents or the charity of a lady, whoſe ſons he attended at college; and at the age of 19 he attained the degree of Maſter of Arts. In 1537 he left Paris and accompanied the abbot of St. Ambroſe to Bourges; and being recommended as preceptor to the children of William Bouchetel, ſecretary of ſtate, he was thus introduced to the patronage of the princeſs Margaret, ſiſter of Francis I. who obtained for him the chair of public lecturer in Greek and Latin at the univerſity of Bourges, where, for ten years, he read two lectures a day, one in Greek and the other in Latin. Here he tranſlated the ancient Greek romance of Heliodorus, intitled, his "Ethiopic Hiſtory, or the Loves of Theagenes and Charicles," which performance was much admired, and procured for him the abbey of Belloſana. At Venice, whither Amyot went in purſuit of preferment, after the death of Francis I. he was employed on a commiſſion to the council of Trent, and having executed it with honour, he ſpent two years at Rome, proſecuting his ſtudies, and ingratiating himſelf with thoſe who were likely to ſerve him. By Cardinal de Tournon he was recommended to the king of France, and undertook the charge of educating his two ſons in 1558. When the eldeſt of theſe pupils ſucceeded his father, under the name of Charles IX. in 1560, he immediately upon his acceſſion to the throne, advanced Amyot to the dignity of great almoner, appointed him curator of the univerſity of Paris, and conferred on him the honours and emoluments of the abbey of St. Corneille, and the biſhopric of Auxerre. When the younger of his pupils, Henry III. came to the crown, Amyot was continued in his other offices, and in 1578 appointed maſter of the order of the Holy Ghoſt, then inſtituted. During the commotions and civil war which enſued, he remained in his dioceſe, and cloſed his life in 1593, in the 79th year of his age. In proof of the avarice, with which Amyot has been accuſed, and which enabled him to amaſs 200,000 crowns, it is alleged, that, when he was ſoliciting from Charles IX. another benefice, in addition to the lucrative dignities which he poſſeſſed, the king ſaid to him. "How now, maſter? you told me, if you had 1000 crowns a year, you would be ſatisfied: I believe you have that and more."—"True, ſire," replied the biſhop; "but appetite comes by eating." Of the learning of Amyot we have ample evidence in his tranſlation of Heliodorus, and alſo of Plutarch's Lives, which is ſtill held in high eſtimation in France; the beſt edition is that of Vacoſſan, printed in 1567 and 1574, in 13 volumes, 8vo.; and Racine ſays of it, that this old tranſlation poſſeſſes a grace not to be equalled in modern language. As an apology for not complying with the requeſt of thoſe who wiſhed him to write a hiſtory of France, he humorouſly urged, "that he loved his maſters too well to write their lives." Amyot tranſlated ſeven books of Diodorus Siculus, ſome Greek tragedies, and the paſtoral of Daphnis, of which a beautiful edition, with plates, in 8vo. was publiſhed in 1718. His miſcellaneous works were printed in 8vo. at Lyons, in 1611. Gen. Dict.

AMYRALDISM, in *Eccleſiaſtical Hiſtory*, a name given by ſome writers to the doctrine of univerſal grace, as explained and aſſerted by Amyraldus, or Moſes Amyraut, and his followers, among the reformed in France, towards the middle of the ſeventeeth century.

This doctrine principally conſiſted of the following particulars, *viz.* that God *deſires* the happineſs of all men, and none are excluded by a divine decree; that none can obtain ſalvation without faith in Chriſt; that God refuſes to none the *power* of *believing*, though he does not grant to *all* his aſſiſtance, that they may improve this power to ſaving purpoſes; and that many periſh through their own fault. Thoſe who embraced this doctrine were called universalists, though, it is evident, they rendered grace univerſal in words, but *partial* in reality, and are chargeable with greater inconſiſtencies than the supralapsarians.

Amyraldiſm is ſaid to have been a ſyſtem formed with a view of producing a reconciliation with the Lutherans.

AMYRAUT, Moses, in *Biography*, an eminent proteſtant divine, was born of a good family at Bourgueil in Touraine in 1596. He was deſigned by his father for the profeſſion of the civil law, which he aſſiduouſly ſtudied in the college of Poitiers; but preferring that of a divine, he applied himſelf to theology at Saumur in 1626, and obtained the profeſſorſhip of divinity in the univerſity of this place. With his two colleagues in office he lived in perfect harmony; and the three profeſſors cordially concurred in their exertions for the credit of the ſeminary in which they preſided. In 1631 he was deputed by the proteſtant ſynod at Charenton to preſent to the king their complaints concerning the violation of the edicts which had been paſſed in their favour; and being inſtructed not to deliver his addreſs on his knees, which had been the uſual mode, he was allowed to decline it; and the ability and addreſs with which he conducted this buſineſs were admired by Cardinal Richelieu. His treatiſe "On Grace and Predeſtination," written at the requeſt of a Roman catholic of rank, who was favourably diſpoſed towards the proteſtants, excited much attention. This attempt, on the part of Amyraut, for reconciling the doctrine of predeſtination with that of univerſal grace, was violently oppoſed by the Calviniſtic divines, and particularly by Du Moulin. Although Amyraut was enjoined ſilence with regard to theſe ſubjects of debate by the ſynod of Alençon, he perſevered in the conteſt; and ſuch was, ultimately, his ſucceſs, that the ſentiments which he inculcated, and which

which nearly coincided with thoſe of the Pelagians and Arminians, were received in all the univerſities of the Hugonots in France, and diſſeminated by the French proteſtants, who fled from the rage of perſecution, through all the reformed churches of Europe. The talents, learning, and moderation of this able polemic, were much reſpected by the clergy and laity of all profeſſions. His political opinions, which were favourable to the high pretenſions of abſolute monarchy, and which militated againſt thoſe which were generally avowed by the Hugonots, and the advocates of religious liberty, ſerved to recommend him to the particular notice and eſteem of Cardinal Mazarine. In his Apology for the Proteſtants of France, publiſhed in 1647, he declares, that he will not pretend to juſtify the taking up arms againſt one's prince on any occaſion whatever; and that he always believed it to be much more agreeable to the nature of the goſpel and the practice of the ancient church, to have recourſe to no other arms than patience, tears, and prayers. In his book "On the Sovereignty of Kings," publiſhed in 1650, on occaſion of the tragical death of Charles I. he expreſſes, in the ſtrongeſt terms, his approbation of the doctrine of paſſive obedience. He excepted, however, thoſe caſes of conſcience, in which he regarded the authority of God as ſuperior to that of man: and he ſo ſtrenuouſly reſiſted an order of the council of ſtate, which required all the proteſtants to put out hangings before their houſes on Corpus Chriſti day, that the order was ſoon revoked.

The principal works of Amyraut, beſides thoſe that have been already mentioned, are, "A Treatiſe on Religions," publiſhed in 1631; "On the Nature and Extent of the Goſpel," 1636; "The Elevation of Faith, and Abaſement of Reaſon," 1641; "A Defence of Calvin in relation to the Doctrine of Abſolute Reprobation," in Latin and French, 1644; "Paraphraſes on the Scriptures;" "An Apology for the Proteſtants;" "A Treatiſe on Free-will;" "On Separation from the Church of Rome," in Latin, in 1647; "Irenicon," for promoting a reunion of the Lutherans and Calviniſts," in 1648; "Of the calling of Paſtors," 1649; "Chriſtian Morality," in 6 vols. 8vo. 1652; "A Treatiſe on Dreams;" "A Treatiſe on the Millennium;" "The Life of La Noue;" and a poem intitled, "St. Stephen's Apology to his Judges;" theſe pieces are written in French; thoſe excepted which are mentioned to be in Latin.

Amyraut was eminently diſtinguiſhed both by his writings and character. His moderation and candour ſecured the reſpect of perſons of different ſects; and his liberality to the poor comprehended alike the catholics and reformed, and it was ſo extenſive, that he diſtributed in charity the whole ſalary of his miniſtry during the laſt ten years of his life. He died, much reſpected and regretted, in 1664, bearing teſtimony, in his laſt moments, to the truth and importance of thoſe religious principles, by which the courſe of his life had been uniformly regulated. Gen. Dict. Moſheim's Eccl. Hiſt. vol. v. p. 364, &c.

AMYRBERIS, in *Botany*, a name uſed by ſome authors to expreſs the *Barberry-tree*.

AMYRIS, a genus of the *octandria monogynia* claſs and order, and of the natural order of *terebintaceæ*, Juſſieu. Its characters are, that the *calyx* is a perianthium, one-leafed, four-toothed, acute, erect, ſmall, and permanent; the *corolla* conſiſts of four, oblong, concave, and ſpreading petals; the *ſtamina* have awl-ſhaped, erect filaments, anthers oblong, erect, of the length of the corolla; the *piſtillum* has a germ, ſuperior ovate, ſtyle thickiſh, of the length of the ſtamens, and ſtigma four-cornered; the *pericarpium* is a drupaceous and roundiſh berry; and the *ſeed* is a round, ſhining nut. Martyn, in his edition of Miller, enumerates 9, and Gmelin, in his Linnæus, 13 ſpecies. 1. A. *elemifera*, cornus of Plum. icicariba of Maregr. frutex trifolius of Cateſby, with leaves ternate and pinnate, with five lobes, downy underneath. The height of this tree is about ſix feet; the leaflets pointed, ſtiff, and ſhining; and leaves oppoſite on peduncles two inches long; at the ends of the branches grow four or five ſlender ſtalks, ſet with many very ſmall white flowers, in a little corymb; the petals are inflex at the tip. It has a ſmall trunk, covered with a ſmooth, grey bark, and grows almoſt in the manner of a beech-tree. The fruit is of the ſize and figure of an olive, and the colour of a pomegranate, having within it an odoriferous pulp. A native of Carolina and Brazil. The reſin of this tree is the *Gum* Elemi. 2. A. *ſylvatica*, with leaves ternate, crenate, and acute. This is an erect, leafy ſhrub, from 2 to 15 feet high, according to the ſoil and ſituation, abounding with a turpentine of a ſtrong diſagreeable ſmell: it is found plentifully about Carthagena in woods near the ſea, and flowers in Auguſt. 3. A. *maritima*, ſmall, ſhrubby ſweet-wood, with leaves ternate, crenulate, and obtuſe. This is a dwarf ſhrub, yielding a juice like that of the former, but more agreeable, and ſmelling like rue: the berry is of the ſize of black pepper, black when ripe, incloſing a globular, brittle nut, in which is a white kernel. Swartz doubts whether the preceding be a diſtinct ſpecies from this. It grows in very barren coppices, in a calcareous rocky ſoil, both near the ſea, and on the interior mountains of Jamaica, Hiſpaniola and Cuba; and flowers from June to September. 4. A. *Gileadenſis*, balſam of Gilead-tree, with leaves ternate, quite entire, and peduncles one-flowered, and lateral. This ſpecies is a ſhrub with purpliſh branches, having protuberant buds loaded with balſamic reſin: the flowers proceed from the ſame buds by threes; the bracte minute and ſlightly bifid. It is doubted whether this be diſtinct from the next ſpecies. See Balsam of *Gilead*. 5. A. *Opobalſamum*, balſam of Mecca tree, balſamum of Bellon. and Alpin, opobalſamum, or balſamum Judaicum of Geoffroy, has pinnate leaves, and ſeſſile leaflets. See Balsam of *Mecca*, and Opobalsamum. 6. A. *toxifera*, poiſon aſh, elemifera of Linn. Hort. Cliff. toxicodendron of Cateſby and Miller, with leaves pinnate, and leaflets petiolate and plane. Cateſby deſcribes his poiſon-wood as a ſmall tree, with a light-coloured, ſmooth bark, the mid-rib of the leaf, as ſeven or eight inches long, and the pedicles as an inch in length; the fruit as hanging in bunches, ſhaped like a pear, of a purple colour, covering an oblong hard ſtone; from the trunk diſtils a liquor as black as ink, which the inhabitants ſay is poiſon: birds feed on the fruit. It is a native of America. 7. A. *protium*, protium Javanicum of Burm. tingulong of Rumph. with leaves pinnate, and leaflets petiolate and waved. It is perennial, and a native of the Eaſt Indies. 8. A. *ambroſiaca*, icica heptaphylla of Aubl. Guian. with leaves pinnate and petiolate, and panicles crowded and axillary. This is a tree, with a trunk 30 feet high, branching at the top, with branchlets leafy and flowery: leaves alternate, with two or three oppoſite, ovate leaflets on each ſide, ending in long points, ſmooth, entire, on ſhort-petioles, gibbous at the baſe; flowers yelloviſh white, axillary, and corymbed; perianth very ſmall and four-toothed; petals lanceolate, ſpreading at the tip; filaments filiform, half as long as the calyx, inſerted into the tube; germ, ſuperior, ſubgloboſe, ſtyle cylindrical; ſtigma capitated, depreſſed and four-cornered; fruit ovate, oblique, four-celled, reſembling that of the laurel; the nucleus involved in a brittle covering, four-celled, with four ſtones wrapped up in a viſcid red pulp, having a balſamic ſmell and taſte, hardening into a grey reſin, and uſed for burning as a perfume. The whole tree is very

ſweet-ſcented, and yields a very odoriferous balſam from the wounded trunk or branches, which is uſed in the dyſentery; the doſe is one dram in red wine; it is alſo uſed in houſes and churches for burning as a perfume. It grows in the woods of Guiana, and by the ſea-ſhore, flowering and fruiting in September. The Caribbee name is arouaou, and the French arbre de l'Encens. 9. A. *balſamifera*, lucinium of Plak. Sweet amyris, white candle-wood, or roſewood, with leaves two-paired. This grows to a conſiderable ſize, and is one of the moſt valuable trees in the iſland of Jamaica; the wood is white, and of a curled grain when young, but grows of a dirty, clouded aſh colour with age, bearing a fine poliſh, and having a pleaſant ſmell; it is heavy, and much eſteemed among cabinet-makers. All the parts of this tree are full of warm aromatic particles, and may be uſed in baths and fomentations; the berries are oblong, and have the taſte of the balſam Copaiba. An infuſion of the leaves has a pleaſant flavour, is highly cephalic, ſtrengthens the nerves, and is particularly reſtorative to weak eyes. In Jamaica there are ſeveral ſpecies of *amyris*, the leaves and bark of which yield a fine balſamic juice; and if the body were tapped at the proper ſeaſon, a thick liquor would tranſude, reſembling that of the Gilead balſam, to which the taſte of the bark and wood of the ſmaller branches bears a very exact relation. Dr. Wright apprehends that this wood, by diſtillation, would yield a perfume equal to the oleum rhodii. 10. A. *kataf*, with leaves ternate, ſerrate at the tip, and dichotomous peduncles. Forſk. Fl. Æg. Arab. 11. A. *balſamea*, with leaves ternate, and pinnate, with five lobes, and flowers faſcicled and pentapetalous. Gleditch. Schr. Berl. Naturf. 12. A. *Zeylanica*, with leaves pinnate, petiolated and ſmooth, racemes interrupted and axillary, and flowers involucred and hexandrous. Koenig apud Retz Obſ. Bot. 13. A. *Guianenſis*, with leaves pinnate, the pinnæ two-paired, and ovate-oblong, and racemoſe berries. Sloan. Hiſt. Jam. Gmelin's Linnæus, and Martyn's Miller.

AMYRIS. See XIMENIA.

AMYRUS, in *Ancient Geography*, a town of Greece in Theſſaly; its preciſe ſituation is not known. There was alſo a river of the ſame name.

AMYSTIS, a river of India, ſo called by Arrian.

AMYTHAONIA, a diſtrict of Elis, ſo called from Amythaon. Steph. Byz.

AMYTON, a town of Caria, according to Ptolemy.

AMYTRON, a town of Thrace, according to Heſychius.

AMYZON, a town of Aſia Minor, in Caria, according to Strabo.

AMZEL, in *Ornithology*, the name of a bird found in the northern parts of Great Britain; but which is better known by the name of ring-ouzel. This is the TURDUS TORQUATUS of Linnæus. See TORQUATUS.

ANA, in *Commerce*, the name of an Indian coin, in value ſomewhat more than one penny ſterling.

ANA, ANAH, or ANNA, in *Geography*, a town of Aſia, in Arabia Deſerta, ſituate on the Euphrates, in a pleaſant and fertile country, which produces plenty of corn, olives, dates, oranges, lemons, pomegranates, figs, &c. It is under the government of an emir, tributary to the grand ſignior. It is the general reſort of the robbers, who plunder the caravans that paſs to and from Bagdad, Aleppo, Damaſcus, &c. 260 miles eaſt of Damaſcus, and 300 ſouth-eaſt of Aleppo. N. lat. 33° 35'. E. long. 42° 4'.

ANA, āā, in *Medicine*, denotes an equal quantity of any things, whether in liquid, or in dry meaſure.

Hence *anatica proportio* is uſed by ſome writers to ſignify the *ratio*, or *proportion of equality*.

ANA, in *Matters of Literature*, a Latin termination, adopted into the titles of ſeveral books in other languages. *Anas*, or *books in ana*, are collections of the memorable ſayings of perſons of learning and wit; much the ſame with what we otherwiſe call TABLE-*talk*.

Wolfius has given the hiſtory of books in ana in the preface to the Caſauboniana. He there obſerves, that though ſuch titles be new, the thing itſelf is very old; that Xenophon's books of the deeds and ſayings of Socrates, as well as the dialogues of Plato, are *Socratiana*; that the apophthegms of the philoſophers collected by Diogenes Laertius; the ſentences of Pythagoras, and thoſe of Epictetus; the works of Athenæus, Stobæus, and divers others, are ſo many anas. Even the *Gemara* of the Jews, with ſeveral other oriental writings, according to Wolfius, properly belong to the ſame claſs. To this head of ana may likewiſe be referred the *Orphica*, the *Pythagoræa*, *Æſopica*, *Pyrrhonea*, &c.

Scaligerana was the firſt piece that appeared with a title in ana. It was compoſed by Iſan de Vaſſan, a young Champanois, recommended to Joſ. Scaliger, by Caſaubon. Being much with Scaliger, who was daily viſited by the men of learning at Leyden, De Vaſſan wrote down whatever things of any moment he heard Scaliger ſay. And thus aroſe the Scaligerana, which was not printed till many years after, at Geneva, in 1666. Patin. Let. 431. Soon after came the Perroniana, Thuana, Naudæana, Patineana, Sorberiana, Menagiana, Anti-Menagiana, Furetiana, Chevræana, Leibnitziana, Arlequiniana, Poggiana, &c.

Ana is uſed among ſome occult philoſophers to denote the human mind. Hence, according to ſome, is derived the word *anaſapta*, a dæmon invoked to the aſſiſtance of a ſick perſon.

ANAB, in *Scripture Geography*, a town of Paleſtine, ſituate in the mountainous parts of the tribe of Judah. Joſh. xi. 21. xv. 50.

ANABAGATAS, in *Ancient Geography*, a city of Aſia, and the ſee of an archbiſhop under the patriarch of Antioch.

ANABAO, in *Geography*, one of the Molucca iſles ſouth weſt of Timor, from which it is ſeparated by a canal capable of receiving veſſels of any burden. At the extremity of this canal are two points; the ſouthern, called *Gupang*, belongs to Timor; and that on the northern ſide to Anabao.

ANABAPTISM, ſee ANABAPTISTS, *infra*.

ANABAPTISTON. See ABAPTISTON.

ANABAPTISTS, in *Eccleſiaſtical Hiſtory*, a name given to Chriſtians who maintained that baptiſm ought always to be performed by immerſion; that it ought not to be adminiſtered to children before the age of diſcretion, or that at this age it ought to be re-adminiſtered to thoſe who have been baptized in their infancy, becauſe they ſay the adminiſtration of this ſacrament is neither valid nor uſeful, if it be done by ſprinkling only, and not by immerſion; or if the perſons who receive it be not in a condition to give the reaſons of their belief.

The word *Anabaptiſt* is compounded of ἀνα, *new*, and βαπτιστης, *a baptiſt*, and this general denomination has been indiſcriminately applied to people of very different principles and practices; though many of them object to the name, becauſe the baptiſm of infants by ſprinkling, is, in their opinion, no baptiſm; and they hold nothing in common excepting ſome one or other of the above mentioned opinions concerning BAPTISM.

The NOVATIANS, the CATAPHRYGIANS, and the DONATISTS, may be conſidered as a kind of Anabaptiſts in the earlier ages, though not then denoted by this name; for they contended that thoſe Chriſtians of the catholic church, who joined themſelves to their reſpective parties, ſhould be rebaptized.

rebaptized. But we muſt not claſs under the ſame denomination thoſe biſhops of Aſia and Africa, who, in the third century, maintained, that baptiſm, adminiſtered by thoſe whom they called heretics, was not valid; and therefore that ſuch of them as returned into their churches ought to be rebaptized. Nor does it appear that there is ſufficient authority to affirm, that the *Vaudois* and the *Albigenſes* were predeceſſors of the modern *Anabaptiſts*; though ſome of them adopted the practice of adult baptiſm.

It was not till a little after the time when the Lutherans ſeparated from communion with the Romiſh church, that the Anabaptiſts began to make a noiſe in Germany. Storck, Stubner, and Munzer, were the firſt diſciples of Luther, who, about the year 1521, were ſtyled Anabaptiſts. But well knowing that their opinions were very different from Luther's doctrine, they availed themſelves of his abſence to diſſeminate them in Wittemburgh, and had the addreſs to over-reach the piety of Melancthon. Their principal purpoſe was to gain over the populace, and to form a conſiderable party. To effect this, ſays Bayle, they were induſtrious and active, each in his own way. Storck, wanting knowledge, boaſted of inſpiration; and Stubner, who had both genius and erudition, laboured at commodious explications of Scripture. Not contented with diſcrediting the court of Rome, and decrying the authority of conſiſtories, they taught, that men being entitled under the Goſpel to equal liberty, could not be juſtly ſubjected to any civil power, nor erect ſuperiorities over each other; that, as all magiſtracy was an uſurpation on Chriſtian freedom, no true Chriſtian could be either magiſtrate or ſubject, nor conſequently pay any impoſt, give any oath, or bear arms; that violence and arms ought never to be made uſe of, excepting againſt princes, and people in power, from whom they were permitted to revolt, as from ſo many uſurpers, who were to be pulled down, in order to erect the kingdom of God. They pretended that Chriſtians, being all free, equal, and independent, there ought to be no tribunal among them, nor laws, nor any diſtinction of property, but that every thing ſhould be in common, nor any reſtraints with regard to the number of wives whom they might marry. In other reſpects they affected ſingular auſterity, recommending macerations, faſtings, and the utmoſt ſimplicity of apparel. Their ſermons were, for the moſt part, declamations againſt the communion of the reformed; and they were inceſſantly exhorting every body to join with them, who, as they ſaid, were ſent of God, to re-eſtabliſh the kingdom of his Son. They made high promiſes to all who would unite with them to exterminate the impious, if this maſſacre proved the epocha for the commencement of Chriſt's reign upon earth, when the juſt, meaning themſelves, were to reign alſo, inſtead of the unrighteous uſurpers of authority. They moreover affected to ſpeak with a kind of contempt concerning external worſhip, the ſacraments, the miniſtry, and even the word of God, with a view to enhance the merit of the extaſies, viſions, and inſpiration, to which they pretended, and on which they valued themſelves. They dealt much in predictions, eſpecially concerning the nearneſs of the laſt judgment; and, finally, to give a greater eclat to their party, they rebaptized all thoſe who joined them; and to make their practice ſucceed, they taught that baptiſm adminiſtered to infants was void.

Munzer took the lead of this party; and, in 1525, aſſembled a numerous army of aſſociates; but this inſurrection was ſoon ſuppreſſed, and Munzer put to an ignominious death. Many of his followers, however, ſurvived, and propagated their opinions through Germany, Swiſſerland, and Holland. In the year 1533 they formed a new community at Munſter, under the direction of two Anabaptiſt prophets, John Matthias, a baker of Haerlem, and John Blockholdt, a journeyman tailor of Leyden. Having made themſelves maſters of the city, they depoſed the magiſtrates, confiſcated the eſtates of ſuch as had eſcaped, and depoſited the wealth they amaſſed together in a public treaſury for common uſe. They made preparations of every kind for the defence of the city, and ſent out emiſſaries to the Anabaptiſts in the Low Countries, inviting them to aſſemble at Munſter, which was now dignified with the name of Mount Sion, that from hence they might be deputed to reduce all the nations of the earth under their dominion. Matthias, who was the firſt in command, was ſoon cut off in an act of phrenſy by the biſhop of Munſter's army; and was ſucceeded by Blockholdt, who was proclaimed, by a ſpecial deſignation of heaven, as he pretended, king of Sion, and inveſted with legiſlative powers, like thoſe of Moſes. The extravagancies of Blockholdt were too numerous to be recited: it will be ſufficient to add, that the city of Munſter was taken after a long ſiege and an obſtinate reſiſtance; and Blockholdt, the mock monarch, was puniſhed with a moſt painful and ignominious death. The *Baptiſts* in England and Holland, or, as they are there called, the *Mennonites*, are very different from thoſe who firſt gave riſe and name to the ſect.

It muſt be acknowledged, that the firſt inſurgents in Germany had been grievouſly oppreſſed; and that they took up arms principally in defence of their civil liberties; nor ſhould ſubſequent extravagancies of violence be attributed to their religious principles, much leſs charged on their ſucceſſors.

The ſequel of their hiſtory, and diſtinguiſhing tenets, may be ſeen under the article ANTI-PÆDO-BAPTISTS, BAPTISTS, MENNONITES, WATERLANDIANS, &c.

ANABASII, in *Antiquity*, the couriers who travelled on horſeback, or in chariots, for the greater expedition.

The word comes from the Greek ἀναβασις, *mounting*.

ANABASIS, in *Botany*, a genus of the *pentandria digynia* claſs and order, of the natural order of *holoraceæ* and *atriplices* of Juſſieu: its characters are, that the *calyx* is a three-leaved perianthium, the leaflets roundiſh, concave, obtuſe, and ſpreading; the *corolla* five-petalled, petals ovate, equal, leſs than the calyx, and permanent; the *ſtamina* have filaments filiform, longer than the corolla, and anthers roundiſh; the *piſtillum* has a germ roundiſh, acuminate, ending in two ſtyles, and obtuſe ſtigmas; the *pericarpium* is a berry, roundiſh, ſurrounded by the calyx and dilated: the *ſeed* is ſingle and ſcrew-ſhaped. There are four ſpecies. 1. A. *aphylla*, leafleſs A. ſalſola baccifera of Gmel. Siber. kali bacciferum of Buxb. without leaves, and the joints emarginate. This is a perennial plant, and has been found wild on the ſhores of the Caſpian. The berry, in a ſtate of maturity, is large; it is red, the pulp is watery, and it dyes a yellow colour. Gmelin makes the anabaſis cretacea of Pallas and Gærtner a variety of this ſpecies. 2. A. *folioſa*, leafy A. ſalſol. foliis incraſſatis, &c. of Gmel. and Pallas, kali bacc. fol. clavatis of Buxbaum, with leaves ſubclavate. It is ſeldom more than half a foot high; annual; found wild on the ſhores of the Caſpian. 3. A. *tamariſcifolia*, tamariſk-leaved A. with awl-ſhaped leaves and juiceleſs pericarpia. This is a ſhrub with white branches, very ſmooth; a native of Spain. 4. A. *ſpinoſiſſima*, thorny A. ſhrubby, branches without leaves, but full of ſpines: the native place of growth is unknown.

ANABASIS, in *Medicine*, the ſtate of a diſeaſe *in* its growth.

ANABASIUS, a name given by Pliny to a plant, which he calls alſo *ephedra*, and deſcribes as hanging down from

from the branches of large trees, in form of tufts of hair. The plant described by Pliny, and others of the ancients, under this name is the USNEA, or long hairy tree moss.

ANABATA, in *Ancient Cuſtoms*, a cope, or ſacerdotal veſt, to cover the back and ſhoulders of the prieſt.

It is otherwiſe called *anabolaſium*, formed of ἀναβάλλεσθαι, *to caſt on*, or *cover*.

The word *anabala* ſeems to be uſed in the ſame ſenſe.

ANABATHRA, from ἀναβαίνω, *I aſcend*, in *Ancient Writers*, denote a kind of ſteps or ladder, whereby to aſcend ſome eminence. In this ſenſe we read of the anabathra of theatres, pulpits, &c. Anabathra appears to have been ſometimes alſo applied to ranges of ſeats riſing gradually over each other.

ANABATHRA is more particularly applied to a kind of ſtone-blocks raiſed by the highway ſides, to aſſiſt travellers in mounting or alighting, before the uſe of ſtirrups was invented. The firſt author of this contrivance, among the Romans, was C. Gracchus, brother of Tiberius.

ANABIBAZON, in *Aſtronomy*, the DRAGON's *tail*.

ANABIS, in *Ancient Geography*, a town of Spain, in the territory of the Lacetani, according to Ptolemy. Euſebius mentions a village of Egypt under this name, in which a man was the object of worſhip.

ANABLATA, a town of Paleſtine, near Bethel.

ANABLATUM, in *Botany*, a name uſed by ſome authors for the *ſquammaria*, or tooth-wort, called *dentaria* by others.

ANABLEPS, in *Ichthyology*, a ſpecies of COBITIS, having a depreſſed head, prominent eyes, and two beards; one at each angle of the mouth. Linn. This fiſh inhabits the ſea ſhore of Surinam, and is deſcribed by Seba and Gronovius. It has ſix rays in the gill membrane, ſeven in the dorſal fin, twenty in the pectoral fin, ſeven in the ventral fin, and nine in the anal fin.

In the ſyſtem of Fiſhes of Artedi, ANABLEPS is a genus of the malacopterigious kind.

ANABOA, in *Geography*, a ſmall iſland ſituate near the coaſt of Loango in Africa, in S. lat. 1°. and E. long. 8° 30'. This iſland has ſeveral fertile vallies, in which are produced bananas, oranges, lemons, pine-apples, citrons, cocoa-nuts, &c. and abundance of cotton. It has two high mountains, almoſt always covered with clouds, which occaſion frequent rains.

ANABOLEUM, in *Antiquity*, denotes any kind of upper garment worn over the coat or tunic.

This is otherwiſe called *anabole*, from ἀνὰ and βάλλω.

ANABOLEUS, among the *Ancients*, a ſervant whoſe office was to aſſiſt in mounting on horſeback. Theſe were in uſe before the invention of ſtirrups, or of thoſe ſtones called *anabathra*.

ANABOLEUS is alſo uſed by Euſtathius, to denote a ſmall piece of iron, whereon the foot was ſet, in order to mount; from which Buddæus infers, that the ancients had ſtirrups or foot-boards; to which Lipſius objects, that it does not appear this anaboleus was any pendant part fixed to the ſaddle, after the manner of our ſtirrups, but rather a portable engine brought by a ſervant, and placed by the horſe's ſide.

ANABROCHISMUS, from ἀνὰ, *upwards*, and βρόχος, a *loop*, in the *Ancient Phyſic*, the operation of taking away offenſive hairs in the eye lids.

The manner of performing the anabrochiſmus is deſcribed by Gorræus.

ANABROSIS, ἀναβρωσις, q. d. *eroſio*, in *Medicine*, otherwiſe called *diabroſis*, the iſſuing of blood at a hole worn in a vein by corroſion.

ANABUCIS, in *Ancient Geography*, a place of Africa, ſituate, according to Antonine, in the route from Carthage to Alexandria. As it lay to the eaſt of Macomades, it muſt have been in the Cyrenaic territory.

ANABUM, a town of Germany, ſituate, according to Ptolemy, in an iſland of the Danube.

ANABURA, a town of Phrygia in Aſia Minor, probably the ſame which ſome authors have placed in Piſidia.

ANACA, in *Ornithology*, the name of a ſpecies of PSITTACUS, or parrot, that inhabits Brazil and Guiana, and is called at the latter place the common parrot, being the moſt frequent ſpecies of that genus. It is green, beneath ferruginous-brown, crown of the head cheſnut, ſpot on the back, and tail pale brown, margins of the wings red. Linnæus, Gmel.

This is ANACA BRASILIENSIBUS of Ray and Willoughby; ANACA of Buffon, and cheſnut-crowned parraket of Latham. It is likewiſe *la petite perruche brune du Breſil*, of Briſſon. It is the ſize of a lark. Bill and orbits brown; crown of the head cheſnut, throat cinereous: hind part of the neck, back, rump, ſides, thighs, ſcapulars, upper wing and tail coverts, green: breaſt, belly, and under tail coverts, rufous brown: legs and claws blackiſh.

In the Britiſh Muſeum there is a ſpecimen, which varies in having the ſpot on the back of a deep cheſnut; no red on the edge of the wings: tail green, the upper tail coverts brown, and the under tail coverts of a brown ſtill paler. Vide Dr. Latham Gen. Syn.

ANACALYPTERIA, in *Antiquity*, feaſts celebrated among the Heathens on the day that the bride was permitted to lay aſide her veil, and to be ſeen in public.

They were thus called from ἀνακαλύπτειν, *to uncover*.

According to Suidas, it alſo means the preſents which were made to the bride by her huſband's relations and friends on that day.

ANACAMPSEROS, in *Botany*. See CLAYTONIA, PORTULACA, and SEDUM.

ANACAMPTERIA, in *Eccleſiaſtical Antiquity*, denote little hoſpitals, or inns, for the entertainment of the poor and ſtrangers, built adjoining to the ancient churches.

ANACAMPTIC, from ἀνὰ and κάμπτω, *flecto*, *I bend*, ſignifies as much as *reflecting*; and is frequently uſed in reference to echoes, which are ſaid to be ſounds produced *anacamptically*, or by reflection.

Hence, alſo anacamptics is uſed by ſome for the ſcience of reflecting rays; otherwiſe called CATOPTRICS.

ANACANDAIA, in *Zoology*, the name of a ſpecies of ſerpent found in the iſland of Ceylon, and very miſchievous among the cattle, whence it is called BUBALINUS.

ANACARDII, in *Entomology*, a ſpecies of PAPILIO of the tribe *Parnaſſius*. The wings are tranſparent, or glaſſy and greeniſh. Poſterior pair brown at the tips, with two eye ſhaped ſpots. Inhabits South America. Linn. and Fabric.

ANACARDIUM, formed of ἀνὰ, *without*, and, καρδία, *heart*, becauſe the pulp of the fruit, inſtead of having the ſeed incloſed, as is uſually the caſe, has the nut growing out at the end of it, in *Botany*, *acajou* of Tournefort, *acajuba* of Gærtner, a genus of the *polygamia monoecia* claſs and order, (*enneandria monogynia* of Gmelin and Willdenow,) of the natural order of *holoraceæ*, and *terebinthaceæ* of Juſſieu; its characters are, that it has hermaphrodite flowers and male flowers, either mixed with the hermaphrodites, or on a diſtinct tree. The *calyx* of the former is a perianthium five leaved, leaflets ovate, concave, coloured, erect, and deciduous; the *corolla* has five petals, lanceolate, acute, three times as long as the calyx, upright at bottom, reflex at the end; the *ſtamina* have ten filaments, united at the baſe and upright, nine of them capillary, ſhorter than the calyx,

calyx, one thicker, double the length of the others, lying on the germ in front, anthers roundiſh, in the longer filament large and fertile, in the reſt ſmall; the *piſtillum* has a germ kidney-ſhaped, obliquely emarginate in front, ſtyle ſubulate, bent in, the length of the corolla; ſtigma ſmall, roundiſh, depreſſed, and concave; no *pericarpium*; receptacle fleſhy, very large and obovate; the *ſeed* a nut kidney-ſhaped, large, at the top of the receptacle, with a thick ſhell, cellular within, and abounding in oil. The *calyx*, *corolla*, and *ſtamina* of the male flowers as in the hermaphrodites; the *piſtillum* has either no germ, or one that is abortive. There is one ſpecies, *viz.* A. *occidentale*, acajuba occidentalis of Gærtner, acajou of Piſo, acajaiba of Marcgrave, caſſuvium of Rumphius, caſchou of Merian, kapa-mava of Rheed, anacardium fructu obverse ovato nuce reniformi, racemis terminalibus of Browne, Jamaic. Caſhew-nut, caſſu or acajou. The caſhew is an elegant tree, 12 or 16 feet high, ſpreading much as it riſes, and beginning to branch at the height of five feet, according to Browne; but Long affirms, that in good ſoils it ſpreads to the ſize of a walnut tree, which it reſembles in the ſhape and ſmell of the leaves: the trunk ſeldom exceeds half a foot in diameter; the leaves are coriaceous, ſubovate, ſhining, entire, petioled, and ſcattered alternately; the panicles corymbed, diffuſed, and terminating, containing many ſmall, ſweet-ſmelling flowers, on an oblong receptacle, ſcarcely diſtinguiſhable from the peduncle; the corolla red, with commonly 10 ſtamens, one of which has no anther, but it has frequently eight or only ſeven all fertile; and there are ſometimes female flowers entirely deſtitute of ſtamens. The fruit has an agreeable ſubacid flavour, in ſome degree reſtringent; in ſome of a yellow, and in others of a red colour, which difference may be probably owing to the ſoil or culture. The juice of the fruit, fermented, affords a pleaſant wine, and diſtilled, yields a ſpirit exceeding arrack or rum, and ſerves to make punch, and alſo to promote urine. The ripe fruit is ſometimes roaſted, and ſliced, and thus uſed for giving an agreeable flavour to punch. The reſtringency of the juice has recommended it as a remedy in dropſical habits. From one end of the apple proceeds the nut, which is kidney-ſhaped, incloſed in two ſhells, the outer of an aſh-colour, and ſmooth, and the inner covers the kernel. Between theſe ſhells is lodged a thick, inflammable, and very cauſtic oil, which, incautiouſly applied to the lips and mouth, inflames and excoriates them. This oil has been ſucceſsfully uſed for eating off ring-worms, cancerous ulcers, and corns; but it ſhould be very cautiouſly applied. Some of the females have uſed this oil as a coſmetic, in order to remove the freckles and tan occaſioned by the ſcorching rays of the ſun, but it proves ſo corroſive as to peel off the ſkin, and cauſe the face to inflame and ſwell; but after enduring the pain of this operation for about a fortnight, their new ſkin, as it may be called, appears fair like that of a new-born infant. This oil alſo tinges linen of a ruſty iron colour, that can hardly be got out; and when ſmeared on wood, it prevents decay, and might therefore ſerve for preſerving houſe timber and ſhips' bottoms. The freſh kernel has a delicious taſte, and abounds with a ſweet milky juice; it is an ingredient in puddings, &c. and is eaten raw, roaſted, and pickled. The negroes of Brazil, who are compelled by their maſters, the Portugueſe, to eat this nut, for want of other ſuſtenance, obtain relief from this involuntary uſe of it in various diſorders of the ſtomach. When the kernel is ground with cacao, it improves the chocolate; but if it be kept too long it becomes ſhrivelled, and loſes its flavour and beſt qualities. The milky juice of the tree, obtained by tapping or inciſion, will ſtain linen of a deep black, which cannot be waſhed out; but whether this has the ſame property with that of the eaſtern anacardium, has not yet been fully aſcertained; for the inſpiſſated juice of that tree is the beſt ſort of lac which is uſed for ſtaining black in China or Japan. Phil. Tranſ. vol. xlix. part ii. p. 872. Lewis Comm. Phil. Techn. p. 329, &c. This tree annually tranſudes from five to ten or twelve pounds weight of a fine ſemi-tranſparent gum, reſembling gum-arabic, and not inferior to it in virtue or quality, except that it has a ſlight aſtringency, which may probably, in ſome reſpects, render it more valuable. It is a native of both Indies, *e. g.* Malabar, Ceylon, Brazil, Guiana, Jamaica, and the Caribbee iſlands; and was cultivated in Kew Garden in 1699, by the ducheſs of Beaufort.

Culture.—The caſhew tree is eaſily raiſed in its native country from the nut; and it is of quick growth, bearing fruit in two years after it has been planted. But in England the plants are preſerved with difficulty. They are eaſily raiſed from the nut ſupplied from America; and they ſhould be planted in ſmall pots filled with light ſandy earth, and plunged into a hot-bed of tanner's bark, which ſhould be preſerved from moiſture. Freſh nuts will yield plants in about a month, and in two months theſe will be four or five inches high, with large leaves, but they ſeldom advance much farther in the ſame year. The plants muſt be conſtantly kept in the ſtove, as they are too tender to live abroad in England, even in the warmeſt ſeaſons. They ſhould have little water in Summer, and in Winter, water once in a fortnight will be ſufficient. When they are tranſplanted, the pots ſhould be broken, that the earth which cleaves to their roots may not be diſturbed; and they ſhould then be put into larger pots, filled with light ſandy earth, and plunged into the hot-bed. They muſt not be removed oftener than once a year, and the pots ſhould not be too large, for unleſs their roots are confined they will not thrive. With this management they may be kept ſeveral years, but they ſeldom exceed two feet and a half in height, and are ſeldom half as high. Martyn's Miller. Murray's Mat. Med. vol. iv. p. 413.

ANACARDIUM *Orientale*. See AVICENNIA.

ANACARDIUM *Officinarum*. See SEMECARPUS.

ANACATHARSIS, in *Medicine*, properly denotes a purgation by ſpitting; in which ſenſe it ſtands contradiſtinguiſhed from *catharſis*, or evacuation downward.

In this ſenſe is the word uſed by Hippocrates and Galen; agreeably to this Blaſius reſtrains *anacatharſis* to expectoration. Only Blancard, on what authority does not appear, extends *anacathartic* medicines to all thoſe which work upwards, by the glands of the head, whether vomitories, ſternutatories, or maſticatories.

ANACATHARSIS is alſo a name given by *civil lawyers* to the *Baſilicon repetitæ Prelectionis*, made by order of the emperor Conſtantine Porphyrogenitus.

It was thus called, as being a review or correction of the Baſilicon.

ANACATHARSIS, among *Divines*, denotes the clearing up ſome obſcure paſſage, by a ſpiritual or anagogical interpretation.

ANACATHARTIC, from ανα, *upwards*, and καθαιρω, *I purge*, is uſually underſtood of a vomit, or a purging medicine that works upwards.

ANACEIA, an Athenian feſtival in honour of the Dioſcuri. It took its name from thoſe deities, who were alſo called Ανακες, and honoured with a temple called Ανακειον, *Anaceum*. The Anaces, Anactes, or Dioſcuri have been thought by ſome writers to be the ſame with the Cabiri of the ancient Carthaginians, but others are of a different opinion. However this may be, they were undoubtedly deſcended from the Anakims of Moſes; and Inachus was alſo

of

of this race, as his name imports. Some have ſuppoſed, that the appellation Anactes was given to thoſe princes of the line of Inachus, who had diſtinguiſhed themſelves by their heroic actions.

The ſacrifices offered at that time were named Ξενικα, becauſe thoſe deities were ξενοι, or *ſtrangers*; and conſiſted of three offerings, which were called Τριτται. Athenæus mentions plays acted in honour of theſe deities.

ANACEPHALÆOSIS, formed of ανα, which in compoſition ſignifies *again*, and κεφαλη, *head*, in *Rhetoric*, a recapitulation, or a ſhort and ſummary repetition of the heads of a diſcourſe.

ANACHARSIS, in *Biography*, a Scythian philoſopher, was the ſon of a Scythian chief by a native of Greece, and flouriſhed about 600 years before Chriſt. Having acquired an early acquaintance with the Greek language, he was entruſted by his ſovereign with an embaſſy to Athens; and in the firſt year of the 47th Olympiad, *i. e.* 592 B. C. he was conducted by Toxaris, one of his countrymen, to the houſe of Solon. Anacharſis availed himſelf of the opportunities which free and familiar intercourſe with Solon afforded him for gaining wiſdom: he was introduced to the ſociety of the principal perſons at Athens, and he was the firſt ſtranger upon whom the Athenians conferred the honour of citizenſhip. After the death of Solon, and probably not before, Anacharſis left Athens, and travelled into other countries; and at laſt returned to Scythia, with a deſign of communicating to his countrymen the knowledge he had acquired, and of eſtabliſhing among them the deities and the worſhip of Greece. But his attempts were ineffectual. Whilſt he was performing ſacred rites to Cybele, in fulfilment of a vow which he had made upon his way home, he was killed by an arrow levelled againſt him, as report ſays, by the king's own hand; ſo that he fell a ſacrifice to the envy and folly of his countrymen, who would not condeſcend to be inſtructed by Grecian wiſdom. The phraſe, "Scythian eloquence," was derived from the manly and nervous kind of language for which he was diſtinguiſhed. He is ſaid to have been the inventor of the anchor and potter's wheel, but theſe inſtruments were known before his time; however, he might have introduced the uſe of them among the Scythians. Of his ingenious ſayings that are recorded, the following deſerve to be mentioned: "The beſt method of teaching a youth ſobriety is to ſet before his eyes a drunken man." "The vine bears three ſorts of fruit: the firſt, pleaſure; the ſecond, intoxication; the third remorſe." "An ape is by nature ridiculous; man, by art and ſtudy." To an Athenian of infamous character, who reproached him for being a Scythian, he ſaid, "My country may be a diſgrace to me; but you are a diſgrace to your country." As he was one day conſidering the thickneſs of the planks of a ſhip, he cried out, "Alas! thoſe who go to ſea are but four inches diſtant from death." Being aſked what was the moſt ſecure ſhip, he replied, "That which is arrived in the port." He often repeated, "That every man ſhould be particularly careful to make himſelf maſter of his tongue and his belly." Being aſked what was the beſt and what the worſt part of a man, he anſwered, "The tongue." "It is much better," ſaid he, "to have but one friend, if he be faithful to us, than a great number of thoſe who are always ready to follow the change of fortune." He uſed to compare laws to ſpiderwebs; and to ridicule Solon, who pretended to reſtrain the paſſions of mankind by pieces of writing. He obſerved, "That the prince who is wiſe is happy; and that that city is beſt wherein all things elſe being equal, virtue hath the better condition, vice the worſe." The epiſtles that bear his name are probably ſpurious. Herodotus, lib. iv. Plut. Vit. Solon, apud Opera, tom. i. p. 80. Diog. Laertius, lib. i. tom. i. p. 64. Strabo, lib. vii. tom. i. p. 461. Brucker's Hiſt. of Philoſ. by Enfield, vol. i. p. 104. The Travels of Anacharſis the Younger in Greece, by the Abbé Barthelemi, compriſed in ſeven volumes, 8vo. with a volume of maps, &c. in 4to. is a work in high eſtimation.

ANACHIMOUSSI, in *Geography*, a province of the iſland of Madagaſcar, having on the eaſt the river Jonghainon, which runs through it, the country of Manamboule on the ſouth, on the weſt large and lofty mountains, and on the north the river Mangharac and the country of Eringdrana. This province produces great quantities of rice and yams, with plenty of cattle, and other neceſſaries of life, and is extremely populous.

ANACHIS, in *Mythology*, one of the four deities, to whom the Egyptians imagined the peculiar care of each perſon was committed at his birth: the other three were *Dymon*, *Tyche*, and *Heros*. They were alſo called *Dynamis*, *Tyche*, *Eros*, and *Ananche*; i. e. Power, Fortune, Charity, and Neceſſity.

ANACHORESIS, denotes a withdrawing from ſociety, or retiring into ſolitude. The anachoreſis was not allowed to perſons before they had ſpent thirty years in the community.

ANACHORET, from ανα χωρεω, *I retire into a ſolitary place*, a hermit or devout perſon, living alone in ſome deſert, to be farther out of the reach of the temptations of the world, and more at leiſure for meditation. Such were St. Anthony, St. Hilarion, &c. Paul the Hermit was the firſt of the tribe of anachorets.

When many of the habitations of anachorets were placed together in the ſame wilderneſs, at ſome diſtance from one another, they were all called by one common name *laura*, which, as Evragius informs us, differed from a *cænobium*, or *convent*, in that a *laura* conſiſted of many cells divided from each other, where every monk provided for himſelf; but a *cænobium* was one habitation, where the monks lived in ſociety, and had all things in common. Anachorets, popularly anchorets, were very numerous among the Greeks, conſiſting principally of monks; who not caring for the fatigues and offices of the monaſtery, purchaſed a little ſpot of ground, with a cell, whither they retreated, and never appeared in the monaſtery again excepting on ſolemn days. Theſe are ſometimes alſo called *aſcetæ* and *ſolitaries*.

They had their chapel, and after prayers applied themſelves to the culture of their vineyards, olives, fig-trees, and the like, which afforded them proviſion for the year.

Theſe anchorets only differed from the conventual monks, in that they had leſs intercourſe with the world, and lived but in ſmall bodies.

The anchorets of Syria and Paleſtine retired into the moſt obſcure and unfrequented places; hiding themſelves under rocks and mountains, without either tents or cottages, repoſing wherever the approach of night happened to find them, and living on the ſpontaneous productions of the earth. This courſe of life they purſued, that they might avoid the view and the ſociety of mortals.

There have alſo been anchorets in the Weſt. Peter Damain, who was of the order of hermits, frequently ſpeaks of them with great praiſe. He repreſents them as by far the moſt perfect ſort of monks; holding them in much higher opinion and veneration than the *cænobites*, or monks reſiding in monaſteries.

Many of theſe retire, with the leave of their abbots, and have an allowance from the monaſtery. The people, on account of their piety, preſent them with good ſums of money, which they carefully hoard up, and at their death bequeath to the monaſtery they had belonged to.

ANACHORETA, in *Entomology*, a ſpecies of PHALÆNA, of the *bombyx* tribe, which, till lately, was confounded with

with phalæna curtula, from which it chiefly differs in having a white ſtreak acroſs the brown ſpot at the tip of the anterior wings. Its ſpecific character is, wings grey, with white ſtreaks; at the tip a ferruginous-brown ſpot, marked with a waved ſtreak of white. Fabricius. Feeds on the willow and poplar in the larva ſtate. The larva is hairy, brown with a fleſh-coloured ſtripe along the back; two elevated warts, and lateral dots of rufous colour. Inhabits Auſtria.

ANACHORITA, in *Eccleſiaſtical Writers*, a name ſometimes given to the cells of recluſes.

By the ancient canons, no anachorita could be erected without conſent of the biſhop.

ANACHRONISM, compounded of ανα, *higher*, and χρονος, *time*, in *Chronology*, an error in computation of time; whereby an event is placed earlier than it really happened.

Such is that of Virgil, who placed Dido in Africa at the time of Æneas; though, in reality, ſhe did not come there till 300 years after the taking of Troy. An error on the other ſide, whereby a fact is placed later or lower than it ſhould be, is called a *parachroniſm*; though this diſtinction is not commonly obſerved.

ANACHYTIS, in *Natural Hiſtory*, a ſpecies of Echinus, of the ſecond order of Vermes, *Molluſca*; it is heart-ſhaped, rather oblong, and ſomewhat conic, baſe flattiſh. Spaces and diviſions ten; mouth ſubrotund, ſurrounded with an elevated margin; vent oval, notched below. Klein and Linn. Found in a foſſil ſtate.

ANACIUM, in *Ancient Geography*, a mountain of Attica, on which was a temple of Caſtor and Pollux.

ANACLASTIC *glaſſes*, *vitra anaclaſtica*, a kind of ſonorous phials or glaſſes, chiefly made in Germany, which have the property of being flexible, and emitting a vehement noiſe by the human breath. They are alſo called vexing glaſſes, by the Germans *vexier glaſer*, on account of the fright and diſturbance they occaſion by their reſilition.

The anaclaſtic glaſſes are a low kind of phials with flat bellies reſembling inverted funnels; whoſe bottoms are very thin, ſcarce ſurpaſſing the thickneſs of an onion-peel: the bottom is not quite flat, but a little convex. But upon applying the mouth to the orifice, and gently inſpiring, or as it were ſucking out the air, the bottom gives way with a horrible crack; and from being convex becomes concave. On the contrary, upon expiring or breathing gently into the orifice of the ſame glaſs, the bottom with no leſs noiſe bounds back on its former place and becomes gibbous as before.

The anaclaſtic glaſſes firſt taken notice of were in the caſtle of Goldbach; where one of the academiſts *Naturæ Curioſorum*, having ſeen and made experiments on them, publiſhed a piece expreſsly on their hiſtory and *phænomena*. Roſini Lentilii Oribaſii Sched. de Vitris Anaclaſticis. Vid. Ephem. Acad. N. C. Dec. 2. Ann. 3. p. 489, ſeq. Their figure may be ſeen in the book above cited.

They are all made of a fine white glaſs. It is to be obſerved in theſe, 1. That if the bottom be concave at the time of inſpiration, it will burſt, and the like will happen if it be convex at the time of expiration. 2. A ſtrong breath will have the ſame effect even under the contrary circumſtances.

ANACLATICS, or Anaclastics, derived from ανα, and κλαω, *I break*; that part of optics which conſiders refracted light, and is the ſame with what we more uſually call dioptrics.

ANACLETERIA, formed of ανα, and καλεω, *I call*, in *Antiquity*, ſolemn feaſts celebrated in honour of kings and princes when they came of age, and took upon them the adminiſtration of the ſtate, and made a ſolemn declaration thereof to the people.

ANACLETICUM, in the *Ancient Art of War*, a particular blaſt of the trumpet, whereby the fearful and flying ſoldiers were rallied, and recalled to the combat.

ANACLETUS, or Cletus, or Anencletus, *i. e. irreprehenſible*, in *Biography*, a pope, reckoned by Roman Catholics the third; ſucceeded Linus as biſhop of the church of the Romans; and, according to Euſebius, (Hiſt. Eccl. lib. iii. c. 13. 15.) in the ſecond year of the reign of Titus, or in 79, A. D. and governed that church 12 years. This biſhop has been enrolled among the ſaints and martyrs, though there is no ſatisfactory evidence of his martyrdom. Dupin. Bower's lives of the Popes, vol. i. p. 13.

Anacletus was alſo the name of a competitor for the popedom againſt Innocent II. He was the grandſon of a circumciſed Jew, named Peter of Leon. When Innocent II. was acknowledged as ſucceſſor to the papal chair by the emperor Lotharius II. upon the death of Honorius II. in 1130, Roger, King of Sicily, did homage to Anacletus, who was for ſome time maſter of Rome. After the defeat of Roger, upon whom he had conferred the title of king of Naples and Sicily, he was obliged to yield to his more fortunate competitor. He died in 1138, and his memory has been reproached with ſcandalous vices. Dupin.

ANACLINOPALE, from, ανα, κλινω, *I recline*, and οπλον, *arms*, in *Antiquity*, a kind of wreſtling, wherein the champions threw themſelves voluntarily on the ground, and continued the combat by pinching, biting, ſcratching, and other methods of offence.

The anaclinopale ſtood contradiſtinguiſhed from the *orthopale*, wherein the champions were erect. In the anaclinopale, the weaker combatant ſometimes gained the victory.

ANACLITES, the denomination of thoſe Britons, who are placed by moſt of our antiquaries in that diſtrict of Berkſhire which is adjacent to Henley.

ANACLINTERIA, in *Antiquity*, a kind of pillows on the dining-bed, whereon the gueſts uſed to lean.

The ancient triclinary beds had four στιβαδες, one at the head, another at the feet, a third at the back, and a fourth at the breaſt. That on which the head lay was properly called by the Greeks, ανακλιντηρον, or ανακλιντρον; by the Romans *fulcrum*, ſometimes *pluteus*.

According to other writers, anaclinteria is more properly underſtood of the backs of chairs whereon we lean.

ANACOINOSIS, from ανα and κοινοω, *I communicate*, *communicatio*, a figure in *Rhetoric*, when we conſult the adverſary, or appeal to the judges what ought, or could have been done on ſuch an occaſion.

Such is that of Cicero, *Quæro, ſi te hodie domum tuam redeuntem, coacti homines et armati, non modo limine tecloque ædium tuarum, ſed primo aditu veſtibuloque prohibuerint, quid acturus fis?* Cicero pro Cecin.

ANACOLLEMA, formed of ανακολλαω, *conglutino*, in *Phyſic*, denotes a liniment or other medicine applied to the forehead, to ſtop or prevent defluxions of the eyes.

Anacollemata make a ſpecies of medicines called *frontalia*.

The qualities required are, to be drying, cooling, thickening, aſtringent, conglutinant, &c.

To the claſs of anacollema belong bran, manna, myrrh, *terra ſamia*, *acacia*, &c.

Junker deſcribes an *anacollema frontale* for ſtopping hæmorrhages at the noſe.

ANACOLUTHON, from ανακολουθος, *incoherent*, among *Ancient Grammarians*, denotes an incoherence, or a conſtruction which does not accord. This is uſually ſignified by the

the appellation of a figure which ought rather to be denominated an inaccuracy.

ANACONDA, in *Zoology*, a name given in the iſle of Ceylon (and adopted by ſome naturaliſts) to a very large and terrible ſnake, which, it is ſaid, often devours the unfortunate traveller alive, and is itſelf accounted excellent and delicious fare. This creature is deſcribed as a ſpecies of rattle-ſnake, but it is far more probable that it is not of that genus. It is generally believed that rattle-ſnakes are altogether peculiar to the American continent; nor is there any known ſpecies of rattle-ſnake that correſponds with the deſcription of this tremendous creature; the largeſt kinds ſcarcely exceeding four, five, or at moſt ſix feet in length.

Perhaps the ſnake in queſtion may be *boa conſtrictor* of Linnæus, which it is known ſometimes grows to the length of twenty or thirty feet, and is of ſuch prodigious ſtrength, that it is able to deſtroy almoſt any other animal. It is a ſpecies found in the Indian iſlands, and is eaten by the inhabitants.

ANACOPIA. See ABKHAS.

ANACREON, in *Biography*, a Greek lyric poet, was born at Teos, a ſea-port of Ionia, and flouriſhed during the reign of Polycrates, tyrant of Samos, at whoſe court he reſided, in the ſixth century before Chriſt. His fame was ſuch, that Hipparchus, the ſon of Piſiſtratus, as we are informed by Plato, (in Hipparcho) ſent a veſſel of 50 oars to bring him to Athens. After the death of Hipparchus he returned to Teos, and afterwards removed to Abdera, the place of his youthful reſidence, where he died at the age of 85 years. Report ſays, that his death was occaſioned by a grape-ſtone, which choaked him whilſt he was drinking new wine. He was a profeſſed voluptuary, and habituated to the unreſtrained gratifications of wine and love. He is cenſured even by Ovid for devoting his chief attention to Bacchus and Venus—

> "Quid, niſi cum multo Venerem confundere vino
> Præcipit lyrici Teia muſa Senis?"

His attachment to Cleobulus is recorded by Maximus Tyrius, (Orat. ii.) and the ardour of his paſſion for Bathyllus is mentioned by Horace. Epod. xiv. v. 9.

> "Non aliter Samio dicunt arſiſſe Bathyllo
> Anacreonta Teium,
> Qui perſæpe cava teſtudine flevit amorem."

Ælian (in his Var. Hiſt. lib. ix. c. 4.) has endeavoured to vindicate his character; but the charges againſt him are too well founded to admit of refutation. During his reſidence at Samos, Polycrates made him a preſent of 5 talents, equal to about 562*l.* ſterling. Unaccuſtomed to the poſſeſſion of ſuch a ſum, he could not enjoy his uſual repoſe, and he therefore haſtened to reſtore it to the generous donor, alleging, that while he had ſo great a charge in his cuſtody, he ſhould never be able to write or ſing again. The poems of Anacreon, that are extant, conſiſt chiefly of Bacchanalian ſongs, and love-ſonnets. They are moſtly compoſed in verſes of ſeven ſyllables, or rather of three and a half feet; ſpondees and iambics, and ſometimes anapeſts; and hence verſes in that meaſure are ſometimes called *Anacreontics*, or *Anacreontic verſes*. The odes of Anacreon abound in ſuavity, ſprightlineſs, and elegant fancy; they are ſweeter, ſays Scaliger, than Indian ſugar; and, according to Mad. Dacier, the chief beauty and excellence of Anacreon conſiſted in his imitations of nature, and in his following reaſon; ſo that he preſented to the mind no images that were not noble or natural. The odes of Anacreon, ſays Rapin, are flowers, beauties, and perpetual graces; it is familiar to him to write what is natural and to the life; and he poſſeſſed an air ſo delicate, eaſy, and graceful, that, among all the ancients, there is nothing comparable to his method, nor to the kind of writing which he purſued. He flows, adds this writer, ſoft and eaſy, diffuſing the joy and indolence of his mind through his verſe, and tuning his harp to the ſmooth and pleaſant temper of his ſoul. The character of his writings is juſtly given by the God of Love, directed to ſpeak by Mr. Cowley:

> "All thy verſe is ſofter far
> Than the downy feathers are,
> Of my wings, or of my arrows,
> Of my mother's doves and ſparrows;
> Graceful, cleanly, ſmooth, and round,
> All with Venus' girdle bound."

The authenticity of ſome of thoſe poems, which have been diſtinguiſhed by his name, has been ſuſpected, but they have been acknowledged by ancient writers; nor is it probable that imitations, compoſed at different times by different authors, ſhould invariably retain the ſame ſtyle and dialect. Of theſe odes we have had tranſlations and imitations in various languages. Of the original the beſt editions are thoſe of Barnes and Pauw; and the free verſions of Cowley are the moſt approved Engliſh imitations. The odes of Anacreon have been lately, in 1801, tranſlated into Engliſh verſe, with notes, by Thomas Moore, Eſq. 4to. Gen. Dict.

ANACRISIS, from ἀνὰ and κρίνω, *I judge*, among the *Ancient Greeks*, is uſed for a kind of trial or examination, which the archons, or chief magiſtrates of Athens, were to undergo before their admiſſion into that office. The anacriſis ſtands diſtinguiſhed from the *docimaſia*, which was a ſecond examination in the forum. The anacriſis was performed in the ſenate-houſe. The queſtions here propoſed to them were concerning their family, kindred, behaviour, eſtate, &c. Some maintain that all magiſtrates underwent the anacriſis.

ANACRISIS, in the *Civil Law*, denotes a ſearch or inquiry into the truth by examination of witneſſes.

ANACROSIS, in *Antiquity*, denotes a part of the Pythian ſong, wherein the combat of Apollo and Python is deſcribed.

The anacroſis was the firſt part, and contained the preparation to the fight.

ANACTON *pædon*, a feſtival held at Amphyſſa, the capital of Locris, in honour either of the Dioſcuri, or of the Curetes, or Cabiri, about which authors are not agreed.

ANACTORIA, now *Vonizza*, in *Ancient Geography*, a town of Acarnania, at the extremity of the peninſula, at the entrance of the gulf of Ambracia. Stephanus Byz. ſays, that it was founded by a colony of Corinthians. Auguſtus tranſported its inhabitants to Nicopolis.

ANACUIAS, in *Geography*, a people of America, in Brazil, on the borders of the country poſſeſſed by the Portugueſe, under the appellation of *Capitania de Seregippe*.

ANACYCLUS, *ſantolinoides* of Vaillant, and *cotula* of Tournefort, in *Botany*, a genus of the *ſyngeneſia polygamia ſuperflua* claſs and order, of the natural order of *compoſitæ diſcoideæ*, and *corymbiferæ* of Juſſieu; its characters are, that the *calyx* is common, hemiſpherical, and imbricate, with many ovate, flat ſharp ſcales; the *corolla* is compound and radiate, with numerous hermaphrodite corollets in the diſk, from five to ten females in the ray, ſcarcely higher than the diſk; hermaphrodites funnel-ſhaped, with a quinquefid, ſpreading

ſpreading border; females with a flatted tube, and an ovate entire border; the *ſtamina* in the hermaphrodites; filaments five, capillary, and very ſhort; anther cylindric; *piſtillum* a germ flatted, ſtigma bifid, in the hermaphrodites, with a membrane on each ſide, ſtyle, filiform, of the length of the corollet, and two ſlender reflex ſtigmas in the floſcules; no *pericarpium*, calyx unchanged; *ſeed* in the hermaphrodites ſolitary, oblong, compreſſed, naked, or without down; in the females with a very broad, membranaceous wing on each ſide, and emarginate at top, but without down; the *receptacle* chaffy, chaffs obtuſe with a point. There are four ſpecies. 1. A. *creticus*, cotula cretica, &c. of Tournefort, ſantoniloides annua, &c. of Vaillant, trailing anacyclus, "with leaves decompound, linear, and folioles divided and flat." 2. A. *orientalis*, chamœmelum orientale, &c. of Tournefort, eaſtern a. "with leaves compound, briſtly, acute, and ſtraight." Theſe two ſpecies grow naturally in the iſlands of the Archipelago, from whence their ſeeds were ſent by Tournefort to the Royal Garden at Paris: their ſeeds have been alſo received from Portugal. They are low plants, with branches trailing on the ground. The firſt ſort has fine-cut leaves, like thoſe of chamomile; the flowers are ſmall, white, and grow ſingle, with their head declining, like thoſe of the common May-weed. The ſecond has leaves like thoſe of the ox-eye; the flowers are white, and like thoſe of chamomile. 3. A. *aureus*, chamœmelum luteum capite aphyllo of Bauhin, anthemis chryſanthemum of Lob. golden-flowered a. "with leaves bipinnate, roundiſh, hoary, and hollow-dotted." This ſpecies is a native of the ſouth of Europe and the Levant, and was cultivated here in 1570. 4. A. *valentinus*, chryſanthemum valentinum of Cluſius, buphthalmum lanuginoſum, foliis millefolii of Bauhin, chamœmelum tenuifolium, flore bulbato aureo of Barr. "with leaves decompound and linear, folioles divided, roundiſh, and acute; the flowers floſculoſe." This grows a foot and a half high, ſending out many ſide-branches; the leaves are finely divided and hairy; the flowers are ſingle at the end of the branches, and are of a bright yellow colour, with a ſilvery, ſcaly calyx; they are as large as thoſe of the ox-eye. It is a native of Spain and Italy; cultivated in 1656 by Tradeſcant; flowering in June and July.

Culture.—All theſe plants are annual; the ſeeds ſhould be ſown early in the Spring, in a border of light earth, where they are deſigned to remain, and need no other care that to be thinned and kept free from weeds; they flower in July and Auguſt, and their ſeeds ripen in September. Martyn's Miller.

ANADARA, in *Conchology*, a name by which ſome naturaliſts have diſtinguiſhed the ſpecies of ARCA, called *antiqua* by Linnæus. Adanſ. Seneg.

ANADAVADÆA, in *Ornithology*, the name of a ſmall bird of the Eaſt Indies, which has the beak of a chaffinch, and the feet of the lark. It is ſometimes brought over to England alive in cages, and will live here very comfortably.

ANADEMA, formed of αναδεισμαι, *to be bound round*, among the *Ancients*, denotes an ornament of the head, wherewith victors at the ſacred games had their temples bound.

Some confound the *anadema* with the *diadema*, worn by the ancient Perſian kings.

Anademata are alſo mentioned by ancient writers among the ornaments of the heads of women.

According to ſome, αναδεμα, anſwers to what the Latins call *redimiculum*.

ANADIPLOSIS, αναδιπλωσις, from ανα, *again*, and διπλοω, *I double*, in *Rhetoric* and *Poetry*, denotes a repetition of the laſt word of the former verſe or member in the beginning of the next; *e. gr.*

"Addit ſe ſociam timidiſque ſupervenit Ægle.
Ægle Naïadum pulcherrima———
———ſequitur pulcherrimus Aſtur,
Aſtur equo fidens———————."

"If children, then heirs, heirs of God, and joint heirs with Chriſt."

ANADIPLOSIS, in *Medicine*, denotes the redoubling or return of the paroxyſm of a fever, chiefly of a ſemitertian.

This is otherwiſe called *epanalepſis* and *epanadiploſis*.

ANADOSIS, from ανα and διδωμι, *I give*, in the *Ancient Medicine*, denotes the diſtribution of the aliment by the veſſels of the body.

In this ſenſe, anadoſis makes a part of nutrition or DIGESTION.

ANADROMOUS, in *Ichthyography*, a term of diſtinction applied by ſome early naturaliſts to thoſe migratory fiſhes that have their ſtated times of going from the freſh-water to the ſalt, and afterwards returning back to the freſh water again.

The word is derived from ανα, *back again*, and δρομος, a *courſe*. Many of the *ſalmo* genus are of this kind, and particularly *ſalar*, or the common ſalmon, whoſe periodical returns from the ſea to depoſit its ſpawn in freſh-waters is well known. The method nature has appointed for their courſe of changes ſeems to be this: they are firſt produced from the ſpawn in freſh-water rivers; they live there till they acquire ſome ſtrength and ſize, and then ſeek the ſalt-water to feed more at large in, and grow to their full extent; at which period they return to the freſh-water again to lay their ſpawn, that the young brood may have the ſame advantages which they had before, of being placed in freſh-water. Some uſe the word *catanadromi* in the ſame ſenſe.

ANADUOMENE *Venus*, in the *Grecian Mythology*, anſwered to the *Sea-Venus* in the Roman, and was the appellation given to one of the chief deities of the ſea. The moſt celebrated picture in all antiquity was that of this goddeſs by Apelles; and the famous Venus of Medici is a *Sea Venus*.

ANADYR, in *Geography*, a river of Siberia, that riſes in the country of the Tchuktchi, out of a lake (N. lat. 68° 20′. E. long. 179° 14′) among the frontier mountains which are a continuation of Stanovoi-Krebet, and diſcharges itſelf into that part of the Eaſtern or Pacific Ocean, which is called the *Sea of Anadyr*, Anadyrſkaian gulf, or bay of Anadyr. N. lat. 65°. E. long. 177° 34′. This river receives many ſtreams, beſides the brook Yablona, which gives the name of Yablonoi-Krebet to the range of mountains where it ſprings, but none of them are very large. Its bed is in general ſandy, and its current by no means rapid; its channel is very broad, and contains a conſiderable number of iſlets, but of ſo little depth, that it can ſcarcely be croſſed in any part with the common ferry-boats of that country, called ſhitiki, which are ſewed together, have no iron in their conſtruction, and draw no more than two feet of water. From the ſource of the Anadyr to the brook Yablona, the country is mountainous and bare; below the Yablona are ſome ſtripes of meadow-land and ſome poplar-trees; and on the mountains to the left, for at leaſt 100 verſts above Anadyrſkoi-oſtrog, are thin woods of larch trees and dwarfiſh Siberian cedars. The whole of the northern region, as far as the Anadyr, is in general deſtitute of ſtandard trees, and has ſcarcely any pieces fit for paſture;

whereas, ſouth of the river, at no great diſtance, eſpecially about the head of the main, the Penſhina, and the Aklan, are foreſts of tall timber in abundance. From the Anadyr to the Kolyma and the Frozen Ocean, and throughout the whole country of the Tchuktchi, no more foreſt has been diſcovered; the meadow ſhrubs ſcarcely ſhoot above a ſpan high, as in the whole tract along the northern coaſt of Siberia. But ſo much the more frequent are the flats, overgrown with yellow and white moſs, on which innumerable herds of wild rein-deer find paſture. Tooke's View of the Ruſſian Empire, vol. i. p 229.

ANADYSKAIA GULF, a bay of the Pacific Ocean, on the coaſt of Siberia, extending from Cape Apoſtola Thadæa, E. long. 178° 14'. N. lat. 63°, to the bay of Saint Lawrence, E. long. 187° 14'. N. lat. 65°.

ANADYRSKOI, a fortified town of Siberia, on the river Anadyr. E. long. 165° 14'. N. lat. 66°.

ANADYSIS, among *Ancient Divines*, denotes the ceremony of the emerſion in BAPTISM.

In which ſenſe ἀναδυσις ſtands contradiſtinguiſhed from κατάδυσις, or *immerſion*.

ANÆA, in *Ancient Geography*, a town placed by Stephan. Byz. in Caria, oppoſite to the iſle of Samos, which took its name from one of the Amazons who was buried there; and which was the birth-place of Menelas, a peripatetic philoſopher and celebrated hiſterian.

ANADÆIA, in *Antiquity*, a denomination given to a ſilver ſtool placed in the aræopagus, on which the defendant or perſon accuſed was ſeated for examination.

The word is ἀναιδεια, which imports *impudence*; but according to Junius's correction, it ſhould rather be ἀναιτια q. d. *innocence*.

The plantiff or accuſer was placed on an oppoſite ſtool, called *hybris*, or *injury*; here he propoſed three queſtions to the party accuſed; to which poſitive anſwers were to be given. The firſt, are you guilty of this fact? The ſecond, how did you commit the fact? The third, who were your accomplices?

ANAERETA, in *Aſtrology*, a place in the heavens, at which the *apheta* arriving, an infant born at that time, is pronounced by aſtrologers in danger of death.

The word is Greek, and literally imports a *cutter off*.

In this ſenſe, *anaereta* ſtands oppoſed to *apheta*.

ANAERETA, among the Greek *Aſtrologers*, amounts to the ſame with what the Arabs call *ahazin*.

ANAESTHESIA, ἀναισθησια, in *Medicine*, a privation of ſenſe, or of the faculty of perceiving external objects. The ſpecies or degrees of this are *ſtupor*, *hebetudo*, *depravatio*, &c. The ſenſe of feeling may be injured by any thing that obſtructs the nervous influence, or prevents its being regularly conveyed to the organs of touch, as preſſure, extreme cold, &c. It may likewiſe be impaired by too great a degree of ſenſibility, when the nerve is not ſufficiently covered by the cuticle or ſcarf-ſkin, or where there is too great a tenſion of it, or it is too delicate. Whatever diſorders the functions of the brain and nerves hurts the ſenſe of touching; and hence it ſeems to proceed from the ſame general cauſes, as palſy and apoplexy, and requires a ſimilar treatment. In a *ſtupor*, or defect of touching, which ariſes from an obſtruction of the cutaneous nerves, the patient muſt be firſt purged, and then recourſe ſhould be had to ſuch medicines as excite the action of the nerves, or ſtimulate the ſyſtem. For this purpoſe the ſpirit of hartſhorn, either by itſelf or combined with eſſential oils, horſe-radiſh, &c. may be taken inwardly; and the diſordered parts may, at the ſame time, be frequently rubbed with freſh nettles, or ſpirit of ſal-ammoniac. Bliſters and ſinapiſms applied to the benumbed parts will likewiſe be of uſe; and alſo warm bathing, eſpecially in the natural hot-baths.

ANÆTHETUS, in *Ornithology*, a name which has been ſometimes given to a ſpecies of tern found in Jamaica, and deſcribed by Brown. This is STERNA SOLIDA of Linnæus, which ſee.

ANAFA, or DAR BEYDA, in *Geography*, a town of Africa, on the weſtern coaſt of Morocco, ſituate in one of the moſt beautiful parts of the kingdom, formerly poſſeſſed by the Portugueſe, and populous, but now a heap of ruins; 30 miles ſouth-ſouth-weſt of Sallee.

ANAGADA, an iſland in the Weſt Indies, ſo low as to be almoſt covered with high tides. N. lat. 18° 38'. W. long. 64° 18'.

ANAGALLIDASTRUM, in *Botany*. See CENTUNCULUS.

ANAGALLIS, derived from αναγελαω, *to laugh*, becauſe, as it is ſaid, by curing the ſpleen it diſpoſes perſons to be chearful, a genus of the *pentandria monogynia* claſs and order, of the natural order of *rotaceæ*, and *lyſimachiæ* of Juſſieu. Its characters are, that the *calyx* is a perianthium five-parted, ſharp, and permanent, and diviſions keeled; the *corolla* is wheel-ſhaped, border five-parted, diviſions ovate-orbiculate, with the claws connected; the *ſtamina* have erect filaments, ſhorter than the corolla, ſhaggy below, anthers ſimple; the *piſtillum* is a globoſe germ, ſtyle filiform, ſlightly bending, and ſtigma capitate; the *pericarpium* is a globoſe, one-celled capſule, opening tranſverſely; the *ſeeds* are very many and angular; the *receptacle* globoſe, very large, (fungoſe, alveolate, and free, G.) Martyn enumerates 7, Willdenow 6, and Gmelin 8 ſpecies. 1. A. *arvenſis*, A. flore phœniceo of Ray, and A. mas of Ger. common or ſcarlet pimpernel, with leaves undivided, ſtem procumbent, and corolla finely notched; or with ſtem procumbent, leaves ovate-lanceolate, and ſegments of the calyx ſerrated; or, according to Dr. Smith, with leaves ovate, punctated underneath, and ſtem procumbent. Dr. Smith reckons three varieties, *viz.* β. A. phœnicea, foliis amplioribus ex adverſo quaternis of Ray; γ. A. fœmina of Ray and Ger. A. cerulea of Abbot, blue pimpernel; and δ. A. terreſtris flore albo of Ray. The root is ſmall; the ſtem procumbent, very branching at the baſe, tetragonous, ſmooth, and foliоſe; the leaves oppoſite, (thoſe of β in a rich ſoil being four) ſeſſile, ovate, entire, ſmooth, and underneath dotted with purple; the peduncles axillary, ſolitary, one-flowered, longer than the leaves; the laciniæ of the calyx lanceolate, acuminate, membranaceous at the margin; the corolla deeply quinquefid, minutely ciliated, moſtly ſcarlet, with a violet mouth; the ſtamina hairy and violet; the anthers yellow; the ſtigma obtuſe and crenated; the capſule globoſe and diaphanous, (marked with five lines as if the ſeams of ſo many valves, but always ſeparating tranſverſely into two parts, Withering); the ſeeds angular, and heaped together; the flowers in the variety γ are blue, but Dr. Smith has perceived ſcarcely any other difference. Dr. Withering obſerves, that every part of this plant is ſingularly beautiful; and will amply repay the trouble of a minute examination. It is an annual plant, frequent in ploughed grounds and gardens, particularly in ſandy ſoils, and flowers in June and July. The variety γ, female or blue pimpernel, grows wild in Sweden, Germany, and Swiſſerland, and is found between Stockwell and Camberwell, near London, near Mitcham in Surry, and Hiſton in Cambridgeſhire, on Bredon-hill, in a corn-field at the top of Overbury-wood in Worceſterſhire, at Dawliſh in Devonſhire.

ſhire, and between Bath and Bradford. Ray, Linnæus, and others, take the blue pimpernel to be only a variety of the red. Haller, after Blair and Boehmer, and followed by Allioni and Gmelin, conſiders it as a diſtinct ſpecies; obſerving, that it is a taller plant, with ſmaller leaves and larger flowers; that the capſule is more ovate, but the diviſions of the calyx are narrower, and the petals ſerrate about the edge. Haller mentions a blue ſort, with three and four leaves together. The variety β has been found in Cowley field. The bloſſoms of the male or common pimpernel open about eight in the morning, and cloſe in the afternoon; and from this circumſtance it is denominated the *ſhepherd's*, or *poor man's weather-glaſs*. But with rain, or much moiſture in the air, the flowers either do not open, or cloſe up again. Small birds are very fond of the ſeeds; ſwine and goats feed on it, but ſheep are ſaid (in the Amœn. Acad.) to refuſe it, whereas Schreber ſays, that ſheep eat it readily. It was formerly celebrated for its medical qualities, and given in maniacal caſes, and in the hydrophobia. It is now fallen into diſuſe, though Lewis obſerves, that it is not wholly deſtitute of medicinal powers; as the expreſſed juice of the leaves, on being depurated by ſettling, and then inſpiſſated to the conſiſtence of an extract, affects the organs of taſte with a pungent ſaline auſterity; and therefore theſe herbs have ſome claim to the reſolvent and detergent virtues aſcribed to them by ſome writers, though neither a decoction, nor tincture of them, nor their juice in its dilute ſtate, and much leſs their diſtilled water, can exert thoſe virtues in any conſiderable degree. Murray has cited ſeveral caſes, adduced by Gelin, which favour the efficacy of the anagallis as an antidote to the bite of mad animals. It has alſo been recommended as affording relief in cancerous complaints. 2. A. *monelli*, upright pimpernel, with leaves undivided, and erect ſtem. This is a very beautiful, ſmall plant, and produces a great number of fine blue flowers in April and May. It is a native of Verona, and cultivated in 1648 in the Oxford garden. 3. A. *latifolia*, broad-leaved P. with leaves heart-ſhaped, ſtem-claſping, and ſtem compreſſed. This is nearly allied to the firſt ſpecies, but diſtinguiſhed by its large broad leaves and compreſſed ſtem. It was ſent to Mr. Miller in 1759 from Spain, and is a trailing annual plant. 4. A. *linifolia*, flax-leaved P. with leaves linear, and ſtem erect. A native of Spain and Portugal. 5. A. *tenella*, lyſimachia tenella of Sp. Pl. Hudſon, Miller, and Dickſon; nummularia minor, flore purpuraſcente of Ray, Gerard, and Parkinſon, bog P. or purple-flowered looſe-ſtrife, or money-wort, with leaves ovate and ſharpiſh, and creeping ſtem. This has the habits of lyſimachia, the corolla almoſt of centunculus, but the ſtamina and fruit of the anagallus. It is not uncommon on wet heaths and turfy bogs in France, Italy, and England, in Suffolk and Staffordſhire, is perennial, and flowers in July and Auguſt. 6. A. *verticillata*, verticilled P. with ſtem-leaves verticilled, and ſtem erect. 7. A. *pumila*, dwarf P. with ſtem erect, and leaves roundiſh, acute and ſeſſile. It is annual and a native of Jamaica in the high mountains and marſhes.

Culture.— The four firſt ſorts being annual, are propagated from ſeeds which ſhould be ſoon ſown after they are ripe. The firſt, though beautiful, is a common weed, and never cultivated except in botanic gardens. The ſecond, third, and fourth require being ſheltered from extreme cold. The fifth is a bog-plant, and cannot be cultivated in gardens, but will flouriſh well enough in pots of bog-earth plunged in water. The ſixth, if it be a diſtinct ſpecies, has not yet been cultivated with us. Martyn's Miller. Smith's Flor. Brit. Willdenow. Gmelin's Linn.

ANAGALLIS. See CENTUNCULUS, EVOLVULUS, LYSIMACHIA, and PÆDEROTA.

ANAGALLIS *Aquatica*. See GRATIOLA, MONTIA, PEPLIS, SAMOLUS, and VERONICA.

ANAGALLIS *Cærulea*. See GRATIOLA.

ANAGLYPHA, in *Ancient Writers*, denote veſſels, or other things adorned with ſculpture in *baſſo relievo*; and hence the *anaglyphic* art is the art of carving, chaſing, engraving, or imboſſing plate.

ANAGLYPHICE, or ANAGLYPTICE, denotes that ſpecies of ſculpture wherein the ſtrokes or figures are prominent, or imboſſed; and is contradiſtinguiſhed from *diaglyphice*, where the ſtrokes are in lented.

The word comes from the Greek ανα̃γλυφω, *exſculpo*.

ANAGNIA, in *Ancient Geography*, a town of Italy, in Latium, ſouth eaſt of Præneſte, the capital of the Hernici; diſtinguiſhed among the ancients by the appellation of rich, noble, and illuſtrious. It ſubmitted, after a feeble reſiſtance, to the Romans, and obtained the freedom of the city. It was afterward by Druſus Cæſar walled round, and its territory aſſigned to the veterans. It is now *Anagni*, about thirty-ſix miles eaſt from Rome. N. lat. 42° 48'. E. long. 13° 45'.

ANAGNOSES, or ANAGNOSMATA, from ανα̃ and γινωσκω, *I know*, in the *Greek Church*, denotes an eccleſiaſtical book, containing the leſſons read at divine ſervice in the ſeveral feaſts, &c. of the year.

ANAGNOSTA, or ANAGNOSTES, among the *Ancients*, denotes a kind of ſervant retained in the families of perſons of rank to read to them at meals.

Theſe are called by the Greeks ανα̃γνωσται, and by the Romans lectores; ſometimes alſo a ſtudiis.

Even private families who lived in any degree politely, were not without this kind of literary ſervants. Servius makes mention of a female agnoſta, under the denomination of lectrix. Sometimes the maſter himſelf performed the office of reader. The emperor Severus himſelf read at table. Martial mentions one Ligurinus, who read his own poems at dinner to the great diſguſt of the gueſts.

Among the Greeks there were alſo anagnoſtæ in their theatres for public reading of the poets.

Some ſpeak of the anagnoſtæ as a ſpecies of acroamata, from which, however, in propriety, they differed.

Cornelius Nepos relates of Atticus, that no acroama was ever heard at his meals, but an anagnoſtes. He never ſupped without reading, ſo that the minds of his gueſts were no leſs agreeably entertained than their appetites. The ſame cuſtom, Eginhard obſerves, was kept up by Charlemagne, who at table had the hiſtories and acts of ancient kings read to him. This cuſtom ſeems to have been a relique of that of the ancient Greeks, who had the praiſes of great men and heroes ſung to them, while at table. The ancient monks and clergy kept up the like uſage, as we are informed by St. Auguſtin. Sidonius praiſes a man of quality in his time, who, in this reſpect, lived a clerical life, though he was no prieſt.

Bilbergius, and Th. Raynaud, have diſſertations expreſs on anagnoſtæ.

ANAGNOTSA, JOHN, in *Biography*, a Byzantine hiſtorian, flouriſhed in the reign of the emperor John Palæologus, and was preſent in Theſſalonica in the year 1430, when that city was beſieged by Sultan Morad, and reduced under the Turkiſh yoke. As he relates events that occurred two or three years after that ſiege, he muſt have lived at leaſt to the year 1433. His work "De rebus Conſtantinopolitanorum Macedonicis," records the particulars of the ſiege of Theſſalonica and its ſurrender to the Turks. This hiſtory was publiſhed in Greek, with a Latin tranſlation, by Allatius in 8vo, at Cologne. A. D. 1653.

ANAGNOSTIC, in *Middle Age Writers*, is ſometimes uſed for an epiſtle, or other writing.

ANAGOGIA, in *Antiquity*, ſolemn ſacrifices to Venus at Eryx, in Sicily, where ſhe was honoured with a magnificent temple.

The name of this ſolemnity was derived, απο τ αναγεσθαι, i. e. *from returning*; becauſe the goddeſs was ſaid to leave Sicily, and return to Africa at that time.

ANAGOGICAL, *tranſporting*, ſomething that raiſes the mind to things eternal and divine; the great objects of the next life.

The word is derived from αναγωγα, *carrying away*, which is formed of the prepoſition ανα, *upwards*, and αγω, *leading*.

The term is principally uſed in ſpeaking of the divers ſenſes of Scripture.—The *literal* ſenſe is the firſt, and natural ſenſe; the *myſtical* ſenſe is founded on the natural ſenſe, from whence it is taken by analogy or compariſon, by ſimilitude or reſemblance of one thing to another; and is divided into ſeveral kinds.

Where it regards the church, and matters of religion, it is called the *allegorical* ſenſe. Where it regards our morals, it is called the *tropological* ſenſe; and where it regards eternity, or the life to come, it is called the *anagogical* ſenſe.

ANAGOGY, ANAGOGE, a rapture or elevation of the ſoul, to things celeſtial and eternal.

Anagogy, in a more particular ſenſe, denotes the application of types and allegories of the Old Teſtament to ſubjects of the New; thus called, becauſe the veil being here drawn, what before was hidden is expoſed to open ſight. Some of the fathers place αναγωγη in oppoſition to ιστορια, *hiſtory*.

ANAGOGY, in *Medicine*, denotes a return of humours, or the rejection of matter upwards, or by the mouth.

Anagogy amounts to the ſame with what is otherwiſe called *anabol*.

ANAGOGY, αναγωγια, in *Ancient Hiſtory*, denotes a looſe education or diſcipline.

ANAGOMBRI, in *Ancient Geography*, mountains of Africa, placed by Ptolemy in Marmarica. M. d'Anville places them weſt of the temple of Ammon.

ANAGRAM, ANAGRAMMA, formed from ανα, *backwards*, and γραμμα, *letter*, a tranſpoſal of the letters of a name, with a combination thereof in ſome new manner, ſo as to exhibit one or more words, either to the advantage or diſadvantage of the perſon to whom it belongs.

Thus the anagram of Galenus is *angelus*; that of Logica, *caligo*; that of Alſtedius, *ſedulitas*; that of Sir Edmundbury Godfry, *I find murdered by rogues; or, by Rome's rude finger die*; that of Loraine, is *alerion*, on which account it was, that the family of Loraine took *alerions* for their armoury.—Calvin, in the title of his Inſtitutions, printed at Straſburgh in 1539, calls himſelf *Alcuinus*, which is the anagram of Calvinus, and the name of an eminently learned perſon in the time of Charlemagne, who contributed greatly to the reſtoration of learning in that age. Barclay, in his Argenis, anagrammatizes Calvinus by a leſs creditable name *Uſinulca*; and Rabelais, to be revenged of the ſame Calvin, who had made an anagram of his name, found in that of Calvin, *Jan. Cal.*

Such as keep cloſe to the definition of anagram take the liberty to omit or retain the letter H, and that letter only; but ſuch as ſtand up for the poetical licence, make bold ſometimes to uſe E for Æ, V for W, S for Z, and C for K; and *vice verſa*.

This way of writing was ſcarcely known among the ancients: Daurat, a French poet in the reign of Charles IX. is uſually ſaid to be the firſt that broached it; yet Lycophron, who wrote under Ptolemy Philadelphus, about 280 years before Chriſt, appears to have been no ſtranger to the art of making anagrams. Canterus, in his *Prolegomena* to Lycophron, gives us two of his pieces in this kind; the firſt on the name of king Ptolemy, Πτολεμαιος, in which he found απο μελιτος, *of honey*; to inſinuate the ſweetneſs and mildneſs of that prince; the ſecond was on queen Arſinoe, Αρσινοη, of whom he made Ιον Ηρας, *Juno's violet*.

There are two ways of making anagrams: for, 1. Some only conſiſt in dividing a ſingle word into ſeveral: thus the ænigma of the God Terminus, mentioned by Aulus Gellius, lib. xii. cap. 6. is founded on the anagram TER MINUS; and thus *fuſtincamus* yields *fus tinea mus*. This kind alone ſeems to have been uſed among the Romans.

The ſecond is, where the order and ſituation of the letters are changed; ſuch are thoſe above mentioned; and alſo theſe, *Roma, Maro, Amor; Julius, Livius; Corpus, Porcus, Procus, Spurco*.

To find all the anagrams any name will admit of, *algebraically*, ſee COMBINATION.

The fineſt and happieſt of all the anagrams extant, is that on the queſtion put by Pilate to Jeſus Chriſt; *Quid eſt veritas?* which anagrammatically makes *Eſt vir qui adeſt*: the anagram here is the beſt and juſteſt anſwer that could poſſibly be given.

Beſides the ancient kind of anagrams, there have been new ones invented: as, the mathematical anagram, invented in 1680, by which the abbot Catelan found, that the letters of the name Lewis XIV. made *vrai heros*, i. e. *true hero*.

We are now likewiſe furniſhed with the numerical anagram, more properly called *chronogram*; where the numerical letters (i. e. ſuch as in the Roman cyphering ſtood for numbers) taken together, according to their numerical values, expreſs ſome epocha: of which kind is that diſtich of Godart on the birth of Lewis XIV. in the year 1638, on a day wherein there was a conjunction of the eagle with the lion's heart:

eXorIensDeLphInaqVILæCorDIſqVeLeonIs
CongreſsVgaLLoſpeLætItIaqVerefeCIt.

ANAGRAMMATIST, a maker or compoſer of anagrams; Thomas Billon, a Provençal, was a celebrated anagrammatiſt, and retained by Lewis XIII. with a penſion of 1200 livres, in quality of anagrammatiſt to the king.

Lipenius gives a long liſt of anagrammatiſts.

Thomas Billon has given a ſet of prophecies in anagrams; Gul. Blancus, the art of compoſing anagrams.

ANAGROS, or ANEGROS, a meaſure for corn uſed in ſome cities in Spain, containing ſomewhat more than the Paris *mine*.

Four *anegros* make a *cabi*, four *cabis* a *tanega*, and 46 anegros are equal to about $10\frac{1}{4}$ quarters of London.

ANAGYRIS, in *Botany*, a genus of the *decandria monogynia* claſs and order, and of the natural order of *papilionaceæ*, or *leguminoſæ*: its characters are, that the *calyx* is a bell-ſhaped perianthium, mouth five-toothed, the upper pair of teeth more deeply divided; the *corolla* papilionaceous, ſtandard obcordate, ſtraight, emarginate, broader than the other petals, twice as long as the calyx, wings ovate-oblong, flat, longer than the ſtandard, keel ſtraight and very long; the ſtamina have filaments parallel, diſtinct, riſing, anthers ſimple; the *piſtillum* is an oblong germ, the ſtyle ſimple and riſing, the ſtigma villoſe; the *pericarpium* an oblong, large, roundiſh, obtuſe legume, a little reflex; the *ſeeds* ſix or more, kidney-form. Obſ. The eſſential character conſiſts in the very ſhort, ſtraight ſtandard, and in the great length of

the keel. Martyn enumerates three ſpecies, which are hardy deciduous flowering ſhrubs. 1. A. *fœtida*, ſtinking bean trefoil, with leaves ovate and flowers axillary. This is the only ſpecies mentioned by Gmelin in his edition of the Linnæan Syſtem, and alſo by Willdenow. It grows wild in the South of France, Spain, Italy, and Sicily, and alſo about Smyrna. It riſes to the height of eight or ten feet, and produces its flowers in April and May; they are of a bright yellow colour, growing in ſpikes, ſomewhat like thoſe of the laburnum; the ſeeds are never perfected in this country, and therefore it is ſcarce in England: it was cultivated in 1570 by Mr. Hugh Morgan. 2. A. *cretica*, with leaves oblong, and racemes longer. This is a native of Candia, and ſome of the iſlands of the Archipelago, and is at preſent very rare in Engliſh gardens; it has longer leaves than the former, and flowers later in the Summer, ſo that it never produces ſeeds; and it is probably only a variety. 3. A. *inodora*, with leaves pinnate, calyxes inflated and coloured, legumes compreſſed and ſtraight, racemes terminating and oblong. This is equal to a middle ſized tree, with branches hanging down, and frequently ſcandent; leaves unequally pinnate, leaflets oblong, acuminate, ſmooth, and without ſmell; flower white; a native of the woods of Cochinchina. It is doubted whether Loureiro's anagyris fœtida, found wild near Canton, in China, be the ſame with our European one.

Culture.—Theſe plants may be propagated by laying down their tender branches in the Spring, tonguing them in the ſame manner as the layers of carnations, and watering them in dry weather. By this management the layers will take root by the following Spring, and ſhould be cut off from the old plants before they begin to put out their leaves, and planted in a warm ſituation.

If the plants are propagated from ſeeds, they will be much handſomer, and riſe to a greater height. For this purpoſe the ſeeds ſhould be ſown in a moderate hot-bed in the beginning of March, or in a border of good rich earth, in a well-ſheltered place, ſifting over them about half an inch of fine mould, and covering them with a common frame, in order to protect them in ſevere weather. When the ſeeds are good, the plants will appear in a month after the ſeeds are ſown; they ſhould then be inured by degrees to the open air, and removed into a ſheltered ſituation towards the end of May. With this view the ſeeds may be ſown in pots, and plunged in a hot-bed, becauſe the plants will not bear tranſplanting till the following Spring; and it will be proper, during the two firſt Winters, to ſhelter them under a common frame, the glaſſes of which may be drawn off every day in mild weather, that the plants may be thus prepared for being planted abroad, when they have acquired proper ſtrength. They ſhould be kept in pots for three years, and they will then be fit for removal to the places where they are to remain; the beſt time for which is about the beginning of April, juſt before they begin to put out new leaves. At this time they ſhould be turned out of the pots with good balls of earth to their roots; and ſome of them may be planted againſt walls with warm aſpects, ſo as to be ſecure from the froſt; and others in warm ſituations, where by covering the ſurface of the ground about their roots with tanners bark in ſevere winters, and ſcreening their heads with mats, they may be preſerved for ſeveral years. In the fourth year from ſowing theſe plants will begin to produce their flowers, and will continue flowering every year; and they will be proper for intermixing with other flowering ſhrubs of the ſame growth in warm ſituations. Martyn's Miller.

ANAGYRIS. See CYTISUS LABURNUM.

ANAGYRIS, or ANAGYRUS, in *Ancient Geography*, a diſtrict of Attica, in the tribe of Erechtheis, between Phalereus and the promontory of Sunium, to the eaſt of Æxona. Some derive the name from a hero called Anagyrus, who overthrew the houſes in this diſtrict, becauſe the inhabitants had deſtroyed a chapel that had been dedicated to him. Others ſay, that its appellation was derived from the fœtid plant called Anagyris, which grew here, and which had the property of yielding a ſtronger ſmell the more it was handled; and hence aroſe the proverb, *Commovere Anagyrin*, or *Anagyrum*, to bring a misfortune upon one's ſelf.

ANAHARATH, a town of Judæa, in the tribe of Iſſachar. Joſh. xix. 19.

ANAITICA, a diſtrict of Aſia in Armenia, ſituate upon the Euphrates. It is ſaid to have derived its name from the goddeſs *Anaitis*, to whom the Armenians rendered peculiar worſhip. The Anaitic lake, mentioned by Pliny, was ſituated near this place, of which he ſays, that the beſt reeds that were uſed in writing grew upon its banks.

ANAITIS, called alſo TANAIS, in *Ancient Mythology*, a goodeſs held in great veneration by the Armenians. Strabo (lib. xi. tom. 2. p. 805.) ſays, that the Armenians principally worſhipped this goddeſs, and that the moſt illuſtrious perſons of the nation dedicated their virgin daughters to her, who, after having been for a long time proſtituted in her ſervice, were given in marriage; none diſdaining to marry them, but rather thinking it an honour to be thus allied to them. Pliny (lib. xxxiii.) informs us, that when the temple of this goddeſs at Aciliſene was plundered by the Romans, under Marc Antony, her ſtatue of maſſy gold was carried off, and broken to pieces. A report prevailed, that the firſt man who preſumed to touch the goddeſs, was ſtruck with an apoplexy, and inſtantly fell down dead. Auguſtus, being at Bologna a long time after this event, and ſupping with an old ſoldier who had ſhared the plunder, queſtioned him concerning the truth of the fact, and the ſoldier replied, "Cæſar, it is the goddeſs Anaitis's leg you are now eating for ſupper, and all I have in the world I owe to her."

ANAK, in *Scripture Hiſtory*, the father of the Anakims, was the ſon of Arba, who gave his name to Kirjath-Arba, of Hebron. Joſh. xiv. 15. Anak had three ſons (Joſh. xv. 14.) Shiſhai, Ahiman, and Talmai, who, as well as their father, were deemed giants; and they with their poſterity were denominated Anakims, and reputed as a fierce and warlike people, and alſo of extraordinary ſtature. To this purpoſe the Hebrews, who were ſent to view the land of Canaan, returned with a report, that they found there the giants, the ſons of Anak, in compariſon of whom they were both, in their own ſight, and alſo in that of the Anakims, as graſhoppers. Numb. xiii. 33. When the city of Arba, the father of Anak, was aſſigned to Caleb, in the diſtribution of Canaan, he drove out the Anakims about A.M. 2559. Joſh. xv. 13—15.

ANALATIVA, in *Geography*, a ſmall iſland near the north-weſt point of the iſland of Ceylon.

ANALECTA, in *Antiquity*, the fragments, or offals of meat, which dropped from the table on the ground.

Analecta was alſo uſed for a ſervant appointed to gather up the offals of the tables.

In this ſenſe the word is ſometimes alſo written *analectes*. Satellius Quadratus, in the way of deriſion, adviſed Calviſius Sabinus, a man of great wealth, and much affectation of learning, but with little memory, and leſs genius, to keep *analectæ, ut grammaticos haberet analectas*; a phraſe which has occaſioned much diſpute among critics and antiquarians.

ANALECTA is likewiſe, in a literary ſenſe, uſed for a collection of ſmall pieces or compoſitions.

The word is formed of ἀναλέγω, *I gather*.

ANALEMMA,

ANALEMMA, in *Mathematics*, derived from ἀναλαμβάνω, of ἀνὰ, *rurſum*, *I take backward*, a planiſphere, or projection of the SPHERE, on the plane of the meridian, orthographically made, by perpendiculars from every point of that plane, the eye being ſuppoſed to be at an infinite diſtance, and in the eaſt or weſt point of the horizon. In this projection, the ſolſtitial colure, and all its parallels, are projected into concentric circles, equal to the real circles of the ſphere; and all circles whoſe planes paſs through the eye, as the horizon and its parallels, are projected into right lines equal to their diameters; but all oblique circles are projected into ellipſes, having the diameter of the circle for the tranſverſe axis reſpectively.

The analemma was invented by John de Royas, a Spaniard. The advantages of this above the aſtrolabes of Ptolemy and Gemma Friſius, are, that all the lines proceeding from the eye are parallel to each other, and perpendicular to the plane of projection; conſequently not only the equator is a right line, as in the aſtrolabe of Gemma Friſius, but all the parallels to the equator are ſo too; ſince, in virtue of the infinite diſtance of the eye, they are all in the ſame caſe, as if their plane paſſed through the eye: for the like reaſon, the horizon and its parallels are alſo right lines. On the other hand, whereas in the two former aſtrolabes the degrees of circles converted into right lines become very ſmall towards the centre, and large towards the circumference, they become here ſmall towards the circumference, and large towards the centre: ſo that their figures will be no leſs altered in this than in the others. Add, that moſt of the circles here degenerate into ellipſes, which are often difficult to deſcribe. See ORTHOGRAPHIC PROJECTION.

ANALEMMA is alſo uſed for a *gnomon* or *aſtrolabe*, conſiſting of the furniture of the ſame projection, drawn on a plate of braſs, or wood; with an horizon, or *curſor*, fitted to it.

Its uſe is for finding the time of the ſun's riſing and ſetting, the length of the longeſt day in any latitude, and the hour of the day. The analemma is alſo of conſiderable uſe among *Dialliſts*, for laying down the ſigns of the zodiac, with the length of the days, with other matters of furniture, upon dials.

The moſt accurate treatiſe on the analemma now extant, was written by Ptolemy, and printed at Rome in 1562, with a commentary by F. Commandine. Since that time many authors, as Aguilonius, Tacquet, Dechales, Witty, &c. have written on the ſame ſubject.

ANALEPSIS, the reſtoration of a body waſted by diſeaſe, by the uſe of a nutritious diet.

ANALEPSIS is alſo uſed for the method of hanging a broken or diſlocated member, eſpecially the hand, in a ſling. This operation to the arm is called *analepſis*; to the foot, *theſis*.

ANALEPTICS, derived of ἀναλαμβάνω, *I re-eſtabliſh*, in *Medicine*, reſtoratives; or remedies proper to reſtore the body, when waſted or emaciated, either by the continuance of a diſeaſe, or by want of food.

This term is ſometimes applied to ſtimulants, but more commonly to thoſe ſubſtances which ſupply a deficient nouriſhment. As a term, however, ſays Dr. Cullen (Mat. Med. vol. i. p. 165.) attended with ſome ambiguity, it ſhould not be employed at all.

ANALIS, a ſpecific name that occurs in ſeveral genera, both in the *Linnæan* and *Fabrician* arrangement of *Entomology*.

ANALIS, a ſpecies of SCARABÆUS. It is black, with three equal tubercles on the head: ends of the wing caſes ferruginous-brown. Fabricius. Inhabits India.

ANALIS, a ſpecies of COCCINELLA. It is black, red at the end, and without ſpots. Inhabits Europe. Fabricius.

ANALIS, a ſpecies of CHRYSOMELA. It is black, wing-caſes brown, outer margin teſtaceous. Inhabits Europe. Fabricius.

ANALIS, a ſpecies of CERAMBYX of Linnæus, and SAPERDA of Fabricius. Its colour is teſtaceous, ends of the ſhells and tail black. Inhabits Africa.

ANALIS, a ſpecies of CRYPTOCEPHALUS. The general colour is reddiſh-brown; antennæ, ſpot on the wing-caſes and tail black. Inhabits Tranquebar. Fabricius and Gmelin.

ANALIS, a ſpecies of STAPHYLINUS. It is ſhining black, except the antennæ, wing-caſes, tail, and legs, which are teſtaceous brown. Fabricius and Paykull.

ANALIS, a ſpecies of CIMEX. It is oblong, green, abdomen red, and black at the end. Inhabits India. Thunberg and Gmelin.

ANALIS, a ſpecies of PHRYGANEA. Wings brown, a white anal ſpot, nape of the head and neck covered with golden hair. Found in the north of Europe. Fabricius.

ANALIS, a ſpecies of SPHEX. The general colour is ſhining black, end of the abdomen ferruginous, wings white. Inhabits India. Fabricius.

ANALIS, a large ſpecies of VESPA. It is blackiſh, firſt and ſecond ſegment ferruginous at the baſe, ſixth ſegment entirely yellow. Found at the Cape of Good Hope. Fabricius.

ANALIS, a ſpecies of APIS. Thorax hairy, and aſh-coloured, abdomen bluiſh, and black at the end. Inhabits America. Fabricius.

ANALOGICAL *ſyllogiſm*. See SYLLOGISM.

ANALOGISM, in *Medicine*. See ANALOGY.

ANALOGISM, among *Logicians*, the arguing from the cauſe to the effect.

ANALOGISTA, among *Civil Law Writers*, a tutor who is not obliged to give an account of his conduct. Perſons dying ſometimes appointed friends to be tutors to their children, with this clauſe, that they ſhould be analogiſtæ. Some lawyers hold, that this did not exempt a tutor guilty of glaring miſmanagement from being called to an account, and puniſhed accordingly.

ANALOGIUM, in *Eccleſiaſtical Writers*, denotes an *ambo*, or reading-deſk.

ANALOGIUM is ſometimes alſo uſed for a *martyrology*, or *obituary* of a monaſtery.

ANALOGY, in *Philoſophy*, a term denoting a certain relation, proportion, or agreement, which ſeveral things bear to each other in ſome reſpects, though different in others.

The word is Greek, which the Latins uſually render by *comparatio*, and *proportionalitas*.

The ſchoolmen define analogy to be a reſemblance, joined with ſome diverſity: its foundation, according to them, is laid in the proportion of ſeveral things, conſidered as that proportion proceeds upon different conſiderations.

Thus, a ſound animal, a ſound food, and a ſound propoſition, agreeing in this, that they have a common denomination, but the reaſon or quality whereon the denomination is founded, different, are ſaid to have an analogy, or to be analogous. Accordingly, analagous things are defined to be ſuch as have a common name, but the thing immediately ſignified by that common name different, yet with ſome correſpondence or relation diſcernible therein.

Philoſophers uſually diſtinguiſh three kinds of analogy, *viz.* of *inequality*, where the reaſon of the common denomination is the ſame in nature, but not in degree or order: in which

which ſenſe animal is analogous to man and brute.—Of *attribution*; where, though the reaſon of the common name be the ſame, there is a difference in its habitude or reſpect thereto: in which ſenſe healthy is analogous both to a man and an exerciſe. Of *proportionality*; where, though the reaſons of the common name do really differ, yet they bear ſome proportion to each other. In this ſenſe, the gills of fiſhes are ſaid to be analogous to the lungs in terreſtrial animals; and thus the eye and the underſtanding are ſaid to bear an analogy to each other.

Reaſonings by analogy may ſerve to explain and illuſtrate, but not to prove any thing; and yet a great part of our philoſophizing has no better foundation.

From a few *data*, a few points known and allowed, we reaſon by analogy, and deduce a number of others. It is thus that moſt branches of knowledge are extended to their preſent dimenſions. There are but few things actually obſerved, few experiments made; and all the obſervations and experiments we have are only ſingular. Such an effect was found from ſuch an individual body, under ſuch and ſuch circumſtances. We infer, that what has been obſerved of one body under ſuch circumſtances, will, from the analogy and uniformity in the works of the Creator, equally hold in all other bodies of the ſame ſpecies under the like circumſtances. Thus, without having recourſe to experiment, we never heſitate to conclude, that the fruit of trees of the ſame ſpecies will have the ſame taſte and properties. This has many times drawn us into great errors; it continues every day to lead us into new ones, and may be ſaid to be the ſource of moſt of the miſtakes committed in purſuit of ſcience. But nevertheleſs, while mankind extend their thoughts toward unknown and inacceſſible objects, they have no other guide to direct their reſearches but the ſuppoſed correſpondence between the objects they are acquainted with, and thoſe which are the ſubjects of their inveſtigation.

The analogy betwen the three kingdoms of plants, animals and minerals, has been the ſource of a variety of diſcoveries, either real or imaginary: hence it is we have learnt, that ſtones vegetate; that plants breathe; that the ſap circulates in them; that generation is performed by eggs in the human kind; that the planets have their atmoſpheres, their inhabitants, their trees, their ſeas, &c. Indeed, if we will follow whither analogy, real or imaginary, will lead us, there is no end of ſcience.

As to divine and ſupernatural matters, it is aſſerted we know nothing of them but by analogy; that is, by the mediation and ſubſtitution of thoſe ideas we have of ourſelves and other natural beings. Our ideas of God himſelf ariſe from this ſpring; we have no direct and immediate perceptiono f him. The knowledge we have of the Supreme Being is only an obſervation of his works, and a reflection of the mind, which ſhews what power, wiſdom, &c. appear neceſſary to enable him to produce them. Having no proper ideas of his perfections, we give them the names of thoſe faculties of men, which we judge neceſſary.

It is natural to men (ſays Dr. Reid, in his Eſſays on the Intellectual Powers of Man, Eſſ. i. ch. iv. p. 52, &c.) to judge of things leſs known, by ſome ſimilitude they obſerve, or think they obſerve, between them, and things more familiar or better known. In many caſes we have no better way of judging; and where the things compared have really a great ſimilitude in their nature, when there is reaſon to think that they are ſubject to the ſame laws, there may be a conſiderable degree of probability in concluſions drawn from analogy. Thus, we may obſerve a very great ſimilitude between this earth which we inhabit, and the other planets. They all revolve round the ſun, as the earth does, although at different diſtances, and in different periods. They borrow all their light from the ſun, as the earth does. Several of them are known to revolve round their axes, and, by that means, muſt have a like ſucceſſion of day and night. Some of them have moons, that ſerve to give them light in the abſence of the ſun, as our moon does to us. They are all, in their motion, ſubject to the ſame law of gravitation as the earth is. From all this ſimilitude it is not unreaſonable to think, that thoſe planets may, like our earth, be the habitation of various orders of living creatures. There is ſome probability in this concluſion from analogy. In medicine, phyſicians muſt, for the moſt part, be directed in their preſcriptions by analogy. The conſtitution of one human body is ſo like to that of another, that it is reaſonable to think, that what is the cauſe of health or ſickneſs to one, may have the ſame effect upon another. And this generally is found true, though not without ſome exceptions. In politics, we reaſon, for the moſt part, from analogy. The conſtitution of human nature is ſo ſimilar in different ſocieties or commonwealths, that the cauſes of peace and war, of tranquillity and ſedition, of riches and poverty, of improvement and degeneracy, are much the ſame in all.

Analogical reaſoning, therefore, is not, in all caſes, to be rejected. It may afford a greater or a leſs degree of probability, according as the things compared are more or leſs ſimilar in their nature. But it ought to be obſerved, that as this kind of reaſoning can afford only probable evidence at leaſt, ſo unleſs great caution be uſed, we are apt to be led into error by it. For men are naturally diſpoſed to conceive a greater ſimilitude in things than there really is. E. G. Anatomiſts, in ancient ages, ſeldom diſſected human bodies; but very often the bodies of thoſe quadrupeds, whoſe internal ſtructure was thought to approach neareſt to that of the human body. Modern anatomiſts have diſcovered many miſtakes into which the ancients were led, by their conceiving a greater ſimilitude between the ſtructure of man and of ſome beaſt than there is in reality. By this, and many other inſtances that might be given, it appears, that concluſions built on analogy ſtand on a ſlippery foundation; and that we ought never to reſt upon evidence of this kind when we can have more direct evidence.

Analogical reaſoning may be of excellent uſe in anſwering objections againſt truths which have other evidence. It may likewiſe give a greater or a leſs degree of probability in caſes where we can find no other evidence. But all arguments, drawn from analogy, are ſtill the weaker, the greater diſparity there is between the things compared; and, therefore, muſt be the weakeſt of all when we compare body with mind, becauſe there are no two things in nature more unlike. There is no ſubject in which men have always been ſo prone to form their notions by analogies of this kind as in what relates to the mind. We form an early acquaintance with material things by means of our ſenſes, and are bred up in a conſtant familiarity with them. Hence we are apt to meaſure all things by them, and to aſcribe to things moſt remote from matter the qualities that belong to material things. It is for this reaſon that mankind have, in all ages, been ſo prone to conceive the mind itſelf to be ſome ſubtile kind of matter: that they have been diſpoſed to aſcribe human figure, and human organs, not only to angels, but even to the Deity. Though we are conſcious of the operations of our own minds when they are exerted, and are capable of attending to them ſo as to form a diſtinct notion of them; this is ſo difficult a work to men, whoſe attention is conſtantly ſolicited by external objects, that we give them names from things that are familiar, and which are conceived to have ſome ſimilitude to them; and the notions we form of them are no leſs analo-

gical than the names we give them. Almoſt all the words, by which we expreſs the operations of the mind, are borrowed from material objects. To underſtand, to conceive, to imagine, to comprehend, to deliberate, to infer, and many others, are words of this kind; ſo that the very language of mankind, with regard to the operations of our mind, is analogical. Becauſe bodies are affected only by contact and preſſure, we are apt to conceive, that what is an immediate object of thought, and affects the mind, muſt be in contact with it, and make ſome impreſſion upon it. When we imagine any thing, the very word leads us to think that there muſt be ſome image in the mind of the thing conceived. It is evident that theſe notions are drawn from ſome ſimilitude conceived between body and mind, and between the properties of body and the operations of mind. The influence of analogical reaſoning from a ſuppoſed ſimilitude of mind to body as a fruitful cauſe of error, with regard to our mental operations, may be illuſtrated by the following inſtance. When a man is urged by contrary motions, theſe, on one hand, inviting him to do ſome action, thoſe, on the other, to forbear it, he deliberates about it, and at laſt reſolves to do it, or not to do it. The contrary motives are here compared to the weights in the oppoſite ſcales of a balance; and there is not perhaps any inſtance that can be named of a more ſtriking analogy between body and mind. Hence the phraſes of weighing motives, of deliberating upon actions, are common to all languages. From this analogy ſome philoſophers draw very important concluſions. They ſay, that as the balance cannot incline to one ſide more than the other, when the oppoſite weights are equal, ſo a man cannot poſſibly determine himſelf if the motives on both hands are equal; and as the balance muſt neceſſarily turn to that ſide which has moſt weight, ſo the man muſt neceſſarily be determined to that hand where the motive is ſtrongeſt. On this foundation ſome of the ſchoolmen maintained, that if a hungry aſs were placed between two bundles of hay equally inviting, the beaſt muſt ſtand ſtill and ſtarve to death, being unable to turn to either, becauſe there are equal motives to both. This is an inſtance of that analogical reaſoning that ought never to be truſted: for the analogy between a balance and a man deliberating, though one of the ſtrongeſt that can be found between matter and mind, is too weak to ſupport any argument. A piece of dead, inactive matter, and an active intelligent being, are things very unlike; and becauſe the one would remain at reſt in a certain caſe, it does not follow that the other would be inactive in a caſe ſomewhat ſimilar. The argument is no better than this, that becauſe a dead animal moves only as it is puſhed, and, if puſhed with equal force in contrary directions, muſt remain at reſt; therefore the ſame thing muſt happen to a living animal; for ſurely the ſimilitude between a dead animal and a living one, is as great as that between a balance and a man.

No author has made a more juſt and a more happy uſe of the analogical mode of reaſoning than Biſhop Butler, in his admirable treatiſe, entitled, "The Analogy of Religion, natural and revealed, to the Conſtitution and Courſe of Nature." Inſtead of indulging to idle ſpeculations how the world might poſſibly have been better than it is, or forgetful of the difference between hypotheſis and fact, attempting to explain the divine economy with reſpect to intelligent creatures from preconceived notions of his own, this excellent writer firſt inquires, what the conſtitution of nature, as made known to us in the way of experiment, actually is; and from this, now ſeen and acknowledged, he endeavours to form a judgment of that larger conſtitution, which religion diſcovers to us. If the diſpenſation of Providence which we are now under, conſidered as inhabitants of this world, and having a temporal intereſt to ſecure in it, be found, upon examination, to be analogous to, and of a piece with, that further diſpenſation, which relates to us as deſigned for another world, in which we have an eternal intereſt depending on our behaviour here, if both may be traced up to the ſame general laws, and appear to be carried on according to the ſame plan of adminiſtration; the fair preſumption is, that both proceed from one and the ſame Author. And if the principal parts objected to in this latter diſpenſation be ſimilar to, and of the ſame kind with what we certainly experience under the former; the objections, being clearly inconcluſive in one caſe, becauſe contradicted by plain fact, muſt, in all reaſon, be allowed to be inconcluſive alſo in the other. This way of arguing from what is acknowledged to what is diſputed, from things known to other things that reſemble them, from that part of the divine eſtabliſhment which is expoſed to our view to that more important one which lies beyond it, is, on all hands, confeſſed to be juſt. By this method Sir Iſaac Newton has unfolded the ſyſtem of nature; and by the ſame method Biſhop Butler has explained the ſyſtem of grace, and, as Mr. Mainwaring (in the diſſertation prefixed to his volume of ſermons, p. 12.) expreſſes it, "formed and concluded a happy alliance between faith and philoſophy." Although the argument from analogy be allowed to be imperfect, and by no means ſufficient to ſolve all difficulties reſpecting the government of God, and the deſigns of his providence with regard to mankind; yet ſurely it is of importance to learn from it, that the natural and moral worlds are intimately connected, and parts of one ſtupendous whole or ſyſtem; and that the chief objections which are brought againſt religion, may be urged with equal force againſt the conſtitution and courſe of nature, where they are certainly falſe in fact. This information we derive from the biſhop's work; the proper deſign of which is not to prove the truth of religion, either natural or revealed, but to confirm that proof, already known, by conſiderations deduced from analogy; and to anſwer objections againſt thoſe truths, which are eſtabliſhed upon their proper evidence. When objections are made againſt the truths of religion, which may be made with equal ſtrength againſt what we know to be true in the courſe of nature, ſuch objections can have no weight. The ingenious author has premiſed the following ſummary of the contents and plan of his work, which we ſhall here tranſcribe for the information of thoſe readers who may be deſirous of purſuing the inveſtigation of ſubjects of this nature. "The divine government of the world, implied in the notion of religion in general, and of Chriſtianity, contains in it—that mankind is appointed to live in a future ſtate—that there every one ſhall be rewarded or puniſhed; rewarded or puniſhed reſpectively for all that behaviour here, which we comprehend under the words, virtuous or vicious, morally good or evil—that our preſent life is a probation, a ſtate of trial, and of diſcipline, for that future one; notwithſtanding the objections which men may fancy they have, from notions of neceſſity, againſt there being any ſuch moral plan as this at all; and whatever objections may appear to be againſt the wiſdom and goodneſs of it, as it ſtands ſo imperfectly made known to us at preſent—that this world being in a ſtate of apoſtacy and wickedneſs, and conſequently of ruin; and the ſenſe both of their condition and duty, being greatly corrupted amongſt men, this gave occaſion for an additional diſpenſation of Providence, of the utmoſt importance; proved by miracles; but containing in it many things appearing to us ſtrange, and not to have been expected; a diſpenſation of Providence, which is a ſcheme or ſyſtem of things, carried

on by the mediation of a divine perſon, the Meſſiah, in order to the recovery of the world; yet not revealed to all men, nor proved with the ſtrongeſt poſſible evidence to all thoſe to whom it is revealed; but only to ſuch a part of mankind, and with ſuch particular evidence as the wiſdom of God thought fit." Such are the contents of this treatiſe; and the deſign of it is, to ſhew, "that the ſeveral parts principally objected againſt in this moral and Chriſtian diſpenſation, including its ſcheme, its publication, and the proof which God has afforded us of its truth; that the particular parts principally objected againſt in this whole diſpenſation, are analogous to what is experienced in the conſtitution or courſe of nature or providence; that the chief objections themſelves which are alleged againſt the former, are no other than what may be alleged with like juſtneſs againſt the latter, where they are found, in fact, to be inconcluſive; and that this argument from analogy is, in general, unanſwerable, and undoubtedly of weight on the ſide of religion, notwithſtanding the objections which may ſeem to lie againſt it, and the real ground which there may be for difference of opinion, as to the particular degree of weight which is to be laid upon it." See Butler's Analogy of Religion, by the Biſhop of Glouceſter, 8vo. 1788, Preface, p. 34, &c. and Introduction, p. 13, &c.

Analogy, according to the derivation of the word, ſays Profeſſor Caſtillon, of Berlin, (Haarlem Memoirs for 1786, or vol. xxii.) indicates a reſemblance diſcernible by reaſon; and its principal uſe in the inveſtigation of phyſical and moral truth, may be reduced to the four following particulars: 1. By means of our ſenſes to improve, firſt, our own judgment, and afterwards that of others, with reſpect to intellectual ſubjects. 2. To deduce a general from a particular truth. Having diſcovered and proved the truth of a propoſition with reſpect to any particular object, examine whether this truth flows from a quality peculiar to this ſingle object, or common to ſeveral objects. In the latter caſe, all theſe objects may be comprehended under one general idea, founded on their common quality. Subſtitute this general idea inſtead of the particular object, and the propoſition will become general without ceaſing to be true; becauſe whatever evidently and ſolely reſults from the identity on which an analogy is founded, muſt neceſſarily be true with reſpect to all thoſe objects in which the analogy is the ſame. 3. To prove the truth or falſehood of propoſitions which cannot otherwiſe be demonſtrated. 4. To diſcover new truths in both natural and moral philoſophy.

For the difference between analogy and experience, ſee EXPERIENCE.

ANALOGY, in *Botany*, is a term that has been uſed to denote the reſemblance or ſimilarity which plants bear to each other, with regard to their medical properties and uſes; and the ſtudy of botanical analogy, or the arguing from the known properties and effects of one ſpecies to thoſe of its congeners, has been recommended as a means of inveſtigating the powers of medicines derived from the vegetable kingdom. See a Short Attempt to recommend the Study of Botanical analogy, &c. 8vo. 1784.

ANALOGY, in *Geometry*, denotes a ſimilitude of ratios, or proportions.

ANALOGY, in *Grammar*, denotes the ſuitableneſs or agreeableneſs of a word or phraſe to the common rules or forms of language.

In this ſenſe, *analogy* ſtands oppoſed to ANOMALY.

ANALOGY, in reſpect to language, denotes a conformity with other points already eſtabliſhed, ſerving as a rule or model for the making of new words and phraſes ſimilar to thoſe already in uſe.

Or, analogy may be conſidered as a general or eſtabliſhed uſage, applied in ſimilar caſes to certain words, phraſes, or conſtructions not yet eſtabliſhed. Or, analogy is only a particular uſage, which, in certain caſes, is inferred from a general uſage already eſtabliſhed.

Grammarians are divided into two parties. Some, with Sanctius, contend, that the analogy or reaſon reigns through all the parts, all the phraſes and dictions of the Latin tongue. On the contrary, others, with Perizonius, aſſert, that there are many phraſes, contrary to analogy and reaſon, derived all originally from the populace. Such, *e. gr.* are, *Nemo, homo, deorſum, verſum*, &c.

Varro and Cæſar wrote expreſsly on the analogy of Latin words, but their works are now loſt. Jac. Operarius has endeavoured to ſupply that loſs, by tracing the analogy of 20,000 Latin words. Fab. Bib. Lat. lib. i. cap. 10.

ANALOGY *of conjugation*, *analogia conjugationis*, is not only when a verb is conjugated like another, but agrees with it in the quantity of the ſyllables.

Thus *clamo* is conjugated like *amo*, and *clamabam* pronounced like *amabam*.

ANALOGY *of declenſion*, *analogia declinationis*, is not only when a noun, pronoun, or participle is declined like another, but agrees with it in reſpect of the quantities of the ſyllables.

Thus, e. g. *mater* is declined like *pater*, *ſaltans* as *amans*, *ſuus* as *tuus*. So *pennarum* is pronounced as *menſarum*, and *funeris* as *muneris*.

ANALOGY *of doctrine*, among *Critics*, is one of the great rules to which regard is to be had in the interpretation of authors.

We are firſt to learn from the author himſelf the general ſyſtem which he follows; and as no writer is to be eaſily ſuppoſed to contradict himſelf, our interpretation is to be ſo conducted, as that nothing be admitted which is contrary to, or tends to overthrow this ſyſtem.

Thus, in interpreting an author who follows the Platonic ſcheme, we are to prefer a ſenſe which is conſiſtent with the Platonic doctrine to another which is contrary to it, unleſs there be ſome evident proof, that the author contradicts himſelf, or aſſerts things which are inconſiſtent.

ANALOGY, in *Rhetoric*. See COMPARISON.

ANALOGY *of faith*, among *Divines*, denotes that relation which the ſeveral articles of faith bear to each other.

Analogy of faith ſtands oppoſed to tradition and authority, which is the great rule of interpretation among catholics. By this it is required, that whether we interpret Scripture, or explain the doctrines of Chriſtianity, all our poſitions and explanations be conſiſtent with the analogy of our faith, and thoſe evident propoſitions deduced from Scripture.

Tortſchius, Antonius, Franckius, &c. have written expreſsly on the analogy of faith.

ANALOGY, in *Medicine*, is a certain relation or reſemblance between diſeaſes, in virtue whereof, we may reaſon and conclude from one to another, and treat them all much in the ſame manner; *e. gr.* pleuriſy being a ſpecies of inflammation, produced like inflammations of other parts, is to be treated like them, relaxing the ſolids, which are too much ſtretched, and giving free paſſage for the humours.

This method of deduction was called by the ancients *medicina rationalis*, or *dogmatica*, in oppoſition to the *empirica*, called alſo *epilogiſm*, which was conducted by appearances only without theory.

ANALYSIS, derived from ἀναλυω, *to reſolve*, in a general ſenſe, is the reſolution of ſomething compounded into its conſtituent parts.

Analysis, in *Chemistry*. The whole of the practical and experimental part of chemical science may be properly included under the art of analysis, a complete account of this, therefore, would require the enumeration of almost every known fact in chemistry; and the inferences and general deductions from these facts would comprehend all that is valuable in the philosophy of chemistry. To treat the subject thus fully would, however, be inconsistent with the plan of this work, and would be little satisfactory to the reader, except such a system of arrangement was adopted, as would admit of reference to any particular part without the necessity of consulting the rest. For these reasons we have thought it upon the whole most convenient to subdivide all that relates to the subject of analysis in the following manner. For the general method of analysing animal matters, see Animal *matter*; of vegetable matter, see Vegetable *matter*; of minerals in general, see Mineral *analysis*; of mineral waters, see Waters, *mineral*.

The analysis of metallic ores will be treated of generally under Ores, and particularly under each metal.

Analysis, *grammatical*, is that employed about words, their etymons, homonymas, or various acceptations, synonymas, constructions, uses, and the like.

Pasor has given a grammatical analysis of the difficult words in Hesiod, &c. Sturmius has published a method of making the analysis of Latin words.

Analysis, in *Logic*, is a method of applying the rules of reasoning to resolve a discourse into its principles, in order to a discovery of its truth or falsehood. Or it is an examination of some discourse, proposition, or other matter, by searching into its principles, and separating and opening its parts; in order to consider them more distinctly, and arrive at a more precise knowledge of the whole.

Analysis makes one great branch or species of method; and as it resolves a complex idea into its component principles, it is called also resolution.

It is particularly used for the reduction of an imperfect syllogism to a perfect one. This is otherwise called reduction.

The order of the *synthesis* is contrary to that of the *analysis*, one beginning where the other ends. The two methods cannot always be used indifferently; the *analysis* is most proper for the discovery of truth, and synthesis for teaching and explaining it in a systematical way. Hence some call *analysis* the method of invention. See Method.

Analysis *of ideas*, that whereby an idea is resolved into the ideas of its ingredients, and the ideas of these again into simple ones, till at length we arrive at the most simple.

Analysis, in *Mathematics*, is properly the method of resolving mathematical problems, by reducing them into equations; and may be divided into *ancient* and *modern*.

The moderns are at some loss concerning the *ancient analysis*, i. e. concerning the art and method whereby the ancients resolved problems, and invented theorems. Some traces of their method are extant in Pappus, Apollonius, and Euclid; and Dr. Hooke suspects, that their analysis went backwards through almost all the same steps by which their demonstrations went forwards.

That this might often be the case, seems evident to any one who has studied Euclid with care. They have indeed left us no precepts of their art. This, like almost all others, must be acquired by imitation, and the excellent examples left us by the Greeks. Men of genius among the moderns, who had studied the works of the ancient geometers, have been thereby enabled to imitate them, and penetrate into their methods: the works of Huygens and Newton, and also the treatise of Conic Sections by Mr. Simpson, professor of mathematics in the university of Glasgow; as also several parts of Mr. Maclaurin's Treatise on Fluxions, are evident proofs of this. Weigelius has endeavoured to retrieve the ancient analysis of Aristotle, from Euclid and other ancient geometricians.

The *ancient analysis*, as Pappus has described it in his "Mathematicæ Collectiones," lib. vii. p. 157, ed. Commandini, Pisaur. 1588, is the method of proceeding from the thing sought taken for granted, through its consequences, to something that is really granted or known; in which sense it is the reverse of synthesis or composition, that commences with the last step of the analysis, and traces the several steps backward, making that in this case antecedent, which in the other was consequent, till we arrive at the thing sought, which was assumed in the first step of the analysis. The principal authors on the ancient analysis, enumerated by Pappus *(ubi supra)* are Euclid in his "Data," "Porismata," and "De Locis ad Superficiem;" Apollonius, "De Sectione Rationis," "De Sectione Spatii," "De Tactionibus," "De Inclinationibus," "De Locis Planis," and "De Conicis;" Aristæus, "De Locis Solidis;" and Eratosthenes, "De Mediis Proportionalibus." Pappus himself, who has given many examples from the preceding writers, may be added to the above number. This analysis has also been cultivated by many of the moderns, as Fermat, Viviani, Ghetaldus, Snellius, Huygens, Simson, Stewart, Lawson, &c. and particularly by Hugo d'Omerique, in his "Analysis Geometrica," in which he has endeavoured to restore the analysis of the ancients. Sir Isaac Newton, as we are informed by Dr. Pemberton, ("View of Sir Isaac Newton's Philosophy," preface,) always professed himself a great admirer of the ancients, and even censured himself for not following them more closely than he did. He also regretted his mistake at the beginning of his mathematical studies, in applying himself to the works of Des Cartes and other algebraic writers, before he had considered the Elements of Euclid with that attention which so excellent a writer deserves. He used to commend the laudable attempt of Hugo d'Omerique to restore the ancient analysis; and very much esteemed Apollonius's book, "De Sectione Rationis," for giving us a clearer notion of that analysis than we had before; and he particularly recommended Huygens's style and manner. In the application of the ancient analysis for the solution of geometrical problems, strict rules cannot be laid down, nor any previous instructions be delivered, from which it may not be necessary to deviate. Some preparation is necessary in order to form a connection between the data and quæsita, which must be suggested to the mind of the analyst by a due consideration of the nature of the problem; and the skill of the analyst was manifested in discovering the most proper preceding operations, on which his analysis was to be founded. As an example we may give the 155th proposition of the 7th book of Pappus, p. 257. From the extremes of the base A and B (*Plate* I. *Geometry*, *fig.* 14.) of a given segment of a circle, let it be required to draw two lines AC, BC, meeting at a point C in the circumference, which shall have to each other the given ratio of F to G. Pappus resolves this problem in the following manner: *Analysis*. Suppose the thing done, or that the point C is found: and draw CD a tangent to the circle at C, and meeting AB produced in D. By the hypothesis AC : BC :: F : G; and $AC^2 : BC^2 :: DA : DB$; which may be thus proved. DC touches the circle, and BC cuts it; and therefore by Euclid, lib. iii. prop. 32, the angle BCD=BAC, and the angle D being common to both the triangles DCA and DCB, these triangles will be similar; and DA : DC :: DC : DB; and consequently $DA^2 : DC^2 :: DA : DB$. Moreover, DA : AC ::

DC : CB, and DA : DC : : AC : CB, or $DA^2 : DC^2 : : AC^2 : CB^2$; and therefore by equality, $AC^2 : BC^2 : : DA : DB$. But the ratio of AC^2 to BC^2 is given by prop. lvii. of Simſon's edition of the "Data;" becauſe the ratio of AC to BC is given, and conſequently that of DA to DB is given. Then by Data vi. the ratio of DA to AB is given; and hence by Data ii. DA is given in magnitude. Here the analyſis properly ends. For it has been ſhewn that DA is given, or that a point D may be found in AB produced, ſuch, that a tangent being drawn from it to the circumference, the point of contact will be the point ſought; and therefore we may begin the compoſition, or ſynthetical demonſtration, by finding the point D, or laying down the line AD, which was given in the laſt ſtep of the analyſis.

Syntheſis. Conſtruction. Make $F^2 : G^2 : : AD : DB$, which may be done, as AB is given, by making $F^2 - G^2 : G^2 : : AB : DB$, and then by compoſition, it will be $F^2 : G^2 : : AD : DB$; then from the point D thus found, draw a tangent to the circle, and from the point of contact C drawing CA and CB, the thing is done.

Demonſtration. Since by conſtr. $F^2 : G^2 : : AD : DB$, and $AD : DB : : AC^2 : BC^2$; we ſhall have $F^2 : G^2 : : AC^2 : BC^2$, and conſequently F : G : : AC : BC. Q. E. D.

In this problem we have an inſtance of the method of reſolution and compoſition practiſed by the ancients, the ſolution here given being that of Pappus himſelf. But as the method of referring to the "Data" may appear operoſe, and as it is not abſolutely neceſſary, the rigour of the ancient method of ſolution may be abated, whilſt its admirable elegance and perſpicuity are preſerved. This may be exhibited in another ſolution of the ſame problem, which is as follows:

Analyſis. Suppoſe again that the thing is done, *viz.* AC : BC : : F : G, and draw BH, making the angle ABH = ACB, and meeting AC produced in H. Then as the angle A is common, the triangles ABC and ABH are equiangular, and therefore AC : BC : : AB : BH, in a given ratio; and, AB being given, BH will be given in poſition and magnitude.

Syntheſis. Conſtruction. Draw BH, making the angle ABH equal to that which may be contained in the given ſegment, and take AH to BH in the given ratio of F to G. Draw ACH and BC.

Demonſtration. The triangles ABC, ABH are equiangular, therefore AC : BC : : AB : BH, which is the given ratio by conſtruction.

Modern Analyſis comprehends algebra, arithmetic of infinites, infinite ſeries, increments, fluxions, &c. for an account of each of which, ſee the reſpective articles. The modern analyſis is a general inſtrument by which the fineſt inventions and the greateſt improvements have been made in mathematics and philoſophy for the laſt two centuries. It furniſhes the moſt perfect examples of the manner in which the art of reaſoning ſhould be employed; it gives to the mind a wonderful ſkill for diſcovering things unknown by a few things given; and by employing ſhort and eaſy ſymbols for expreſſing ideas, it preſents to the underſtanding things which would otherwiſe lie beyond its ſphere. By means of this, geometrical demonſtrations may be abridged: a long train of reaſoning, aided and facilitated by viſible ſymbols, and the various operations which it requires, performed by the arrangement and combination of theſe ſymbols. By this artifice a great number of truths may be expreſſed in a ſingle line, whereas, in the ordinary proceſs, they would occupy pages, or even volumes: and thus by the contemplation of one line of calculation, we may acquire in a ſhort time the knowledge of a whole ſcience, which, without this aid, could ſcarcely be comprehended in ſeveral years.

Sir Iſaac Newton, indeed, who well knew the advantages of analyſis in geometry and other ſciences, frequently lamented, that the ſtudy of the ancient geometry ſhould be neglected and abandoned; and it muſt be allowed that the method employed by the ancients in their geometrical writings is more rigorous than that of the modern analyſis; and though it be greatly inferior to that of the moderns, in point of diſpatch, and facility of invention, it is nevertheleſs highly uſeful in ſtrengthening the mind, improving the reaſoning faculties, and accuſtoming the young mathematician to a pure, clear, and accurate mode of inveſtigation and demonſtration, though by a long and laboured proceſs, to which he would reluctantly have ſubmitted, if his taſte had been vitiated, as it were, by the modern analyſis. On this circumſtance were principally founded the complaints of Newton, who feared, leſt by the too early and frequent uſe of the modern analyſis, the ſcience of geometry ſhould loſe that rigour and purity, which characteriſe its inveſtigations, and the mind become debilitated by the facility of our analyſis. He was therefore fully juſtified in recommending, to a certain extent, the ſtudy of the ancient geometricians; whoſe demonſtrations, being more difficult and operoſe, afford greater exerciſe to the mind, accuſtom it to a cloſer application, extend its views, and habituate it to patience and reſolution, ſo neceſſary for making diſcoveries. This, however, is the only or principal advantage reſulting from it; for, if we were reſtricted to the method of the ancients, it is probable that perſons of the moſt acute and comprehenſive genius would have made few or inconſiderable diſcoveries, in compariſon of thoſe obtained by means of the modern analyſis. And even with regard to the advantage attending inveſtigations, purſued in the manner of the ancients, which is that of being more rigorous, it may perhaps be doubted whether this pretenſion be well founded. As for thoſe of Newton himſelf, who conducted his demonſtrations in the manner of the ancients, it is evident that he inveſtigates his theorems by a method different from that employed in the demonſtrations, which are commonly analytical calculations, diſguiſed by ſubſtituting the name of lines for their algebraical value; and though it muſt be acknowledged, that his demonſtrations are rigorous, it is no leſs true that they would be the ſame when tranſlated and delivered in the algebraic language; and what difference can it make in this reſpect, whether we call a line AB, or denote it by the algebraic character *a*? Indeed, this laſt deſignation has this peculiarity, that when all the lines are denoted by algebraic characters, many operations can be performed upon them, without thinking of the lines or the figure. And this circumſtance is very advantageous, as it relieves the mind, ſo that its whole energy may be employed in overcoming the natural difficulty of the problem itſelf. Upon a compariſon of the ancient and modern analyſis, the reſult ſeems to be, that the method of the ancients is the beſt adapted to the commencement of our ſtudies, as it ſerves to form the mind, and to fix proper habits; and that of the moderns ſhould ſucceed, and is beſt ſuited to extend our views beyond the preſent limits, and to aſſiſt us in making new diſcoveries and improvements. Montucla Hiſt. des Mathematiques, tom. i. p. 166. p. 195. Hutton's Math. Dict. tom. i.

ANALYSIS is divided by ſome authors into *ſimple* and *compound*.

ANALYSIS, *ſimple*, is that employed in ſolving problems reducible to ſimple EQUATIONS.

ANALYSIS, *compound*, or *complex*, that which gives the expreſſions or ſolutions of problems in compounded EQUATIONS.

ANALYSIS is farther divided, with regard to its object, into that of *finites*, and that of *infinites*.

ANALYSIS *of finite quantities*, is what we otherwiſe call *ſpecious arithmetic*, or ALGEBRA.

ANALYSIS *of infinites*, called alſo the new analyſis, is particularly uſed for the *method of* FLUXIONS, or the *differential calculus*.

The great advantage of the modern mathematicians beyond the ancients ariſes chiefly from the uſe of this modern analyſis.

The chief writers upon the analyſis of infinites are, its inventor Sir Iſaac Newton, in his "Analyſis per Quantitatum Series, Fluxiones, & Differentias, cum Enumeratione Linearum tertii Ordinis;" and "De Quadratura Curvarum;" and M. Leibnitz, in Act. Eruditor. an. 1684. The Marquis De l'Hôpital, in his "Analyſe des Infiniments petites," 1696. Carre, in his "Methode pour la Meſure des Surfaces, la Dimenſion des Solides, &c. par l'Application du Calcul integral," 1700. G. Manfredi, in a poſthumous piece, "De Conſtructione Æquationum differentialium primi gradus," 1707. Nic. Mercator. in Logarithmotechnica," 1668. Cheyne, in "Methodus Fluxionum inverſa," 1703. Craig, in "Methodus Figurarum lineis rectis & curvis comprehenſarum Quadraturas determinandi," 1685; and "De Quadraturis Figurarum curvilinearum & locis," &c. 1693. Dav. Gregory, in "Exercitatio Geometrica de Dimenſione Figurarum," 1664; and Nieuwentiit, in "Conſiderationes circa Analyſeos ad Quantitates infinitè parvas applicatæ principia, 1695. The ſum of what is found in l'Hôpital, Carre, Cheyne, Gregory, and Craig, is collected into one volume, and very well explained, by C. Hayes, under the title of a "Treatiſe of Fluxions," &c. 1704. And the ſubſtance of moſt of the reſt in Pere Reynau's "Analyſe Demontrée, 2 vols. 4to. 1728. De Moivre alſo, Maclaurin, and Mr. T. Simpſon, may be added to the number.

ANALYSIS *of powers*, denotes the reſolving them into their ROOTS. In this ſenſe analyſis amounts to the ſame with what we otherwiſe call EVOLUTION.

We find divers other kinds of analyſis treated of by mathematical writers, as the *analyſis* of *indiviſibles*, &c. M. Leibnitz ſpoke of an *analyſis ſitus*, different from the analyſis of magnitudes.

The analyſis of geometrical curves ſhews their properties and internal conſtitution, their curvature, points of inflection, ſtation, retrogradation, variation, &c. In this analyſis curves are uſually conſidered as polygons, compoſed of an infinite number of infinitely little ſides, but this ſuppoſition is neither accurate nor neceſſary, though it ſometimes affords convenient hints for invention.

F. Reynau, of the *Oratory*, has given a large ſyſtem of algebra, under the title of analyſis. F. Caſtel cenſures it as not ſufficiently methodical or ſyſtematical. The great diviſions and members are loſt in the multitude of particular rules and methods.

ANALYSIS, in *Rhetoric*, is that which examines the connections, tropes, figures, and the like, inquiring into the propoſition, diviſion, paſſions, arguments, and other apparatus of rhetoric.

Several authors, as Freigius and others, have given analyſes of Cicero's Orations, wherein they reduce them to their grammatical and logical principles; ſtrip them of all the ornaments, and additions of rhetoric, which otherwiſe diſguiſe their true form, and conceal the connection between one part and another. The deſign of theſe authors is to have theſe admired harangues, juſt ſuch as the judgment diſpoſed them, without the help of imagination; ſo that here we may coolly view the force of each proof, and admire the uſe Cicero made of rhetorical figures, to conceal the weak part of a cauſe.

A collection has been made of the analyſes formed by the moſt celebrated authors of the ſixteenth century, in three volumes folio.

ANALYSIS *of Soils*, in *Agriculture*. See SOILS.

ANALYSIS *of Vegetables*. See VEGETABLES.

ANALYSIS is alſo uſed as a kind of ſyllabus, or table of the principal heads or articles of a continued diſcourſe; diſpoſed in their natural order and dependency.

Analyſes are more ſcientifical than alphabetical indexes; but they are leſs uſed, as being more intricate.

ANALYSIS is likewiſe uſed for a brief, but methodical illuſtration of the principles of a ſcience; in which ſenſe it is nearly ſynonymous with what we otherwiſe call a *ſynopſis*.

ANALYST, a perſon who analyſes a thing, or makes uſe of the analytical method. In which ſenſe analyſt amounts to much the ſame with *computiſt* or *calculator*.

Some reſtrain the word more peculiarly to denote a mathematician, who makes a great uſe of the algebraic method or *calculus* in geometry, in excluſion of the *ſynthetic*, or ſtrict geometrical method.

In a ſenſe not unlike this Dr. Berkeley, an ingenious writer, gives the title *analyſt* to a book againſt the modern *geometry*, or doctrine of FLUXIONS.

ANALYTIC, ANALYTICAL, ſomething that belongs to, or partakes of, the nature of analyſis.

Thus we ſay, an analytical demonſtration; analytical inquiry; analytical table, or ſcheme; analytical method, &c. The analytic method ſtands oppoſite to the *ſynthetic*. See METHOD.

ANALYTICS, ANALYTICA, the ſcience or doctrine and uſe of ANALYSIS.

To the modern analytics principally belongs *algebra*; the hiſtory of which, with the ſeveral authors thereof, ſee under ALGEBRA.

ANALYTICS, in *Literary Hiſtory*, is particularly uſed to denote certain writings of Ariſtotle under this title.

Ariſtotle's Analytics conſiſt of four books, two under the denomination of *former*, Αναλυτικων πρoτερων, and as many under that of *latter*, υστερων. They belong to the claſs of his acroamatic works. Fabr. Bibl. Græc. lib. iii. cap. 6.

ANALYTICS is alſo uſed by ſome for a part of LOGIC, which teaches to decline and conſtrue reaſon, as grammar does words.

ANAM, in *Geography*, is called by the Portugueſe COCHIN-CHINA, and bends its hollow curvature along the coaſt, from lat. 13° to 17° 30'.

ANAMABOA, or JAMISIA, a large and populous town in the kingdom of Fantin, on the gold coaſt of Africa, where the Engliſh have a fort. The inhabitants are generally deceitful and fraudulent, and are very artful in debaſing and counterfeiting their gold coin. Anamaboa is reckoned the moſt powerful town upon the whole coaſt. It is divided into two parts; one part inhabited by the fiſhermen of Elmina, the other by thoſe of Fantin, who pay a certain duty to the braſſo for the liberty of purſuing their occupation. The greateſt inconvenience attending the ſituation of the Engliſh fort at this place, ariſes from the difficulty of landing from the ſhips, as the ſhore is covered with rocks projecting into the ſea, and the ſurf riſes to a great height; and, on this account, thoſe that trade here, are landed by means of canoes upon a ſandy point, ſurrounded by a wall, which is built by the company, and rendered convenient by lodgings for the negroes under the cannon of the fort. The ſoil is adapted for making bricks; the ſhells upon the coaſt furniſh excellent lime; and the country affords great plenty of timber. The adjacent country is mountainous, but the hills are at a diſtance from the town, ſerve as land-marks at ſea, and being covered with trees, afford an agreeable proſpect. The country is populous, and very rich in gold, ſlaves, and all the neceſſaries of life, but more

particularly

particularly in corn; and the palm wine is excellent. Their opulence has rendered the inhabitants haughty and arrogant. In the woods of this country are found the moſt beautiful parroquets, and a great variety of other birds. Fruits, roots, and vegetables of every kind abound, and are cultivated with little trouble. The Engliſh fort is a large edifice, flanked by two towers, and fortified towards the ſea with two baſtions; it is conſtructed of brick and ſtone cemented with lime. It ſtands upon a rock at the diſtance of 30 paces from the ſea; it is mounted with 12 pieces of cannon, and 12 patereroes, and defended by a garriſon of 12 whites and 18 blacks, under the command of the chief factor.

The natives formerly treated the Engliſh garriſon with ſo much inſolence, as often to block them within their walls, and frequently, if they diſliked the governor, they ſent him in a canoe to Cape Coaſt, with marks of the utmoſt contempt. The negroes of Fantin are the moſt turbulent upon the coaſt. In 1701 they declared war againſt the Engliſh, and, aſſembling in a tumultuous manner, ſet fire to the exterior building, and proceeded with their outrages, till they were diſperſed by a diſcharge of the cannon from the batteries. The Engliſh, however, took their revenge, by laying the greater part of the town of Anamaboa in aſhes; and hoſtilities continued for ſome time, till at laſt the natives were obliged to ſue for peace. The fort was abandoned in 1733, but again reſumed by the Engliſh, who have maintained poſſeſſion of it ever ſince.

ANAMANI, Anamanes, or Amanes, in *Ancient Geography*, were friends and allies of the Romans, who inhabited Ciſalpine Gaul, at the foot of the Apennines to the ſouth of the Po, having Trebia to the weſt, and Tarus for their principal rivers. In the extent of their country were found Placentia, Veleia, Florentia, and Julia Fidentia.

ANAMARI, a people mentioned by Polybius, and placed in the vicinity of Marſeilles.

ANAMASCIA, or Anamatia, a town of Lower Pannonia, and placed by M. d'Anville ſouth of Acineum.

ANAMBA, in *Geography*, an iſland in the Indian ſea, weſt of Borneo. N. lat. 2° 58′. E. long. 106° 44′.

ANAMIM, the ſecond ſon of Mizraim, Gen. x. 13. Broughton takes his deſcendants to be the Numidians, amongſt whom he finds Anubis. Others ſuppoſe that they were the Anaitæ of Ethiopia. But as they were the deſcendants of Mizraim, and muſt be ſought for about Egypt, the opinion of Bochart is more probable, who conceives them to be the Nomades, who lived about Ammon and Naſamonitis; and were called Anamii, from Anam, which ſignifies a ſheep among the ancient Egyptians, as it does among the Arabians. For the Nomades fed ſheep, as Herodotus informs us, and lived upon them, whereas, they abſtained from eating cows or ſwine; and their garments alſo were of ſheep-ſkins.

ANAMIS, in *Ancient Geography*, a river mentioned by Arrian (cap. xxxiii.), and ſuppoſed to be the ſame with that which is called Andamis by Pliny and Ptolemy. It belonged to Carmania. M. d'Anville places this ſmall river on a ſtrait, which forms the communication between the ſea and the Perſian gulf.

ANAMMELECH, in *Scripture Hiſtory*, an idol of the Sepharvites, who are ſaid (2 Kings, xvii. 31.) to have burned their children in honour of this deity and Adrammelech. Theſe were the ſame gods with Moloch, to whom the ſame ſacrifices were offered. The Jewiſh rabbins repreſent one in the form of a peacock, and the other of a pheaſant; but they were probably only different names of Moloch, which was the ſun: the addition of Addir, ſignifying magnificent or potent, makes Adrammelech or the mighty Moloch, and of Ana, denoting to anſwer, forms Anammelech, or the Oracular Moloch. Dr. Hyde (Rel. Vet. Perſ. cap. ii. p. 63). is of opinion, that Adrammelech ſignified the king of the flock; *Adre* denoting *greges*; and *Ana* being the ſame with *pecus* in the Perſian language, and expreſſing the leſſer cattle, *viz.* the ſheep and goats; Anammelech was of much the ſame ſignification. Theſe gods, he conceives, had the care of the flocks; and as the riches of theſe people conſiſted in cattle, were made the objects of their worſhip. They were alſo celeſtial conſtellations, as he obſerves, which, as the people imagined, promoted the breed and growth of cattle. Others make Adrammelech the ſun, and Anammelech the moon.

ANAMNESEIS, from ἀνα and μναομαι, *I remember*, in *Ancient Writers*, denote encomiums of perſons who had behaved well in war, or on other occaſions, rehearſed before the emperors of Conſtantinople, to put them in mind of beſtowing ſuitable rewards.

ANAMNESTICS, in *Medicine*, are uſed by ſome writers to denote thoſe ſigns which help to diſcover the paſt ſtate of a patient's body: in which ſenſe it ſtands oppoſed to PROGNOSTICS.

Theſe are otherwiſe called *rememoratives*.

Some have uſed this term for medicines that are ſuppoſed to improve the memory, or reſtore it when loſt. But this is a general title, ſays Dr. Cullen (Mat. Med. vol. i. p. 166.) which ſeems to have no foundation at all, or which, if it had, is too general, and would be very improperly employed.

ANAMOOKA, or Rotterdam, in *Geography*, one of the Friendly iſlands, in the South Pacific Ocean. It is ſituated in S. lat. 20° 15′, and W. long. 174° 31′, about 18 leagues diſtant from Tongataboo, or Amſterdam; which it reſembles in its aſpect. Its form is triangular, and none of its ſides exceed the length of four miles. Its extent is alſo diminiſhed by a large ſalt lagoon which almoſt cuts off its ſouth-eaſtern angle from the reſt. Its coaſts are ſurrounded by ſmall iſlets, ſand banks, and reefs, by which is formed a harbour on the ſouth-weſtern ſide of the iſland, with anchorage in 10 and 12 fathom, the bottom being coral ſand. It is well ſheltered, but no freſh water is to be obtained near the ſhore. On the north-weſt ſide are two coves, to which are narrow paſſages for boats through the reefs. To the ſouthward of theſe is a bank, free from rocks, with 20 and 25 fathom depth, one or two miles from ſhore. The coaſt riſes nearly perpendicular, 15 or 20 feet from the ſea, and the interior appears level, excepting ſome ſmall hillocks, and a more conſiderable one toward the centre of the iſland. It is ſimilar to Tongataboo in ſoil and productions, but leſs cultivated, even in proportion to its ſize. It is, however, better furniſhed with water, though ſomewhat brackiſh, having a pond about three quarters of a mile from the landing-place on the north-weſt ſide, of half a mile in circuit. This iſland was diſcovered by Taſman, in 1643, and called Rotterdam. Captain Cook arrived at it in 1774. Thefts were more frequently committed here than at the ſouthernmoſt iſlands of the group; the character of the women appeared alſo to be more licentious, and that of the men more daring. Some of the natives diſtinguiſhed themſelves by their good conduct, and moſt of them behaved well, except when they were tempted to ſteal ſome of the novelties poſſeſſed by their viſitors. Capt. Cook returned to this iſland in 1777. Lieutenant Bligh, in the Bounty, anchored at Anamooka in 1789. Pine apples, which had been planted in the iſlands viſited by Capt. Cook, were found here at that time in a flouriſhing ſtate. Capt. Edwards twice viſited Anamooka in 1791. No ſubſequent viſit to this iſland has been made known. It is ranked by the natives amongſt the ſmaller iſlands of their Archipelago, which

which contains 35 larger than this. A diſeaſe of the leprous kind, which ſeems to be common to all the iſlands of this ocean, is ſaid to prevail more at Anamooka than in any other part of this group. The venereal diſeaſe, introduced here by the Engliſh, has made a lamentable progreſs. As wood is an article procured here by all the ſhips, care ſhould be taken to avoid an accident, which may occur in cutting a tree, called by the natives faitanoo. This is a ſpecies of pepper, and yields a milky juice that injures the eyes and ſkin of the workmen. Miſſionary Voyage, Preſim. Diſc. p. 56—60.

ANAMORPHOSIS, compounded of ανα and μορφη, *form*, in *Perſpective* and *Painting*, a monſtrous projection; or a repreſentation of ſome image, either on a plane or curve ſurface, deformed and diſtorted: which at a certain diſtance ſhall appear regular, and in proportion.

To make an anamorphoſis, or monſtrous projection on a plane. Draw the ſquare ABCD (*Plate* I. *Perſpective, fig.* 1.) of any ſize at pleaſure, and ſubdivide it into a number of areolas, or leſſer ſquares. In this ſquare, or reticle, called the *craticular prototype*, let the image to be diſtorted be drawn. Then draw the line *ab* (*fig.* 2.) equal to AB; and divide it into the ſame number of equal parts, as the ſide of the prototype AB; and in E, the middle of it, erect the perpendicular EV, ſo much the longer, and draw VS perpendicular to EV, ſo much the ſhorter, as the image is deſigned to be more diſtorted. From each point of diviſion draw right lines to V, and join the points *a* and S, by the right line *a* S. Through the points *d*, *e*, *f*, *g*, draw lines parallel to *ab*; then will *abcd* be the ſpace in which the monſtrous projection is to be delineated; called the *craticular ectype*.

Laſtly, in every areola, or ſmall trapezium of the ſpace *abcd* draw what appears delineated in the correſpondent areola of the ſquare ABCD; by this means you will obtain a deformed image, which yet will appear in juſt proportion to an eye diſtant from it by the length of EV, and raiſed above it by the height VS.

It will be diverting to manage it ſo that the deformed image may not repreſent a mere chao but ſome other image: thus, we have ſeen a river with ſoldiers, waggons, &c. marching along the ſide of it, ſo drawn, that when viewed by an eye in the point S, it appears to be the ſatirical face of a man.

An image alſo may be diſtorted mechanically, by perforating it here and there with a needle, and placing it againſt a candle or lamp; and obſerving where the rays, which paſs through theſe little holes, fall on a plane, or curve ſuperficies; for they will give the correſpondent points of the image deformed; by means whereof, the deformation may be completed.

Let the image, whatever it be, e. g. IHS, be drawn upon a cylinder of paper or paſteboard, ABCD (*fig.* 3.); and the perforations being made as now deſcribed, place a candle G, behind the cylinder, and mark upon the ground the points correſponding to the perforations of the image, which will be diſtorted more or leſs, according to the poſition of the candle, or the plane, &c. Then, let the picture that is formed be an exact copy of this diſtorted image, and ſubſtitute a metallic ſpeculum in the place of the cylinder, and let the eye of the ſpectator have the ſame poſition before the cylinder that the candle had behind it, the diſtorted image will, by reflection from the ſpeculum, be reſtored to its proper ſhape.

ANAMORPHOSIS, *to draw the, or deformation of an image, upon the convex ſurface of a cone.*—It is manifeſt from the former caſe, that here it is merely required to make a craticular ectype on the ſuperficies of the cone, which ſhall appear to an eye duly placed over its vertex equal to the craticular prototype.

Let the baſe, or periphery, ABCD, therefore, of the cone (*fig.* 4.) be divided by radii into any number of equal parts; and let ſome one radius be likewiſe divided into equal parts; and through each point of diviſion draw concentric circles: thus will the craticular prototype be made. With double the diameter AB, as a radius, deſcribe the quadrant EFG (*fig.* 5.) ſo that the arch EG may be equal to the whole periphery: then this quadrant, duly folded, will form the ſuperficies of a cone, whoſe baſe is the circle ABCD. Divide the arch EG into the ſame number of equal parts as the craticular prototype is divided into; and draw radii from all the points of diviſion. Produce GF to I, ſo that FI = FG: and from the center I, with the radius IF, draw the quadrant FKH; and from I to E draw the right line IE. Divide the arch KF into the ſame number of equal parts as the radius of the craticular prototype is divided into; and draw radii through each of the points of diviſion, from the centre I, meeting EF, in 1, 2, 3, &c. Laſtly, from the centre F, with the radii, F 1, F 2, F 3, &c. deſcribe the concentric arches. Thus will the craticular ectype be formed, the areolæ of which will appear equal to each other.

Hence what is delineated in every areola of the craticular prototype, being tranſferred into the areolæ of the craticular ectype, the images will be diſtorted or deformed; yet an eye raiſed above the vertex of the cone, at a height equal to that of the cone itſelf, will perceive them in juſt proportion.

If the chords of the quadrants be drawn in the craticular prototype, and chords of the four parts in the craticular ectype, all things elſe remaining the ſame, you will have the craticular ectype in the quandrangular pyramid.

And hence it will be eaſy to deform any image, in any other pyramid, whoſe baſe is any regular polygon.

Becauſe the eye will be more deceived, if from contiguous objects it cannot judge of the diſtance of the parts of the deformed image; therefore, theſe kinds of deformed images are to be viewed through a ſmall hole; and when they are made to appear like the objects which they are intended to repreſent, by means of a mirror of any particular conſtruction, theſe anamorphoſes are ſaid to be reformed. See MIRROR.

The original author of this ingenious device is not known. Simon Stevinus firſt wrote upon it, without informing us from whom he acquired it. The principles of it are laid down by S. Vauzelard, in his "Perſpective Conique et Cylindrique;" and Gaſper Schottus, profeſſing to copy Marius Bettinus, in his deſcription of this piece of artificial magic. Other methods more exact and geometrical than that above deſcribed, in which a lamp or candle was uſed, were afterwards invented, and rules laid down for drawing the requiſite figures. Schottus quotes one of thoſe methods from Bettinus, another from Herigonius, and another from Kircher, which may be ſeen in his "Magia," vol. i. p. 162, &c. He alſo gives an account of the methods of reforming pictures by ſpeculums of conical and other figures. The method given by Dr. Smith, (in his Optics, vol. i. p. 250.) is, without doubt, the beſt; and from this any perſon may eaſily make a drawing of the ſame kind. The ſame deſcription anſwers to two mirrors, one of which, *fig.* 6, is convex, and the other, *fig.* 7, is concave. In order, therefore, to paint upon a plane a deformed copy, ABCDEKIHGF, of an original picture, which ſhall appear regular, when ſeen from a given point O, elevated above the plane, by rays reflected from a poliſhed cylinder, placed upon the

circle,

circle, *lnp*, equal to its given baſe; draw from the point R, which is ſuppoſed to be directly under O, the place of the eye, two lines R*a*, R*e*, which ſhall either touch the baſe of the cylinder, or elſe cut off two ſmall equal ſegments from the ſides of it; as the copy is intended to be more or leſs deformed. Then taking the eye, raiſed above R, to the given height RO, ſomewhat greater than that of the cylinder, for a luminous point, deſcribe the ſhadow *aekf*, of a ſquare *aexz*, *fig.* 8. or parallelogram ſtanding upright upon its baſe *ae*, and containing the picture required, any where behind the arc *lnp*. Let the lines drawn from R to the extremities and diviſions of the baſe *a*, *b*, *c*, *d*, *e*, cut the remoteſt part of the ſhadow in the points *f*, *g*, *h*, *i*, *k*, and the arc of the baſe in *l*, *m*, *n*, *o*, *p*; from which points draw the lines *l*AF, *m*BG, *n*CH, *o*DI, *p*EK, as if they were rays of light that came from a focus R, and were reflected from the baſe *lnp*; ſo that each pair, as *l*A, *l*R, produced, may cut off equal ſegments from the circle. Laſtly, tranſer the lines *laf*, *mbg*, &c. and all their parts, in the ſame order, upon the reſpective lines LAF, *m*BG, &c. and having drawn regular curves, by eſtimation, through the points A, B, C, D, E, through F, G, H, I, K, and through every intermediate order of points; the figure ACEKHF, ſo divided, will be the deformed copy of the ſquare, drawn and divided upon the original picture, and will appear ſimilar to it, when ſeen in the poliſhed cylinder, placed upon the baſe *lnp*, by the eye in its given place O.

The practical methods of drawing theſe images ſeem to have been carried to the greateſt perfection by J. Leopold, who, in the Leipſic acts, for the year 1712, has deſcribed two machines, one for images to be viewed with a cylindrical, and the other with a conical mirror. The perſon, who has this inſtrument, may take any point at pleaſure, and whilſt he goes over the outlines of it with one pen, another traces the anamorphoſis.

By methods of this kind, groves of trees may be cut, ſo as to repreſent the appearance of men, horſes, and other objects from ſome one point of view, which are not at all diſcernible in any other. This might eaſily be effected by one perſon placing himſelf in any particular ſituation, and giving directions to other perſons, what trees to lop, and in what manner. In the ſame method it has been contrived, that buildings, of circular and other forms, and alſo whole groupes of buildings, conſiſting of walls at different diſtances and with different poſitions to one another, ſhould be painted ſo as to exhibit the exact repreſentation of particular objects, which could only be perceived in one ſituation. Bettinus has illuſtrated this method by drawings, in his "Apiaria."

In the cloiſter of the Minims, in the Place Royale, at Paris, there are two anamorphoſes traced upon two of the ſides of the cloiſter, one repreſenting a Magdalen, and the other St. John, writing his goſpel. They are ſo managed that when viewed directly, they appear like a kind of landſcape, but from a particular point of ſight they appear very diſtinctly, like human figures. Theſe two figures were executed by Niceron, a Minim, who publiſhed a treatiſe, entitled "Thaumaturgus Opticus," in which he has deſcribed the manner of tracing anamorphoſes on any ſurfaces. In tom. iv. of the Memoirs of the Imperial Academy of Peterſburgh we have the deſcription of a ſimilar anamorphoſis, by Mr. Lutman, in honour of Peter II., emperor of Ruſſia. On the ſubject of this article, ſee Wolfii Elementa Matheſeos, &c. vol. iii. cap. v. p. 99, &c. Prieſtley's Hiſtory, &c. of Viſion, &c. p. 93—96.

ANAMSAGAR, in *Geography*, a town of Hindoſtan, in the county of Vijiapoor, 51 miles eaſt of Baddamy, and 71 ſouth-eaſt of Galgala.

ANANAS, in *Botany*, by ſome called *nanas*, and by others *jayama*, and popularly the *pine-apple*, on account of the reſemblance it bears to the cones of pines and firs, is a ſpecies of Bromelia.

Ananas, in *Natural Hiſtory*, a ſpecies of Madrepora, in the fourth order of Vermes, *Zoophyta*, the ſtars of which are angular, convex, and concave in the diſk. Linn. This kind inhabits the Mediterranean and South American ſeas, and is often found in a foſſil ſtate.

ANANCITIS, in *Antiquity*, a kind of figured ſtone, otherwiſe called ſynochitis, to which ſuperſtition aſcribed a magical virtue in raiſing the ſhadows of the infernal gods.

ANANDRIA, in *Botany*, a ſpecies of Tussilago.

ANANES, in *Geography*, three ſmall iſlands in the Grecian Archipelago, about three leagues ſouth-weſt of the iſland of Milo.

ANANISABATA, or Ananisapta, in *Antiquity*, a magical word inſcribed on coins and other amulets, and ſuppoſed to have efficacy in preſerving the wearer from the plague.

ANANTHOCYCLUS, in *Botany*. See Cotula.

ANANTPOUR, in *Geography*, a town of Hindoſtan, in the Myſore country, 85 miles north-eaſt of Chitteldroog, and 140 north-north eaſt of Seringapatam.

ANANUS, the Younger, in *Biography*, a Sadducee, was appointed high-prieſt of the Jews by Agrippa, the younger, about A. D. 60. Joſephus (Antiq. lib. xx. cap. 8. § 1.) repreſents him as fierce and haughty in his behaviour, and extremely reſolute and daring; and as belonging to the ſect of the Sadducees, who were above all other Jews cruel in their judicial ſentences. Upon the death of Feſtus the Roman governor, and before the arrival of Albinus, appointed to be his ſucceſſor, Ananus called a council, and bringing before it James, our Lord's brother, and ſome others, he accuſed them as tranſgreſſors of the laws, and had them ſtoned to death. Joſephus ſays, that many were offended at this proceeding. Some, he ſays, went running to meet Albinus, who was coming from Alexandria, and put him in mind, that Ananus had no right to call a council without his leave. Albinus approving of what they ſaid, wrote a very angry letter to Ananus, threatening to puniſh him for what he had done, and king Agrippa took away from him the prieſthood, after he had enjoyed it three months, and put in Jeſus, the ſon of Damnæus. Dr. Lardner infers from this circumſtance, as well as others, that the Jews had not at this time the power of life and death. Works, vol. i. p. 81.

Ananus, a learned Jewiſh Rabbi, who flouriſhed about the year 760. He was denied the title of gaon or excellent, though a man of great learning, on account of ſome material error of which his doctrine was ſuſpected; and the ſuſpicion appears to have been well founded, as he became the reviver and chief of the Sadducæan ſect, which, after having been long almoſt extinct, became formidable to that of the Phariſees. Gantz Tzemach David, p. 725.

ANAON Portus, in *Ancient Geography*, *Santo Hoſpitio*, an obſcure port, which the author of the "Itinerarius Maritimus," commonly ſuppoſed to be Antonine, places between the Portus Herculis and Nicæa. Cluvier has confounded it with Aviſio. M. d'Anville places it in a ſmall creek, at the extremity of a ſmall peninſula, to the eaſt of Nicæa, and forming to the weſt the Portus Dlivula, and to the eaſt the Portus Aviſio.

ANAPÆST, Anapæstus, a foot in the *Greek and Latin poetry*, conſiſting of two ſhort ſyllables, and one long, being the reverſe of the dactyl.

The word is derived from ἀναπαίω, *contra ferio*, because in dancing this meafure, the ground was ftruck in a contrary order from what it was in the dactyl. Whence the Greeks called it ἀντιδάκτυλος. Diom. iii. p. 74.

Such are the words *Ēgĭrānt, făcĭunt, rĕlĕō*.

Ifaac Voffius (de Viribus Rhythmi, p. 56) has faid that the Englifh have no perfect anapæft in their language. But Dr. Burney (Hift. Mufic, vol. ii. p. 79) obferves, that the charge is eafily confuted by the mere mention of the words *recommend* and *difappoint*.

ANAPÆSTIC, or Anapæst, is fometimes ufed in a fubftantive fenfe.

Such is the *anapæftus Ariftophanæus*, in Cicero, which is a verfe confifting of eight feet, as

"Axena ponti per freta colchos denique delatus adhæfi."

Vide Cic. in Orat. cap. 56. Fabr. Thef. in voc. *Anapæftus*.

This is otherwife called *anapæftus octonarius*.

Anapæstic, in an adjective fenfe, fomething relating to or compofed of *anapæfts*.

Anapæstic *kind*, *genus anapæfticum*, is a fort of verfe compofed of pure Ariftophanic or Parthenaic *anapæfts*.

Anapæftic verfes are either Ariftophanic or Pindaric.

Anapæfticus Ariftophanæus, called alfo *Parthenaicus*, confifts of three anapæfts, and one long fyllable, but fo as that inftead of the firft two anapæfts, as many fpondees may be ufed.

Its type ftands thus:

⏑⏑– | ⏑⏑– | ⏑⏑– | ⏑
–– | –– | | –

"Venient cito fæcula quum jam
Socius calor offa revifet
Animataque fanguine vivo
Habitacula priftina geftet
Lacrymas fufpendite cuncti
Mors hæc reparatio vita eft." Bona.

Pindaric Anapæft admits, in the firft place, either of an anapæft or a fpondee; in the fecond, only of an anapæft; in the third, of an anapæft or a fpondee; in the fourth, either of a fpondee or a trochee.

As in the following type:

⏑⏑– | ⏑⏑– | ⏑⏑– | ––
–– | | –– | –⏑

"In fumma pericula venturi
Multos timor ipfe mali mittit."

ANAPAUMENE, in *Ancient Geography*, a fountain of Greece, in the Moloffis, which was part of Epirus. It was fituated near that of Dodona, and was alfo denominated "fons Jovis."

ANAPES, in *Geography*, a town of Flanders, one league from Lille.

ANAPHE, in *Ancient Geography*, an ifland of the Cretan fea, fuppofed to be one of the Cyclades to the eaft of Thera. Steph. Byz. fays, that it was one of the Sporades. Its firft name was *Membliaros*, which it derived from Membliares, the Phœnician, who, when his relation went in queft of Europa, accompanied him, and fettled in the neighbouring ifland of Thera. It was afterwards called Anaphe, a Phœnician word, which, according to Bochart, fignifies fhaded and dark, an epithet given to this ifland, on account of its gloomy and thick forefts. But the moft commonly received opinion is, that it owes this name of Anaphe to the Greek word φαίνω, to *appear*, from the thunder having on a fudden occafioned it to rife from the bottom of the waters, in order to receive the fleet of the Argonauts, on its return from Colchis, when affailed by a furious tempeft. The fable of antiquity is the hiftory of the formation of this ifland, now called Nanfio, which a volcano caufed to appear fuddenly above the fea, in the midft of a violent agitation of the atmofphere and the waves, which has happened to fome other iflands of the Archipelago. In memory of this event was built a temple, mentioned by Strabo, which was confecrated to Apollo Ægletes, or dazzling with light. Slight veftiges of this temple ftill remain on the place which it occupied, in the fouth part of the ifland; and the marble of which it was conftructed was taken from a very fteep rock, of a terrifying afpect, on whofe fummit is now feen a chapel, dedicated to our lady of the reed; in modern Greek "panagia kalamitofa." For a further account of the prefent ftate of this ifland, fee Nanfio.

ANAPHLYSTUS, a fmall maritime town of Attica, in the tribe of Antiochides, very near Athens, towards the cape Colias, and north-weft of Œxona. It had temples of Pan, Ceres, Venus Colliades, and the goddeffes called Genetylides. This place is now called *Elimos*.

ANAPHORA, ἀναφορα, fignifying *repetition*, in *Rhetoric*, a verbal figure, whereby one or more words are repeated in the beginning of feveral fentences or verfes.

This is a lively and elegant figure, and ferves very much to engage the attention; for by the frequent return of the fame word the mind of the hearer is held in an agreeable fufpence till the whole is finifhed.

Such, *e. gr.* is this of the Pfalmift, "The voice of the Lord is powerful: the voice of the Lord is full of majefty: the voice of the Lord fhaketh the wildernefs."

"You do nothing," fays Cicero to Catiline; "you attempt nothing, you think nothing, but what I not only hear but alfo fee, and plainly perceive." This figure is frequently ufed by way of interrogation, which renders it not only beautiful, but likewife ftrong and nervous. Thus Cicero, at the beginning of the fame fpeech: "Does neither the night-guard of the palace, nor the city-watch, nor the people's fear, nor the agreement of all good men, nor the meeting of the fenate in this fortified place, nor the countenances and looks of this affembly, at all move you?" And in another of his orations: "What is fo popular as peace, which feems to afford a pleafure, not only to beings endowed with fenfe, but even to inanimate nature? What is fo popular as liberty, which even beafts as well as men feem to covet and prefer above all things? What is fo popular as eafe and leifure, for the enjoyment of which you and your anceftors have undergone the greateft labours?" Contra Rull. ii. c. 4. Ward's Oratory, vol. ii. p. 56.

Anaphora is ufed in the *Ancient Medicine*, for the rejection of matter by the mouth.

Hence alfo we met with the term anophorici, αναφορικοι, ufed for thofe labouring under an *hæmoptoe*, who bring up blood from the lower part of the mouth.

Anaphora, among *Ecclefiaftical Writers*, denotes the hoft, or fpecies offered in the *eucharift*.

Anaphora is alfo ufed to denote the rehearfing of a perfon's name from the diptychs in the liturgy.

Anaphora is alfo a title given to thofe little Syriac liturgies, wherein are contained the prayers after the *ofculum pacis*. Ignatius, patriarch of the Maronites, enumerates forty of thefe anaphoræ.

Anaphora, in *Aftrology*, denotes the fecond houfe, or that

that part of heaven which is thirty degrees diſtant from the HOROSCOPE.

The term anaphora is ſometimes alſo promiſcuouſly applied to ſome of the ſucceeding houſes; as the ſecond, fifth, eighth, and eleventh. In this ſenſe anaphora amounts to the ſame with *epanaphora*, and ſtands oppoſed to cataphora.

ANAPHORA is alſo applied by ſome to the oblique aſcenſions of the ſtars.

ANAPHRODISIA, from ανα and Αφροδιτη, *Venus*, denotes impotency in reſpect of venery. Some alſo uſe it for a want of deſire or inclination to the ſex.

In this ſenſe the academiſts *Naturæ Curioſæ* give an extraordinary inſtance of this kind in a perſon otherwiſe healthy and robuſt. Eph. Acad. N. C. Dec. i. ann. 8. Obſ. 94. See IMPOTENCY.

ANAPHUS, in *Entomology*, a ſpecies of PAPILIO, in the diviſion *Plebeii Urbicolæ*, that inhabits Surinam. It has no tail, and is uniformly brown, except the apex of the lower wings, which is yellow. Fabricius.—The antennæ are hooked at the end.

ANAPHYSEMATA, from ανα, and φυω, *I ſend forth*, in ſome *Ancient Writers*, denote winds iſſuing from under ground, at the clefts or apertures thereof.

Theſe are ſometimes called by later writers *apogæi*.

ANAPLASIS, from ανα and πλασσω, *I form*, in *Surgery*, the complete reſtitution of a broken bone, ſo that the two ends meet, and cloſe exactly together. This is the ſame with what is otherwiſe called *diaplaſis*.

ANAPLASIS alſo ſignifies a re..utrition of the extenuated fleſh.

ANAPLEROSIS, in the general ſenſe, denotes REPLETION. Anapleroſis is more particularly uſed to denote that part of ſurgery whereby things wanting are ſupplied.

In which ſenſe anapleroſis amounts to the ſame with what we otherwiſe call appoſition, or PROSTHESIS.

ANAPLEROSIS, in the *Civil Law*, is a name which ſome give to the four laſt books of Juſtinian's Code.

ANAPLEROTICS, from αναπλεοω, *I fill up*, in *Medicine*, ſuch remedies as incarnate and fill up ulcers and wounds with new fleſh.

Anaplerotics are the ſame with what we otherwiſe call INCARNATIVES.

ANAPODARI, in *Geography*, a river of the iſland of Candia, which riſes at Caſtel Bonifacio, runs near Caſtel Belvedere, and diſcharges itſelf into the ſea between Cape Matola and Caſtel de Girapetra. The ancients called it Cataractus.

ANAPODOPHYLLUM, in *Botany*. See PODOPHYLLUM.

ANAPUIA, in *Geography*, a province of Venezuela, in South America, towards the mountains of St Peter, and the ſource of the Buria.

ANAPUS, or ANAPIS, in *Ancient Geography*, the name of a river of Sicily, which ran from weſt to eaſt at the diſtance of about two miles from Ortygia, and ſomewhat leſs than a mile and a half from Neapolis, and diſcharged itſelf into the great harbour of Syracuſe. This ſtream, which is only 24 feet wide, and 12 or 15 deep at its mouth, flows, in a ſerpentine courſe, through a ſmall extent of country, which, though ſlightly elevated in its ſouth or ſouth-weſtern ſide, on the north and north-weſt conſiſts of an extenſive marſhy plain. This plain lying between the river and the city, is terminated by two fens or moors, the one called Syrac, whence the city was named, and the other Lyſimela. Between the Anapus and the promontory of Plemyrium, was ſituated the little ſuburb of Olympia, ſurrounding the ſite of the ancient temple of Jupiter Olympus, built upon an eminence, and bounded on either ſide by the vaſt Lyſimelian marſhes, extending from the head of the great harbour, half covered with water in the vernal months, and exhaling, under an almoſt vertical ſun, the moſt unwholeſome and pernicious vapours. To this river the ancients gave the name of ALPHEUS.

ANAPUS was alſo a river of Illyria, which ran near Liſſus.

ANAPUS was alſo a river of Epirus, in Chaonia. Thucydides reckons 80 ſtadia from this river to Stratos, or Stratus, a conſiderable place of Acarnania.

ANAQUITO, in *Geography*, a country of America in Peru and in the province of Quito.

ANARA, in *Ancient Geography*, a town of India, on this ſide the Ganges, according to Ptolemy.

ANARACI, a people of Scythia, on this ſide Mount Imaus, according to Ptolemy.

ANARCHI, people of Scythia, placed by Ptolemy below the Agathyrſi.

ANARCHI MONTES, mountains of Scythia, forming part of the chain of Imaus.

ANARCHI, in *Antiquity*, a name given by the Athenians to four ſupernumerary days in the year, during which they had no magiſtrates.

The Attic year was divided into ten parts, according to the number of tribes, to whom the preſidency in the ſenate fell by turns.

Each diviſion conſiſted of 35 days; what remained after the expiration of theſe to make the lunar year complete, which, according to their computation, conſiſted of 354 days, were employed in the creation of magiſtrates, and called αναρχοι ημεραι, and αρχαιρεσιαι.

ANARCHY, derived from the Greek privative α, and αρχη, *principality*, the want of government in a nation, where no ſupreme authority is lodged, either in the prince or other rulers; but the people live at large, and all things are in confuſion.

All kinds of ſtates are ſubject to anarchies. We read of civil anarchies, eccleſiaſtical or ſpiritual anarchies, and even anarchies in the republic of letters.

Anarchy is ſuppoſed to have reigned after the deluge, before the foundation of monarchies. We ſtill find it obtain in divers parts, eſpecially of Africa and America; *e. gr.* among the Itinois, who are obſerved by travellers to live in a perfect independency of any ſuperior; among the Californians, where every family makes its own laws as well as religion; in Chili, where every maſter of a family is a king; in the Marian iſlands, where neither prince nor law is known, but every perſon governs himſelf according to his own will; and to mention no more, among the Hottentots, where the only reſemblance of government is, that in each neighbourhood, the eldeſt is the firſt in honour, and his advice chiefly followed, not from any civil authority he is veſted with, but on account of his ſuperior experience.

Some extend the idea of anarchy farther, ſo as to make it comprehend all the more popular governments. In this ſenſe anarchy amounts to much the ſame with DEMOCRACY. Hobbes, in this ſenſe, calls the Roman commonwealth an anarchy.

It has ſometimes been controverted which of the two is beſt, a ſtate of anarchy, or of tyranny and arbitrary power. This controverſy, however, does not appear to be of any great uſe; it is of little purpoſe to determine which is beſt, ſince a ſtate of anarchy, naturally, nay, neceſſarily, paves the way for deſpotiſm; and confuſion is always the parent of oppreſſion.

ANARCHY is alſo applied to certain troubleſome and

diſorderly periods, even in governments otherwiſe regular. In Germany, the interval from the election of Richard, duke of Cornwall, to that of duke Rud. of Hapſburg, is commonly called the anarchy, or interregnum.

In England, the period between the death of Cromwell and king Charles's Reſtoration, is commonly repreſented as an anarchy. Every month produced a new ſcheme or form of government. Enthuſiaſts talked of nothing but annulling all the laws, aboliſhing all writings, records, and regiſters, and bringing all men to the primitive level. No modern nation has been more ſubject to anarchies than Poland; where every interval between the death of one king, and the election of another, was a perfect picture of confuſion, inſomuch that it became a proverb among that people, Poland is governed by confuſion.

The Jewiſh hiſtory preſents numerous inſtances of anarchies in that ſtate uſually denoted by this phraſe, *that in thoſe days there was no king in Iſrael, but every man did that which was right in his own eyes*, which is a juſt picture of an anarchy. The firſt anarchy we read of in that commonwealth, is that which enſued on the death of Joſhua, who leaving no ſucceſſor, the government devolved to the elders of the tribes, who ruled each according to his own will. After the death of theſe elders the anarchy became complete.

ANARGYRI, in *Eccleſiaſtical Hiſtory*, is an appellation given to certain ſaints in the Greek church, who having been phyſicians, gave not only their advice but their remedies *gratis*. They are alſo called *argentinopes*.

ANARGYRUS, from α and ἀργύριον, *money*, in *Ancient Writers*, denotes a perſon without money, though otherwiſe ſufficiently accommodated with land and other effects.

In a like ſenſe we ſometimes alſo meet with the word anargyria, uſed for lawyers for the condition of a perſon without ready money.

Mart. Phil. Fabricius has a diſſertation *De Exceptione Anargyriæ*.

ANARHAPHE, from ἀνα and ῥαφὴ, *ſuture*, in *Surgery*, denotes a kind of future or retraction of the upper eye-lid, when relaxed and hanging over the eye.

This is by ſome alſo called *futura blepharica*, by others *abbreviatio*, *contractio*, *collectio*, or *ſuſpenſio ſuperioris palpebræ*. It is uſed in the *phalangoſis*, *ptoſis*, or *chalaſis*; where the ſight is obſtructed by a *prolapſus* of the part, or the eye-lid itſelf is too thick beſet with briſtly hairs both within and without.

ANARHICHAS, in *Ichthyology*, a genus of the order Apodes. The head is obtuſe, fore teeth in each jaw conic, large, divergent, ſix in number or more grinders in the lower jaw, and palate rounded. Six rays in the gill membrane. Body roundiſh, tail fin diſtinct. Linn. Gmel.—The ſpecies of this genus are Lupus, Minor, and Pantherinus, which ſee.

ANARIA, in *Ancient Geography*, *Iſchia*, an iſland ſouth-eaſt of Baiæ. Auguſtus gave it to the inhabitants of Neapolis, in exchange for the iſland of Caprææ. It was alſo called Pythecuſa.

ANARIACA, a town which, according to Strabo, was near the Caſpian ſea. It is ſuppoſed to have been ſituated between Albania and Hircania.

ANARIS Mundi promontorium, was ſituated, according to Ptolemy, in the iſland of Taprobana.

ANARIUM, a town of Aſia, in Greater Armenia, according to Ptolemy.

ANARPI, a people placed by Ptolemy in Germany.

ANARRHINON, in *Botany*, a name given by ſome of the ancients to the plant called by others lychnis *agria*, and by others *antirrhinum*. Pliny tells us, that this plant reſembled flax, that it had ſcarce any root; that its flower was the colour of the hyacinth, and its fruit reſembled the noſe of a calf. It is from this reſemblance that we at this time call the plant *calves' ſnout*. Dioſcorides ſays, that it was like the *anagallis*.

ANARTES, or Anarti, in *Ancient Geography*, a people who inhabited the north-weſt part of Dacia, according to Cæſar and Ptolemy.

ANARTHRA, from α and ἄρθρον, *joint*, in *Natural Hiſtory*, a claſs of naked inſects, diſtinguiſhed from all others by having neither wings nor limbs. To this claſs belong all kinds of worms and leeches.

ANARTOPHRACTI, in *Ancient Geography*, a people placed by Ptolemy in Sarmatia, adjacent to the Ombrones, in European Sarmatia.

ANAS, now called Guadiana, a river of Spain in Bœtica.

ANAS, in the Linnæan ſyſtem of *Ornithology*, the name of an extenſive genus of birds, of the order Anseres, and known in England by the general names of Swans, Geese, and Ducks. The Linnæan character of this genus is taken from the form of the bill and tongue; the bill being convex, obtuſe, and the edges of both mandibles beſet with lamellated teeth: the tongue ciliated and obtuſe. Linn. Gmel. To this conciſe generical diſtinction ſome authors add, that the bill is ſtrong, broad, depreſſed, and commonly furniſhed at the end with an additional piece or nail; noſtrils ſmall and oval; tongue broad, and fringed at the edges, near the baſe; toes four in number, three being placed before, and one behind, and the middle one longeſt. Latham. Gen. Syn.

The ſpecies of this genus, according to the lateſt authorities of Linnæus, Latham, Gmelin, &c. are,

Acuta, pintail duck
Adunca, hooked bill duck
Ægyptiaca, Egyptian gooſe
Africana, African teal
Albeola, buffel-headed duck (Latham).
Albicans, brown-necked duck
Albifrons, white-fronted gooſe
Alexandrina, Alexandrian duck
Americana, American duck
Anſer, wild gooſe, or grey-lag
Antarctica, Antarctic gooſe
Arabica, Arabian teal
Arborea, black-billed whiſtling duck
Atrata, black ſwan (Phillips)
Autumnalis, red-billed whiſtling duck
Bahamenſis, Bathera duck
Balbul, cahira duck
Beringii, Bering gooſe
Bernicla, Brent, or Brand gooſe
Borealis, Gulaund duck
Boſchas, wild duck
Braſilienſis, Mareka duck
Bucephala, buffel-headed duck (Gmel.)
Cæruleſcens, blue-winged gooſe
Cana, grey-headed gooſe
Canadenſis, Canada gooſe
Capenſis, Cape wigeon
Carolinenſis, Carolina, or American teal
Caſarca, ruddy gooſe
Cinerea, aſh-coloured, or loggerhead gooſe
Circia, ſummer teal
Clangula, golden-eyed duck
Clypeata, ſhoveller
Coromandeliana, Coromandel teal
Coſcoroba, Chili gooſe
Crecca, common teal
Criſtata, creſted duck
Curviroſtra, curve-billed duck
Cygnoides, Chineſe gooſe
Cygneus, wild or whiſtling ſwan
Damiatica, Damietta duck
Diſcors, blue-winged teal
Diſpar, weſtern duck
Domeſtica, common tame duck
Dominica, St. Domingo duck
Dominicana, Dominican duck
Erythropus, Bernacle gooſe
Erythrorhyncha, crimſon-billed duck
Falcaria, falcated duck
Ferina, pochard, or red-headed wigeon
Ferruginea, ferruginous duck
Formoſa, Baikal teal
Fuligula, tufted duck
Fulva, Mexican pochard
Fuſca, velvet duck
Fuſcefcens, brown duck
Galericulata, Chineſe teal
Gambenſis,

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Gambenſis, ſpur-winged gooſe
Gaittoir, Gattair duck
Georgica, Georgia duck
Glacialis, long-tailed duck (Latham)
Glaucion, grey-headed duck
Glocitans, bimaculated duck
Gmelini, Ruſſian teal
Grandis, great gooſe
Hina, Hina teal
Hiſtrionica, harlequin duck
Hybrida, Hybrid ſwan
Hyemalis, long-tailed duck (Edwards)
Hyperborea, ſnow gooſe
Jacquini, cheſnut-coloured duck
Jamaicenſis, Jamaica ſhoveller
Indica, barred-headed duck (Latham)
Iſlandica, Iceland duck
Kagolka, Kagolka duck
Kekuſchka, Kekuſchka duck
Labradoria, pied duck
Leuccephala, white-headed duck
Leucoptera, buſtard gooſe
Lurida, lurid duck
Madagaſcarienſis, Madagaſcar teal
Magellanica, Magellanic gooſe
Malacorhyncos, ſoft-billed duck
Manillenſis, Manilla teal
Marilla, ſcaup duck
Marſa, ural duck
Melanocephala, black-headed ſwan
Melanotos, black-backed gooſe
Melanura, black-tailed duck
Mexicana, Mexican duck
Minuta, minute duck
Molliſſima, eider duck
Monacha, white and black variegated duck
Montana, mountain duck
Moſchata, Muſcovy duck
Nigra, black duck
Nigricollis, black-necked ſwan
Nilotica, Nilotic duck
Novæ Hiſpaniæ, Mexican duck
Novæ Seelandiæ, New Zealand duck
Nyraca, Tanain tufted duck
Obſcura, duſky duck
Olor, mute ſwan
Orientalis, Muſcovy gander (Gmelin)
Penelope, wigeon, or whim
Perſpicillata, black duck
Picta, painted gooſe
Poecilorhyncha, ſpotted-billed duck (Latham)
Querquedula, garganey
Regia, white-collared blue duck
Rubens, red-breaſted ſhoveller
Rufa, rufous-necked duck
Ruficollis, red-breaſted gooſe
Rufina, red-creſted duck
Ruſtica, little brown duck
Scandiaca, Lapmark duck
Segetum, bean gooſe
Sirſair, Sirſair duck
Spectabilis, king duck
Spinoſa, ſpinous-tailed teal
Sponſa, ſummer duck
Stelleri, weſtern duck
Strepera, gadwall, or grey
Superciliosa, ſupercilious duck
Tardona, ſhieldrake
Torquata, ringed gooſe
Torrida, torrid duck
Variegata, variegated gooſe
Viduata, Spaniſh duck; which ſee reſpectively.

ANASARCA, from ἀνὰ and σὰρξ, *fleſh*, in *Medicine*, a ſort of univerſal dropſy, wherein the whole or conſiderable part of the body is ſtuffed or bloated with watery fluid.

This diſtemper is ſometimes alſo called *cataſarca*, ſometimes *hypoſarcidium*, ſometimes *epiſarcidium*, ſometimes *aqua inter cutem*, or *intercus*, becauſe the humour ſpreads itſelf through the fleſh. Serenus Samonicus elegantly calls it *lymphaticus error*; Albucaſis calls it a dropſy by infiltration.

Preternatural collections of water in any part of the body, except the urinary bladder, are called Dropsies. Some of theſe are confined to particular cavities, and take their name from that of the cavity, as, *hydrothorax*, or a dropſy in the cheſt; *aſcites*, a dropſy of the abdomen, &c. but anaſarca may take place in any part of the body where there is *cellular membrane*. Dr. Cullen places it in his third claſs, Cachexiæ, order, *Intumeſcentiæ*, aquoſæ, and admits ſeveral ſpecies of it, depending on the remote cauſe. The moſt uſual and general *Cauſe* of anaſarca is debility, whether induced by fatigue, or watching without lying down, by hæmorrhage, by eruptive fevers, or by deficient or watery food. It is ſometimes believed to ariſe during pregnancy, from the preſſure of the uterus on the veins which return the blood from the lower extremities.

The *Eſſential Character* of this diſeaſe is founded on the ſwelling being pale, ſoft, and leaving a pit after preſſure with the fingers.

Symptoms. As anaſarcous affections differ much in degree or ſeverity from a ſlight ſwelling of the feet and ankles towards night, to a general diffuſion of water throughout the cellular membrane of the whole body and extremities; ſo the ſymptoms or degrees of diſtreſs experienced by the patient are greatly diverſified. That which firſt attracts his attention is a ſtiffneſs of the ankles, after remaining long in the erect poſture. This increaſes daily till the feet, legs, and thighs become ſo large, that the ſkin ſeems in danger of burſting. When the diſeaſe approaches towards this magnitude, the water ſhifts its place with the poſture of the body; ſo that after lying in the horizontal poſture all night, the ſwelling of the legs will be much diminiſhed, while that of the trunk, arms, and face will be increaſed. In this ſtage the patient often experiences *dyſpnæa* and thirſt, with loſs of appetite; the ſecretion of urine is diminiſhed; the *ſcrotum*, or *labia* are ſo diſtended, that walking becomes impracticable, when the ſwelling and ſtiffneſs of the feet alone would not have rendered it ſo. This is the uſual progreſs of anaſarca; but it ſometimes ſupervenes ſo ſuddenly, that the whole body will partake of the ſwelling in twenty-four hours. There is no doubt that it may often exiſt alone, without any other ſpecies of dropſy; we however very commonly find it combined with Hydrothorax, or Ascites; and it is then of courſe more difficult of cure. The *prognoſis* is generally unfavourable, in old people eſpecially, or thoſe who have injured their conſtitution by the abuſe of ſpirituous liquors. Where the affection is ſlight, and brought on by ſitting up for ſeveral days and nights, in a good conſtitution we may always expect a cure.

The *treatment* ſhould be adapted to the ſtate and degree of the diſeaſe. In ſlight affections of ſhort ſtanding, flannel rollers to the feet and ankles, with bark or ſteel internally, will generally ſucceed. In ſevere caſes we attempt the cure on the following plan, *viz.*

1. We obviate all cauſes of debility by diet, air, and exerciſe; and we endeavour to reſtrain all debilitating evacuations.

2. We ſhould then employ the means which are found moſt ſucceſsful in evacuating the collected fluid. The firſt of theſe is to promote its abſorption; which is done,

A. By the *preſſure* of bandage and friction, with or without mercurial ointment.

B. By *Emetics*; eſpecially hydrarg. vitriolatus, cuprum vitriolatum, pulvis antimonialis, and, above all, elaterium in powder.

C. By *Purgatives*, ſuch as calomel, gamboge, elaterium and jalap combined with cryſtals of tartar, nitre, or kali acetatum. The abſorption, in this caſe, moſt probably, is a conſequence of the increaſed excretion from the inteſtines.

When the aqueous fluid is abſorbed and carried into the blood, the ſecretion by the kidneys is commonly increaſed, by which it is carried out of the body. But if this ſhould not take place, we have recourſe to thoſe medicines called

D. *Diuretics*. Whether theſe exert their action on the kidneys alone, or whether they produce their effect by promoting the activity of the abſorbent ſyſtem, is not aſcertained. The moſt ſucceſsful diuretics are mercury, whether introduced by friction or taken internally; and it appears to be a good prepara-

tion

tion for the employment of all other remedies of this claſs. Squills, recent or dried, or an infuſion of them in Liſbon wine; the tincture of digitalis, which being a medicine of great power, requires diligent watching; kali fatuated with vinegar of ſquills; the juice of leeks: the extract of broom tops; the infuſion of juniper berries with ſweet ſpirit of nitre, infuſion of tobacco, &c. &c. The *doſes* of theſe medicines are not ſet down, as practitioners know them, and they are too powerful to be preſcribed by others. If theſe remedies fail of producing the deſired effect, and the ſkin of the legs, ſcrotum, &c. ſeems in danger of burſting, we may have recourſe to punctures. Theſe ſhould be made in depending parts, that the water may drain off more freely, and very ſmall, on account of the danger of *gangrene*, which is a frequent conſequence of large and deep inciſions.

5. When by ſuch means as theſe we have evacuated the water, or a great part of it, we muſt attempt to invigorate the ſyſtem by bark, ſteel, bitters, riding, ſea bathing, and a generous diet.

Dr. Dover's cure for an anaſarca is an electuary compoſed of ſteel prepared with ſulphur and crude antimony, each an ounce; *diagridium*, four ounces; make a fine powder of theſe: then add as much of any ſyrup as will make a ſoft electuary.

ANASCHOUADI, in *Botany*. See ELEPHANTOPUS.

ANASSA. See BROMELIA.

ANASSAS, in *Natural Hiſtory*, the name of a fruit very common in Guinea, and in ſome other parts of Africa. It is very beautiful to the eye, and not leſs agreeable both to the taſte and ſmell, and is by ſome accounted the fineſt fruit in the world. The deſcriptions we meet with of it are very imperfect; but as there is nothing in them that contradicts its being the pine-apple, it may be that fruit, and if ſo, it deſerves all the praiſe that is given it. See BROMELIA.

ANASSUS, or ANAXUS, in *Ancient Geography*, a river of Italy, in the territory of Venice, now the *Piave*. According to M. d'Anville, it runs from the north to the ſouth, and falls into the bottom of the gulf, to the weſt of Aquileia, near Muranum.

ANASTAMIA, in *Geography*, a conſiderablb ſea-port town of Japan, the principal commerce of which is wood.

ANASTASIA, in *Ancient Geography*, a town of Meſopotamia, nearly ſouth of Niſibis. It was for a long time a ſmall place known by the name of Dara. When the Perſians and Romans concluded a treaty, the emperor Anaſtaſius fortified Dara, enlarged and beautified it, and called it Anaſtaſia.

ANASTASIOPOLIS, a name given to five cities; one in Syria, another in Phrygia, a third in Caria, a fourth in Galatia, and a fifth in Thrace.

ANASTASIS, a Greek word adopted into the Engliſh language, which denotes a reſurrection.

Chiflet has given us a diſſertation on Childeric's tomb, under the title of *Anaſtaſis Childerici*. Truer has publiſhed the figure of a man and woman in the ancient German habit, as found in an ancient urn, under the title of *Anaſtaſis veneris Germani Germanæque Feminæ*.

ANASTASIS, among *Ancient Phyſicians*, denotes a riſing up to go to ſtool. It likewiſe ſignifies a migration of humours, when expelled from one place and obliged to remove to another.

ANASTASIUS I. in *Biography* and *Hiſtory*, emperor of the eaſt, was born at Duras, in Illyricum, A. D. 430; and, from being one of the officers of the great chamberlain, called Silentiarii, and before he had obtained the rank of ſenator, was advanced to the empire, A. D. 491. His promotion was owing to the intereſt and influence of Ariadne, the widow of Zeno, who prevailed upon the ſenate to acknowledge Anaſtaſius, in oppoſition to the claims of Longinus, the brother of Zeno, as his ſucceſſor. As ſoon as he had attained this dignity he married Ariadne, being then in the 60th year of his age. Such was the eſtimation in which he was generally held, on account of his temperance and integrity, before his advancement, that, upon his receiving the purple and diadem in the circus, the people, applauding his promotion, exclaimed with one voice, "Reign, Anaſtaſius, as you have lived." The firſt act of his reign confirmed their expectations; for he immediately remitted whatever was due to the treaſury, and entirely aboliſhed the infamous tax, called the CHRYSARGYRUM. He alſo expelled all informers from Conſtantinople, and put a ſtop to the enormous abuſe, introduced by his predeceſſor Zeno, of expoſing to ſale all public offices, and beſtowing, to the great oppreſſion of the people, the beſt governments on the higheſt bidders. The tranquillity of his reign, though thus popular at its commencement, was ſoon interrupted by the rebellion of Longinus and the Iſaurians, who, leaving the arms and money lodged by Zeno in a fort of Iſauria, were enabled to raiſe and equip an army of 150,000 men. Conon, biſhop of Apamea, in Syria, abandoning his flock, joined his countrymen, and became one of the ringleaders of the revolt. The emperor, however, ſoon collected a force, which, under the conduct of two of the moſt renowned generals of that age, viz. John, the Scythian, and John, ſurnamed Gibbus, or the hunch-backed, encountered the rebels in the vicinity of Cotyæa, in Phrygia, cut off a great number of them, and obliged the reſt to ſeek refuge among the inacceſſible mountains of Iſauria, where they maintained themſelves for ſix years, notwithſtanding the utmoſt efforts of the beſt generals of the empire. In the following year the emperor, whoſe temper was naturally avaricious, deviated from the liberal plan with which he commenced his reign, and laid a heavy tax on the inhabitants of Conſtantinople, called evagrius chryſotelia, which, being unexpected, incenſed them to ſuch a degree, that they recurred to arms, demoliſhed the emperor's ſtatues, and dragged them through the chief ſtreets of the city, together with thoſe of the empreſs Ariadne, uttering very injurious invectives againſt her and Anaſtaſius. This tumult was no ſooner ſuppreſſed than it was ſucceeded by others equally miſchievous and dangerous; in one of which the emperor narrowly eſcaped being murdered in the circus by the populace, becauſe he refuſed to releaſe ſome priſoners who had been concerned in a riot. In 499 the Bulgarians invaded Thrace, and defeated the Romans; and in 502 the Perſians entered Armenia with a powerful army, took Amida, pillaged the town, and put moſt of the inhabitants to the ſword. In the mean time Anaſtaſius diſpatched a ſtrong force againſt the enemy, which was defeated. However, in the following year, Amida was again beſieged, and upon the concluſion of a truce between the Romans and Perſians, the city was reſtored to the former, on condition of their paying to the king of Perſia fifty talents. This truce between the two empires was concluded A. D. 505. About this time, Mondo, a Goth, having ſettled, with many of his countrymen, in ſome uninhabited places beyond the Danube, ſeized on a fortreſs called Herta; and from hence, by frequent incurſions into the Roman territories, continued to haraſs the ſubjects of the empire, and aſſumed the title of king. Anaſtaſius diſpatched againſt him Sabinianus, at the head of 10,000 choſen men; and this circumſtance obliged Mondo to ſeek the ſuccour of Theodoric, the Gothic king

of Italy, who had the year before reconquered Pannonia, and recovered Scrinium out of the hands of the Gepidæ. Mondo, by this alliance with Theodoric, was enabled to defeat Sabinianus in a pitched battle, near Margus, in Lower Dacia, and forced him to take refuge in the caſtle of Nato. The conſequence of theſe hoſtilities was a miſunderſtanding between Anaſtaſius and Theodoric. Such were the dangers that threatened Conſtantinople and the adjacent country, that Anaſtaſius was obliged to betray the impotence of his arms by building a bulwark, called the *long wall*, and the *wall of Anaſtaſius*, of which the Byzantine hiſtorians make frequent mention. This wall was diſtant from Conſtantinople about 40 miles, and extended about 60 miles from the Propontis to the Euxine, incloſing not only the metropolis, but the city of Selymbria, and the neighbouring country, which was a cultivated garden, with an incredible number of ſtately villas and houſes of pleaſure, richly furniſhed and adorned. It was 20 feet broad, and defended by towers at ſmall diſtances from each other, by which means the inhabitants, upon the ſhorteſt warning, had an opportunity of putting themſelves in a poſture of defence, and of eaſily repulſing the barbarians. He likewiſe cauſed the city of Daras, a frontier town towards Perſia, to be repaired and fortified, in order to prevent the Perſians from invading the empire on that ſide. The other difficulties with which Anaſtaſius ſtruggled were inconſiderable, compared with thoſe in which he was involved by a religious war, the firſt that diſgraced the Chriſtian name. The emperor, who was a zealous patron of the doctrine of Eutyches, aboliſhed the orthodox addition, "who was crucified for us," that had been made by the devotion of Antioch to the "Triſagion," *i. e.* thrice holy, "Holy, holy, holy, Lord God of hoſts," which was a hymn uſed in public worſhip. This alteration occaſioned a violent tumult, in which many perſons loſt their lives; and the emperor was compelled to take refuge in his galley, till the orthodox patriarch, Macedonius, had pardoned and interceded for him. Macedonius was afterwards baniſhed, and upon his exile the ſedition was again renewed; the ſtatues of the emperor were broken, and his perſon was concealed in a ſuburb, till, at the end of three days, he ventured to implore the mercy of his ſubjects. Accordingly Anaſtaſius, without his diadem, and in the poſture of a ſuppliant, appeared on the throne of the circus, and was happy to reconcile himſelf with his people by the ſacrifice of two unpopular miniſters who were condemned to the lions. Theſe furious but tranſient ſeditions were encouraged by the ſucceſs of Vitalian, one of the emperor's generals, who, eſpouſing the cauſe of Macedonius, and the other orthodox biſhops, perſecuted by Anaſtaſius, approached Conſtantinople with a numerous army of Huns and Bulgarians, and threatened to depoſe the emperor, if the baniſhed biſhops were not reſtored, and the Eutychians expelled. As the emperor heſitated in complying with this demand, Vitalian, the champion of the catholic faith, depopulated Thrace, beſieged Conſtantinople, and exterminated 65,000 of his fellow Chriſtians, till at length he obtained the recal of the biſhops, the ſatisfaction of the pope, and the eſtabliſhment of the council of Chalcedon. In conſequence of this treaty, which Anaſtaſius was compelled to ſign, A. D. 514, Vitalian withdrew from Conſtantinople, and diſbanded his troops. Pope Symmachus, it is ſaid, engaged in this quarrel, and, by excommunicating Anaſtaſius, ſet the firſt example of the employment of ſpiritual thunder againſt ſovereigns. Anaſtaſius, delivered from his fears, renewed his perſecution of the catholics; but he did not long ſurvive the humiliating act to which he was obliged to ſubmit. In the year 518, the 88th year of his age, and the 28th of his reign, he ſuddenly cloſed his life, being as much hated and reproached by his ſubjects in his latter years, as he had been beloved and extolled in his earlier days. By the Catholic hiſtorians he is charged with avarice and cruelty, and almoſt all the crimes that could diſgrace a ſovereign; but his want of orthodoxy, which, in their judgment, was one of his greateſt crimes, might poſſibly induce them to exaggerate his other bad qualities. The vaſt treaſure which he poſſeſſed at his death was accumulated by the ſale of public offices, and by ſharing with his governors the ſpoils of an oppreſſed people. Anc. Un. Hiſt. vol. xiv. p. 443—451. Gibbon's Hiſt. vol. vii. p. 129. vol. viii. p. 314.

Anastasius II. whoſe proper name was Artemius, was advanced by the free voice of the ſenate and people, to the throne of Conſtantinople, A. D. 713, from the low condition of a ſecretary to his predeceſſor Philippicus, who had been depoſed.

He was a man of learning and prudence, and had been from his youth employed with ſingular ſucceſs in the management of public affairs. In the beginning of his reign he appointed Leo, the Iſaurian, a perſon of great military experience, commander in chief of all his forces, and ſent him with a powerful army to the frontiers of Syria, in order to protect Aſia Minor againſt the inroads of the Saracens. He alſo prepared for defeating their deſign of laying ſiege to Conſtantinople by a naval armament, by repairing the walls, by filling the public granaries, and by ordering thoſe citizens, who had not laid up proviſions for three years, to quit the city. When news was brought that the enemy's fleet had ſailed to Phœnicia, he ordered his to aſſemble at Rhodes; but the admiral by his endeavours to maintain ſtrict diſcipline, occaſioned a mutiny, and loſt his life. The ſeamen, dreading the puniſhment which they deſerved, and knowing that they could not avoid it, openly revolted, declared Anaſtaſius unworthy of the empire, and obliged Theodoſius, a perſon of mean extraction, and receiver of the revenue at Adramyttium, to accept of the purple. Anaſtaſius, when he heard of this revolt, fled to Nice; and Theodoſius haſtened to beſiege Conſtantinople, which he reduced after a defence, on the part of the garriſon, for ſix months. Anaſtaſius, being promiſed his life by the conqueror, renounced all claim to the empire; and, aſſuming the habit of a monk, was baniſhed to Theſſalonica, after he had enjoyed the title of emperor about two years. In 719, whilſt Leo was emperor, Anaſtaſius quitted his retirement, and induced the Bulgarians to acknowledge and ſupport his claim to the crown. With a numerous army of theſe barbarians he laid ſiege to Conſtantinople; but his followers, being diſappointed in their expectation of eaſily becoming maſters of the city, ſeized the unfortunate Anaſtaſius, and delivered him up to the emperor, who put him and his accomplices to death. Anc. Un. Hiſt. vol. xv. p. 35, &c. Gibbon's Hiſt. vol. ix. p. 24. vol. x. p. 8.

Anastasius, pope, ſucceeded Syricius in the papal chair, A. D. 398. During his pontificate a diſpute aroſe between Jerom and Ruffinus, occaſioned by the following circumſtance. Ruffinus, being an admirer of Origen, had publiſhed a Latin tranſlation of his "Periarchon," or treatiſe of principles, which was much read at Rome, and ſerved to diſſeminate the diſtinguiſhing ſentiments of this celebrated father. Having publiſhed this tranſlation, without any animadverſions on the part of Syricius, he left Rome, and returned to Aquileia, where he was preſbyter. Upon the elevation of Anaſtaſius, Marcella, a Roman matron, complained to the new pope of the prevalence of new doctrines, requeſted his interpoſition for preventing the evil, and accuſed

Ruffinus

Ruffinus is the author of the tranſlation to which it was owing. Anaſtaſius for ſome time declined either proceeding againſt Perſons, or cenſuring his tranſlation; but at length Jerom, in a new version of the work, undertook to prove that ſeveral opinions of Origen were heretical, and as ſuch ought to be condemned by the church. He alſo inveighed againſt Ruffinus, ſuggeſting, that he had tranſlated the work of Origen merely for the purpoſe of propagating the errors which it contained. A council was convened, which condemned the errors of Origen, and Origen himſelf as a heretic, and forbade all perſons, under the juriſdiction of ſeveral of the biſhops, who were aſſembled, either to read or to retain in their poſſeſſion, any of his works. Origen being thus condemned as an heretic, about 150 years after his death, Anaſtaſius, at the inſtigation of Marcella, and ſome of Jerom's friends, ſummoned Ruffinus to Rome, and demanded an account of his faith. Ruffinus ſent a confeſſion of his faith to Anaſtaſius, but it was not ſatisfactory; and the pope was at laſt prevailed upon to ſeparate himſelf from communion with him. Anaſtaſius has no other claim to notice than that of being a zealous defender of the catholic faith. He died in 402; and his epiſtle to John, biſhop of Jeruſalem, who had written to him in behalf of Ruffinus, is extant. Fabr. Bib. Græc. lib. v. c. 35. § 8. Dupin's Ecc. Hiſt. vol. iii. p. 58. Bower's Lives of the popes, vol. i. p. 277, &c.

Anastasius II. pope, was the ſon of a Roman citizen, and ſucceeded Gelaſius, A. D. 496. He was more peaceably diſpoſed than either of his two predeceſſors, and was deſirous of effecting a reconciliation between the ſee of Rome and that of Conſtantinople, which had for ſome time been at variance. With this view he wrote a humble and reſpectful letter to the emperor Anaſtaſius, and ſent two biſhops, accompanied by Feſtus the patrician, as legates, to execute his purpoſe. Although the biſhops were well received by the emperor; he choſe to confer with Feſtus rather than with them; and he contrived to perſuade him to uſe his intereſt with the pope for reconciling the eaſtern and weſtern churches, upon ſuch terms as he thought proper to propoſe. The pope himſelf was diſpoſed to acquieſce; and to allow the name of Acacius to remain in the Diptychs, as well as to receive and ſign the Henoticon; but this condeſcenſion on his part gave great offence to the Roman clergy. The church of Alexandria, availing themſelves of the peaceable diſpoſition of the pope, ſent deputies to Conſtantinople in order to negotiate a reconciliation with Rome. But theſe pacific meaſures were defeated by the premature death of Anaſtaſius. Whilſt the legates were on their return to Italy, and before they reached Rome, the pope died, A. D. 498; and this unpropitious event was a great diſappointment and mortification to Feſtus, who, depending on his inclination to peace, and the confidence repoſed in him by the pope, had entertained hopes of ſoon reſtoring the ancient harmony between the eaſt and weſt, and of being himſelf inſtrumental in accompliſhing ſo deſirable an object. The diſpoſition and conduct of Anaſtaſius, who was ready to ſacrifice even the pretenſions of his ſee to the welfare of the church, however laudable in themſelves, were no recommendation to the honours that were conferred in that age of ignorance and bigotry. He was not thought worthy of a place in the calendar; and his memory has been aſperſed, as if he were an enemy to the Catholic faith; and his death, before he had completed two years of his pontificate, has been repreſented by Platina and others as a judgment from heaven. His letter to the emperor, and another to Clovis, the firſt Chriſtian king of the Franks, congratulating him on his converſion to the Chriſtian religion, are ſtill extant in the Books of councils. Cave's Hiſt. Lit. vol. i. p. 465. Fabr. Bib. Græc. lib. v. c. 35. § 8. Bower's Hiſt. Popes, vol. iii. p. 236, &c. Dupin, Eccl. Hiſt. vol. iv. p. 181.

Anastasius III. pope, was by birth a Roman, and ſucceeded Sergius, A. D. 911. This pope, at the requeſt of Berengarius, king of Italy, ſent many rich ornaments to the church of Pavia, and granted to the biſhop of that city the uſe of a canopy, the privilege of riding a white horſe, with the croſs carried before him, and of ſitting in all councils at the pope's left hand. He died in 913, and was buried in the Vatican. He is commended in his epitaph for the mildneſs of his government, his integrity, and the purity of his manners. He died nothing blame-worthy, ſays Platina, which, in the popes of thoſe days, was a ſubject of commendation. Bower, vol. v. p. 88.

Anastasius IV. pope, was a native Roman, of the name of Conrad, and ſucceeded Eugenius III. A. D. 1153. His temper was mild and peaceable; of which he gave evidence in his method of compromiſing a difference that had ariſen in the laſt pontificate between the emperor Frederic and the Court of Rome. For this purpoſe he ſent cardinal Gerard into Germany, whoſe imperious behaviour incurred the diſpleaſure of the emperor, ſo that he was ordered to quit the country. The cardinal, it is ſaid, died of grief in his way to Rome. This pope took no notice of the affront, but yielded to the emperor the point in diſpute. This conciliatory conduct, which might poſſibly have been the means of preventing the horrors of war, has been condemned by the advocates of the dignity of the papal ſee, as an inſtance of irreſolution and puſillanimity. Anaſtaſius reſtored William, archbiſhop of York, who had been depoſed by Eugenius, to his ſee; and in the ſame year he alſo iſſued a bull, confirming and enlarging the privileges of the Knights of the Hoſpital at Jeruſalem, ſince known by the name of the Knights of Malta. In a great ſcarcity of corn, which happened during his pontificate, he manifeſted his humanity by liberally contributing to the relief and ſupply of the poor. After a Pontificate that laſted little more than a year, Anaſtaſius died, A. D. 1154; and was buried in the church of the Lateran, in a tomb of porphyry, exquiſitely wrought, in which had lain the body of St. Helena, the mother of the emperor Conſtantine. Ten letters of this pope are preſerved in the Collections of Councils by Labbè and Harduin, and in Du Cheſne's Hiſtory of France. Fab. Bib. Græc. lib. v. c. 35. § 8. Bower's Hiſt. vol. vi. p. 72, &c.

Anastasius, anti-pope, was elected in 855 by the envoys of the emperors Lotharius and Lewis in oppoſition to Benedict III.; but the biſhops of Oſtia and Albano, alleging that he had been depoſed in a council, refuſed to conſecrate him: upon which the envoys abandoned Anaſtaſius, and he was obliged to relinquiſh his pretenſions. Bower's Hiſt. vol. iv. p. 260, &c.

Anastasius *Sinaita*, a monk of Mount Sinai, lived in the ſixth century, in the year 561 was promoted to the dignity of patriarch of Antioch, and died in 599. Evagrius repreſents him as a perſon eminently ſkilled in ſacred literature, exemplary in his conduct, and ſcrupulouſly attentive to the duties of piety. He was the author of ſeveral works in Greek, which are ſtill extant; ſuch as "Ὁδηγος; or, "A Guide in the Way againſt the Acephali;" printed in 4to. at Ingolſtadt in 1606. "Queſtiones et Reſponſiones de variis Argumentis in S. Scripturam," numero 154; printed in Greek and Latin at Ingolſtadt in 1617, 4to. "Anagogicarum Contemplationum in Hexameron, libri ii." or, "Myſterious Contemplations on the ſix Days' Creation," publiſhed

publiſhed in Latin, at Paris, in 1609; the 12th book was publiſhed in Greek and Latin by Alix, in London, in 1682, 4to.; a treatiſe, which, according to the opinion of Moſheim, betrays the levity and ignorance of the author. Other tracts are preſerved in the "Bibliotheca Patrum." Cave's Hiſt. Lit. vol. i. p. 531. Moſheim's Eccl. Hiſt. vol. ii. p. 127. Fabr. Bib. Græc. lib. v. c. 35. § 1.

Anastasius, Theopolitanus, was biſhop of Antioch, and flouriſhed in the ſixth century. He eſpouſed the opinions of a ſect denominated Aphthartodocetæ, and on this account Juſtinian deſigned to depoſe him; but being prevented by death from executing his purpoſe, Juſtin the younger baniſhed him in 570, and he remained in exile twenty-three years. Mauritius reſtored him to his ſee in 593. He died in the year 599, and was ſucceeded by another Anaſtaſius, who was killed in a tumult by the Jews in 609. This biſhop of Antioch has left ſome ſermons, and treatiſes on the Trinity, and other points of faith, which were publiſhed in Latin at Ingolſtadt in 1616, in 4to.; and alſo the "Annunciation of the Virgin Mary, and Transfiguration of Chriſt," publiſhed in Greek and Latin, in the firſt volume of "Combefiſii Auctarius," fol. Paris, 1648. Fabr. Bib. Græc. lib. 5. c. 35. § 1. tom. ix. p. 312. p. 332.

Anastasius, the *Librarian*, was a Roman abbot and preſbyter, and flouriſhed in the ninth century. He had the charge of the Vatican Library under ſeveral popes; in 869 he aſſiſted at the general council of Conſtantinople, and tranſlated into Latin the acts of that council, and alſo the acts of the council of Nice, held in 787, which are ſtill extant. To this tranſlation he prefixed "A Hiſtory of the Schiſm of Photius and the Council." He alſo wrote, or compiled, the lives of the popes down to Nicholas I. continued by others, and publiſhed with the eccleſiaſtical hiſtory of Nicephorus Syncellus, and Theophanes, at Paris, in 1649, fol. An enlarged edition of this work has been ſince publiſhed by Bianchini, in four volumes folio, at Rome, in 1718. Anaſtaſius was a learned man, and a tolerable writer. Cave's Hiſt. Lit. vol. ii. p. 56. Fabr. Bib. Græc. lib. v. c. 35. § 8. tom. ix. p. 339.

ANASTATIA, St. in *Geography*, a ſmall iſland near the coaſt of Eaſt Florida, ſouth of Maſtances inlet, where the river Maſtances forms two iſlands of the ſame name at its mouth. St. Anaſtatia iſland is bounded on the north by St. Auguſtine's bar. It has a quarry of fine ſtone for building.

ANASTATICA, formed from ἀναστικος, *reſuſcitating*, from its quality of reviving in water, in *Botany*, a genus of the *tetradynamia ſiliculoſa* claſs and order, of the natural order *ſiliquoſæ*, or *cruciformes*, and the *cruciferæ* of Juſſieu: its characters are, that the *calyx* is a four-leafed and deciduous perianthium; leaflets ovate, oblong, concave, erect and deciduous; the *corolla* is tetrapetalous and cruciform, the petals roundiſh, flat and ſpreading, with claws nearly as long as the calyx, but more ſpreading; the *ſtamina* have ſix filaments, ſubulate, of the length of the calyx, from erect ſpreading; anthers roundiſh; the *piſtillum* has a bifid, very ſmall germ, ſubulate ſtyle of the length of the ſtamens, and permanent, the ſtigma capitate; the *pericarpium* is a very ſhort filicle; partition ending in a ſubulate point, oblique and longer than the filicle itſelf, the valves parallel, making a cell of the lower half, but ſtanding out from the upper, rounded, concave, gaping, and oblique, and hence having the form of a ſheep's hoof; the *ſeeds* are ſolitary and roundiſh. There are two ſpecies. 1. A. *hierochuntica*, thlaſpi roſa de hiericho of Mor. Hiſt. roſa hierochuntica of Bauhin and Ray, &c. common anaſtatica, or roſe of Jericho, with leaves obtuſe, ſpikes axillary and very ſhort, filicles hoofed and thorny. This plant grows naturally on the coaſts of the Red Sea, in Paleſtine, and near Cairo, in ſandy places; and was cultivated in Kew Garden by Tradeſcant in 1656. It has had the epithet of the roſa Mariæ given to it by the monks, who have ſuperſtitiouſly imagined that the flowers open on the night in which our Saviour was born. But the truth is, that the dry woody plant being ſet for ſome time in water, will dilate and open, ſo as to diſcloſe the ſeed veſſels and ſeed. This has been done when the plants have been many years gathered; ſo that ſome curious perſons preſerve them in their repoſitories of curioſities, for the ſingularity of this property. 2. A. *ſyriaca*, bunias ſyriaca of Gærtner, myagrum roſtratum of Scop. Zan. and Pallas, thlaſpi, &c. of Bocc. Muſ. roſa hiericontea ſylveſtris of Bauhin, Syrian anaſtatica, with leaves acute, ſpikes longer than the leaf, filicles ovate, beaked, and not at all bifid. This is a native of Auſtria, Stiria, Carniola, Syria, and Sumatra, and was introduced in 1788 by M. Thouin. It flowers in May and June.

Culture.—Theſe plants, being annual, can only be propagated by ſeeds, which rarely ripen in England, unleſs they be ſown on a hot-bed in the Spring, and the plants afterwards put into pots, which ſhould be plunged into another hot-bed, in order to bring them forward. They will not perfect ſeeds unleſs the Summer is very hot and dry; but if they are kept in a frame, with free air in warm weather, they will flower in June, and the ſeeds will ripen in September. Martyn's Miller.

Anastatica, in *Natural Hiſtory*, a ſpecies of vorticella, in the fifth order of Vermes, infusoria. It is compound, with bell ſhaped flowers; foot-ſtalks ſcaly and rigid. Linn. and Mull.

This is the ſecond ſpecies of cluſtering polype deſcribed by Trembley. Theſe polypes form a group reſembling a cluſter, or more properly an open flower; this flower or cluſter is ſupported by a ſtem, which is affixed by its lower extremity to ſome of the aquatic plants, or extraneous bodies, that are found in the water; the upper extremity forms itſelf into eight or nine lateral branches perfectly ſimilar to each other; theſe have alſo ſubordinate branches, whoſe collective form much reſembles that of a leaf. Every one of theſe aſſemblages is compoſed of one principal branch or nerve, which makes with the main ſtem of the cluſter an angle ſomewhat greater than a right one; from both ſides of this nerve the ſmaller lateral branches proceed; theſe are ſhorter the nearer their origin is to the principal branch.

At the extremity of the principal branch, and alſo of all the lateral ones, there is a polype or vorticella. There are others on both ſides of the lateral twigs, but at different diſtances from their extremity. Theſe polypes are all exceedingly ſmall, and of a bell-like figure; near their mouth a quick motion may be diſcerned, though not with a ſufficient diſtinctneſs to convey an adequate idea of its cauſe; upon the branches of theſe cluſters are round bodies.

Every cluſter has eight or nine of theſe branches or leaves; they do not all proceed from the ſame point, but the points from whence they ſet out are not far aſunder; each of theſe branches is bent a little inwards, ſo that all of them taken together form a kind of ſhallow cup. If the eye is placed right over the baſe of this cup, the appearance of the whole eight or nine branches is like that of a ſtar, with ſo many rays proceeding from the center. If the cluſter is ſlightly touched, all the branches inſtantly fold up, and form a ſmall round maſs. The ſtem which ſupports the cluſter contracts alſo at the ſame time, folding up like a workman's meaſuring rule, that conſiſts of three or four joints. This extraordinary aſſemblage conſtitutes one organiſed whole, formed of a multitude of ſimilar and particular ones. A new ſpecies of ſociety, in which all the individuals are members of each other in the ſtricteſt ſenſe, and all participate of the ſame life.

A few days after one of theſe cluſters is formed, ſmall

round bodies or bulbs may be perceived to protrude in ſeveral places from the body of the branch; theſe grow very faſt, and arrive at their greateſt growth in two or three days. The bulbs detach themſelves from the branches out of which they ſpring, and go away, ſwimming till they can ſettle upon ſome ſubſtance which they meet with in the water, and to which they affix themſelves by a ſhort pedicle; the bulbs are then round, only a little flatted on the under ſide, the pedicle continues to lengthen gradually for about twenty-four hours, during which time the bulbs alſo change their figure, and become nearly oval; there are in a cluſter but few of theſe bulbs compared with the number of vorticellæ, neither do all the bulbs come out at the ſame time. The bulb then divides lengthways into two ſmaller ones, but which are ſtill much larger than the vorticellæ themſelves. It is not long before theſe are ſeparated like the firſt, and thus form four bulbs on the ſame ſtalk; theſe again divide themſelves and form eight, which again ſubdivide, and conſequently make ſixteen. They are all connected with the ſtalk by a proper pedicle, but they are not all of an equal ſize; the largeſt continue to divide, and the ſmalleſt begin to open, and take the bell-formed ſhape. Mr. Trembley obſerved from one round bulb in about twenty-four hours, by repeated diviſions, one hundred and ten vorticellæ to be formed. Vide Phil. Tranſ. Adams Microſc. &c. &c.

ANASTOMASIS, or ANASTAMOSIS, formed of ανα, *through*, and στομα, *mouth*, in *Anatomy*, is ſometimes uſed to expreſs ſuch aperture of the mouths of the veſſels as lets out their contents.

ANASTOMASIS is more frequently uſed to denote the opening of two veſſels into one another; or the union and juncture of the mouths of two veſſels, whereby they come to communicate with one another.

Anaſtomaſes take place in conſiderable number in the abſorbing and circulating veſſels of animals. For an account of their number, ſituation, and uſes, the reader is referred to the articles ABSORBING *Veſſels*, ARTERY, *Circumſtances obſervable in the Ramification of*, and VEIN, *Circumſtances obſervable in the Diſtribution of*.

ANASTOMASIS, in *Botany*, a ſpecies of PHALLUS.

ANASTOMOSIS, in *Entomology*, a ſpecies of PHALÆNA of the bombyx tribe. Thorax reddiſh-brown; anterior wings grey, with three whitiſh, anaſtomiſing ſtreaks. Linnæus.

The larva is brown, with white ſpots on the back, lateral line yellow, with a red dot on each ring; a bifid protuberance on the ſhoulders and tail; pupa black, with two red, longitudinal ſtreaks; feeds on the willow.

ANASTOMOTICS, formed from αναστομοω, *I unſtop*, or ANASTOMOTIC *medicines*, are, in a general ſenſe, the ſame as aperients; but in a more ſpecial ſenſe, the term denotes ſuch as are ſuited to open the extreme orifices of blood-veſſels, ſo that the blood may circulate the more freely.

ANASTROUS *ſigns*, in *Aſtronomy*, an appellation given to the *dodecatimoria*, or the twelve portions of the ecliptic which the ſigns poſſeſſed anciently, but have deſerted by the preceſſion of the equinox.

ANASTROPHE, from ανα and στρεφω, *I turn*, in the *Ancient Military Art*, denotes the turn of a battalion to its former ſtation, after a turn or evolution either to the right or left. The anaſtrophe ſtands oppoſite to the epiſtrophe.

ANASTROPHE alſo denotes a grammatical figure, whereby a prepoſition, which regularly ought to precede, is placed after its caſe, *e. gr.* "Saxa per et ſcopulos," for "per Saxa et ſcopulos."

ANASTROPHE, in *Rhetoric*, denotes a quaint inverſion of the order of the words in a ſentence, *e. gr.* "ut ſcire poſſis ad quo te expediat loqui," for "quo ad expediat te loqui."

ANASUS, or ANISUS, in *Ancient Geography*, now the *Ens*, a river of Norica, which fell into the Danube. See ENS.

ANATAJAN, in *Geography*, called alſo the iſland of St. Joachim, one of the Ladrone or Marianne iſlands, is about 30 miles in compaſs, and is the firſt of thoſe called the northern iſles. N. lat 16° 42′. E. long. 145° 50′.

ANATHEMA, from ανα and τιθημι, *I lay up*, in *Antiquity*, denotes a preſent offered to ſome god, and hung up in his temple.

Making preſents to the gods was a cuſtom even from the earlieſt times, either to pacify them when angry, or to obtain ſome future benefit, or as a grateful acknowledgment of ſome paſt favour. They conſiſted of crowns and garlands, garments, cups of gold, and other valuable metals, and any other things which conduced to the ornament, or to the enriching of the temples.

Theſe were commonly termed αναθηματα, and ſometimes ανακειμενα; from their being depoſited in the temple, where they were ſometimes laid on the floor, ſometimes hung upon the walls, doors, pillars, or the roof, or any other conſpicuous place. Sometimes the occaſion of the dedication was inſcribed either upon the thing itſelf, or when the matter of that could not bear inſcription, upon a tablet hung up with it.

When any perſon left his employment, or way of life, it was cuſtomary to dedicate the inſtruments belonging to it, as a grateful commemoration of the divine favour and protection. Thus in an ancient Greek epigram we find a fiſherman makes a preſent of his nets to the nymphs of the ſea. Shepherds hung up their pipe to Pan, or ſome of the country deities, as we find done by one in Tibullus. So Lais, decayed with age, dedicates her mirror to Venus. Pauſanias has left us a particular deſcription of the anathemata, in the Delphian temple, which was the richeſt of any in Greece.

The term anathema alſo occurs in a like ſenſe, applied to Chriſtian offerings.

The anathemata, or ornaments of the ancient churches, are otherwiſe called in eccleſiaſtical writers donaria.

Such in particular were thoſe called εκτυπωματα, anſwering to the votive tablets of the heathens. Alſo pictures, moſaics, inſcriptions, and at length images, ſtatues, crucifixes, &c.

Cebes's beautiful tablature of Human Life, is ſaid, in the introduction to it, to have been among the αναθηματα, in the temple of Saturn.

ANATHEMA, in an *Eccleſiaſtical ſenſe*, denotes an EXCOMMUNICATION, attended with execrations and curſes. In this ſenſe the word is uſually written in Greek αναθεμα, to diſtinguiſh it from an offering to the gods, called αναθημα; though it is certain ſeveral of the Greek fathers do not obſerve this diſtinction; but uſe αναθεμα indifferently for either.

There are two kinds of anathemas; the one *judiciary*, the other *abjuratory*.

The former can only be denounced by a council, a pope, biſhop, or other qualified perſon; and differs from a ſimple excommunication in this, that an excommunication only prohibits the criminal from entering within the church, or from holding communion with the faithful, whereas an anathema cuts him off from the body, the ſociety, and even the commerce of the faithful, and delivers him over to the Devil.

The latter kind of anathema uſually makes a part of the ceremony of ABJURATION; the convert being obliged to anathematize the hereſy he abjures.

The critics and commentators are divided about the manner wherein St. Paul wiſhes to be anathema for his brethren. Romans ch. ix. 3. See ACCURSED.

In ancient cenſures we meet with an extraordinary formula,

mula, called *marantha*; and authors are divided concerning its import and uſe.

St. Chryſoſtom ſays it is a Hebrew word, ſignifying *the Lord is come*; and he particularly applies it to the confuſion of thoſe who ſtill abuſe the privilege of the goſpel, notwithſtanding that the Lord was come among them.

St. Jerom ſays it was more a Syriac than an Hebrew word, though it had ſomething in it of both languages, ſignifying *our Lord is come*. But he applies it againſt the perverſeneſs of the Jews, and others, who denied the coming of Chriſt, making this the ſenſe of the apoſtle; *if any man love not the Lord Jeſus Chriſt, let him be anathema, the Lord is come.*

According to this ſenſe, *maranatha* could not be any part of the form of excommunication, but only a reaſon for pronouncing the anathema againſt thoſe who expreſſed their hatred againſt Chriſt, by denying his coming, either in words, as the Jews did who blaſphemed him, and called Jeſus anathema, or accurſed; or elſe by wicked works, as thoſe who lived profanely under the name of Chriſtians. Others of the ancients interpret the word of the future coming of Chriſt, particularly St. Auſtin, who ſays, *maranatha* is a Syriac word, ſignifying *the Lord will come.* And he particularly applies it againſt the Arians, who could not be ſaid, as he uncharitably thought, to love the Lord, becauſe they denied his divine nature. Dr. Hammond and others will have *anathema maranatha* to have anſwered to the third and higheſt degree of excommunication among the Jews, called *ſhammatha.*

Balduinus, Deutrohmannus, Durrius, Stevartius, and others, have written expreſsly concerning *anathemas.* Her. Labertus, a German writer, has given an *Anathematologia*, or a diſcourſe on the church curſes. See a form of the anathema denounced againſt robbers in the middle ages, in Bouquet's Recueil des Hiſt. tom. x. p. 517. cited by Robertſon, in Hiſt. Charles V. vol. i. p. 398. That which was iſſued A .D. 988, after the uſual introduction, and mentioning the outrage which gave occaſion to it, runs thus: "Obtenebreſcant oculi veſtri, qui concupiverunt; areſcant manus, quæ rapuerunt; debilitentur omnia membra, quæ adjuverunt. Semper laboretis, nec requiem inveniatis, fructuque veſtri laboris privemini. Formidetis, et paveatis, a facie perſequentis, et non perſequentis hoſtis, ut tabeſcendo deficiatis. Sit portio veſtra cum Juda traditore Domini, in terra mortis et tenebrarum; donec corda veſtra ad ſatisfactionem plenam convertantur.—Ne ceſſant a vobis hæ maledictiones, ſcelerum veſtrorum perſecutrices, quamdiu permanebitis in peccato pervaſionis. Amen. Fiat. Fiat."

Pope Clement VIII., immediately after his election, publiſhed a bull againſt duelling, denouncing an Anathema againſt all thoſe who ſhould give, receive, or carry a challenge, and a ſentence of interdiction againſt the places where duels ſhould be fought.

ANATHEMATISING, the act of pronouncing an *anathema.* In which ſenſe it amounts to the ſame with *excommunicating.* The term is not only applied in ſpeaking of perſons but of doctrines and opinions.

ANATHEMATISM denotes the ſame with *anathema* or imprecation.

ANATHO, or ANNAH, in *Ancient Geography*, a city of Meſopotamia, the actual reſidence of an Arabian Emir, was compoſed of two long ſtreets, which incloſed, within a natural fortification, a ſmall iſland in the midſt, and two fruitful ſpots on either ſide, of the Euphrates. It was ſituated to the ſouth-eaſt of Circeſium. The warlike inhabitants of Anatho ſhewed a diſpoſition to ſtop the march of a Roman emperor; till they were diverted from ſuch fatal preſumption by the mild exhortations of prince Hormiſdas, and the approaching terrors of the fleet and army. They implored, and experienced, the clemency of Julian, who tranſplanted the people to an advantageous ſettlement near Chalcis, in Syria, and admitted Puſæus, the governor, to an honourable rank in his ſervice and friendſhip. See ANAH.

ANATHOTH, a city of Paleſtine, north-eaſt of Jeruſalem, and not far from it. This city had been given to the Levites, and was one of the cities of refuge. It belonged to the tribe of Benjamin; and was the birth-place of the prophet Jeremiah, and the inheritance of many of the Jewiſh pontiffs.

ANATHREPSIS, in *Medicine*, amounts to much the ſame with ANALEPSIS.

ANATICULA, a diminutive of *anas*, and uſed by the old Roman *Authors*, as a term of fondneſs, to expreſs the paſſion of love. There is another of the ſame kind from a different bird, *palumbula.*

My little duck, my little dove, were the moſt endearing terms the lovers of thoſe times could uſe; nor was this the cuſtom of the Romans only, but the Greeks, as far back as Ariſtophanes, have it.

ANATIFERA, in *Conchology*, a ſpecies of LEPAS, called bernacle, that adheres by means of its membranaceous pedicle to the bottoms of ſhips, timber, and other ſubſtances floating in the water. The ſhell is compreſſed, and conſiſts of five valves, is ſmooth, and affixed to a pedicle. Linnæus.

This curious marine production conſiſts of many unequal membranaceous branches, or arms, at the ends of which the ſhells are diſpoſed in an irregular manner; the larger cluſtering with the ſmaller in groups, and forming bunches of various ſizes. The branches are of a fine red: the ſhells of a bluiſh violet. The animal within is a *triton*, and is furniſhed with many *cirrhi*, or *tentacula*, with which it takes its food. Theſe tentacula are pectinated like feathers, and hang out of the ſhells when open. In the 16th century they were in fact ſuppoſed to be feathers, and hence aroſe the whimſical belief that theſe ſhells produced geeſe, of the ſpecies called bernacles. (Anas Erythropus of Linnæus.) Nor was this a vulgar opinion only; it was ſanctioned by the grave details of naturaliſts of that time, and particularly by Gerard, whoſe obſervations are worthy of notice.

"What our eyes have ſeene, and hands have touched, we ſhall declare. There is a ſmall iſland in Lancaſhire, called the *pile* of *Foulders*, wherein are found the broken pieces of old and bruiſed ſhips, ſome whereof have been caſt thither by ſhipwrake, and alſo the trunks and branches of old and rotten trees, caſt up there likewiſe; whereon is found a certaine ſpume, or froth, that in time breedeth unto certaine ſhels, in ſhape like thoſe of the muſkle, but ſharper pointed, and of a whitiſh colour, wherein is contained a thing in form like a lace of ſilke, finely woven as it were together, of a whitiſh colour; one end whereof is faſtened into the inſide of the ſhell, even as the fiſh of oiſters and muſkles are; the other end is made faſt unto the belly of a rude maſſe, or lumpe, which in time commeth to the ſhape and form of a bird. When it is perfectly formed, the ſhell gapeth open, and the firſt thing that appeareth is the foreſaid lace or ſtring; next come the legs of the bird, hanging out, and as it groweth greater it openeth the ſhell by degrees, till at length it is all come forth, and hangeth onely by the bill; in ſhort ſpace after it cometh to full maturitie, and falleth into the ſea, where it gathereth feathers, and groweth to fowle bigger than a mallard, and leſſer than a gooſe, having blacke legs and bill or beak, and feathers blacke and white, ſpotted in ſuch manner as is our magpie, called in ſome

places a pie-annet, which the people of Lancaſhire call by no other name than a tree gooſe; which place aforeſaid, and all thoſe parts adjoining do ſo much abound therewith, that one of the beſt is bought for three-pence. For the truth hereof, if any doubt, may it pleaſe them to repaire unto me, and I ſhall ſatisfie them by the teſtimonie of good witneſſes." Gerard's Herbal.—Vide Donov. Brit. Shells, &c.

ANATILII, in *Ancient Geography*, a people of Gallia Narbonnenſis, mentioned by Pliny. Their ſituation is diſputed. Martin ſays, that they were ſituated to the left of the mouth of the Rhone, near the ſide of the lake called *Stagnum Tauri*, and he ſuppoſes that they were the ſame with the Atlantici of Avienus. Some authors have inferred from an inſcription of queſtionable authority, that their capital was Heraclea. M. d'Anville places them at the mouth of the Rhine, more to the right than to the left.

ANATINA, in *Conchology*, a ſpecies of Mya. Shell globoſe, ſnowy-white, and pellucid; primary tooth of the hinge prominent and roundiſh. Gmelin. This ſhell is found on the ſhores of Guinea, and other parts of Africa, and bears ſome affinity to ſolen anatinus. It is marked with ſtreaked lines that interſect each other.

Anatina, is likewiſe a ſpecies of Ostrea, that inhabits the Nicobar iſlands. The ſhell is pellucid, lamellated and laterally incurved. Gmel. It is thin and fragile, and variegated with white and violet, and about three inches in length, including the incurvature, which is nearly half of that length. From a fancied reſemblance of this ſhell to a duck when ſitting it has acquired the ſpecific name *anatina*.

ANATINUS, in *Conchology*, a ſpecies of Solen. The ſhell is ovate, membranaceous, and covered with pile or ſoft hairs; a hooked rib at the hinge. This ſpecies is found on the ſandy ſhores of the Indian ocean, and is named by Rumphius roſtrum anatis. It is pellucid, white, and very thin; one end rounded, the other gaping. Tooth in both valves of the figure of an ear-picker. Gmel.

Anatinus, is likewiſe a ſpecies of Mytilus, of an oval ſhape, ſomewhat compreſſed fragile, with a membranaceous margin, and decorticated beaks. Gmel. This ſpecies has been frequently confounded with Mytilus cygneus; from which it differs in ſeveral particulars. It is very common in the rivers of England, and is known by the name of duck or ſmall horſe muſcle. Vide. Donov. Brit. Shells, pl. 113.

ANATIS, in *Ancient Geography*, a river, which, according to Pliny, belonged to Mauritania Tingitana.

Anatis, in *Entomology*, a ſpecies of Pediculus that infeſts the wild duck. It is whitiſh; firſt ſegment of the thorax orbicular, truncated on each ſide, the other and the abdomen long and narrow. Schranck.

Anatis, in *Natural Hiſtory*, a ſpecies of Ascaris, of the order Inteſtina in the Vermes claſs, that is found in the inteſtines of the wild duck, (anas boſchas). It is from four to ſix inches in length, and is viviparous. The ſpecific character, according to Gmelin, is, white, poſterior part flattiſh.

Anatis is alſo the ſpecific name of another creature that is found in the inteſtines of the velvet duck. The body is ſcarlet, its form ovate, thorax and proboſcis covered with hooked points, and it has a long ſmooth intermediate neck. Gmelin. This belongs to the genus echinorhynchus, in the order inteſtina and Vermes claſs.

Anatis is likewiſe the ſpecific name of a third creature of the order of the Inteſtina in the claſs of Vermes. This is fasciola anatis of Gmelin. The body is reddiſh, and of a roundiſh form, with a ſingle pore. This kind is found in the inteſtines of the domeſtic duck. It is ſmall, ſomewhat pellucid, and uſually white, the forepart truncated and triangular, behind roundiſh, inteſtines flexuous and blackiſh. This is cuculanus conoideus of Bloch, and hirudo falciolaris of Mull. Z ol. Dan.

ANATOCISM, Anatocismus, an uſurious contract, wherein the intereſts ariſing from the principal ſum are added to the principal itſelf, and intereſt exacted upon the whole. The word is originally Greek, but uſed by Cicero in Latin; whence it has deſcended into moſt other languages. It comes from the prepoſition ἀνὰ, which in compoſition ſignifies *repetition* or *duplication*, and τόκος, *uſury*.

Anatocism is what we properly call *intereſt upon intereſt*, or *compound intereſt*.

This is the worſt kind of uſury, and has been ſeverely condemned by the Roman law, as well as by the common laws of moſt other countries. See Interest.

ANATOLIA, in *Geography*, a province of Turkey, in Aſia. See Natolia.

ANATOLIUS, in *Biography*, patriarch of Conſtantinople, ſucceeded Flavian in the year 449. Before his preferment to this dignity, he favoured the Eutychians; but after the acceſſion of Marcian, he attached himſelf to the party, which he patronized, and which held the orthodox faith of two natures in Chriſt, and thus ingratiated himſelf both with the emperor and with pope Leo. Whilſt he was ſupported by the imperial power, he maintained a vigorous conteſt with Leo, for the equality of the two churches of Rome and Conſtantinople, but when Marcian ſeemed to be inclined to allow to the ſee of Rome the ſupremacy in the church, he acquieſced. In order farther to engage Leo's favour, he called a council at Conſtantinople, which denounced an anathema againſt Neſtorius and Eutyches; and then ſent deputies to the pope to aſſure him of the purity of his own faith. He afterwards concurred with the emperor Marcian and the pope in hoſtile meaſures againſt thoſe who did not openly profeſs the doctrine of the church. Upon the whole, Anatolius ſeems to have been a time-ſerving eccleſiaſtic, whoſe character claims no commendation. Dupin's Eccl. Hiſt. vol. iii. p. 2. p. 228.

Anatolius, biſhop of Laodicea, in Syria, was a native of Alexandria, flouriſhed under the emperors Probus and Carus, and ſucceeded Euſebius about the year 270. He was the moſt eminent perſon of his time, for his acquaintance with philoſophy and the Greek literature, and for his ſkill in arithmetic, geometry, aſtronomy, grammar, rhetoric, and logic. His diſtinguiſhed qualifications recommended him to the citizens of Alexandria, and at their requeſt he is ſaid to have ſet up a ſchool for the Ariſtotelian philoſophy. The tenets of the Peripatetic ſect were the baſis of his ſyſtem, and with them he incorporated other doctrines, both Pagan and Chriſtian, thus forming a new ſchool, in which Ariſtotle was the chief maſter. Some have doubted whether he actually complied with the requeſt of the Alexandrians, and ſet up ſuch a ſchool; however this be, none of his commentaries upon Ariſtotle are extant, and, therefore, the particular manner in which he philoſophiſed is unknown. Whether he was a native chriſtian or a convert from paganiſm, is not certain; but he was undoubtedly a chriſtian long before he became biſhop of Laodicea, for he was upon terms of intimate friendſhip with Euſebius, his predeceſſor in that ſee, about the year 263, when Bruchium, or Pyruchium, one of the quarters of the city of Alexandria, in which was the citadel, was beſieged. A circumſtance occurred on this occaſion, which reflects peculiar honour on his character. See Alexandria.

Euſebius

Euſebius ſays of him, that with univerſal conſent he had pre-eminence above all the magiſtrates or ſenators of Alexandria, that were in Bruchium. Soon after this ſiege, Anatolius left Alexandria, and went into Syria; and he was ordained biſhop by Theotecnus, biſhop of Cæſarea, deſigned by him for his ſucceſſor, and actually appointed his colleague; but in his way to a council at Antioch, held by the Chriſtian brethren upon the concerns of Paul of Samoſata, he was detained at Laodicea, and appointed biſhop of that city. Anatolius appears to have been a diſtinguiſhed ornament of the Chriſtian church; and though he did not write many books, yet his eloquence and extenſive knowledge and learning are ſufficiently manifeſt in thoſe that are extant. His work on Eaſter, entitled, "The Paſchal Canon," is cited by Euſebius; and an ancient Latin verſion of it, ſaid to be Rufinus's, was publiſhed by Ægidius Bucherius, in folio, at Antwerp, in 1634. Of his ten books of "Inſtitutes of Arithmetic," extracts are preſerved in a collection, entitled "Theologumena Arithmetica." Some fragments of his philoſophical writings are collected by Fabricius, from which it appears, that, after the example of Pythagoras, Plato, and Ariſtotle, he made mathematical learning ſubſervient to philoſophy. This learned Alexandrian concurred with other Chriſtians, in a high reſpect for the ſcriptures of the Old and New Teſtament. The time and manner of his death are not certainly known; but ſome have ſuppoſed that he died a martyr. Euſeb. Hiſt. Eccl. lib. vii. c. 32. p. 284. ed Valeſ. Cave's H. L. vol. i. p. 136. Fabr. Bib. Gr. lib. iii. c. 11. tom. ii. p. 273—278. Brucker's Hiſt. Phil. by Enfield, vol. ii. p. 306. Lardner's Works, vol. iii. p. 265—269.

Fabricius (B. G. lib. v. c. 1. tom. v. p. 277.) has mentioned ſeveral other perſons of the ſame name, who ought to be diſtinguiſhed from Anatolius, of whom we have given an account. Cave alſo (*ubi ſupra*) ſhews, that this Anatolius is different from him, whom Eunapius mentions as maſter of Jamblichus; though they are confounded by Valeſius, and his opinion has been approved by Baſnage. Anatolius, of Berytus, in Phænicia, was a man of great learning, good judgment, and much candour. He was a faithful ſubject and able officer, under the emperor Conſtantius, being præfect of Illyricum, from the year 358 to the time of his death in 360. Photius, ſpeaking of his work concerning agriculture, ſays, that it is a collection out of ſeveral writers upon the ſame ſubject, ſuch as Democritus, Africanus, Tarantinus, Apuleius, Florentius, Valens, Leon, and Pamphilus, and alſo from the paradoxes of Diaphones. The work conſiſts of 12 books or ſections. It contains, ſays Photius, many uſeful directions for agriculture and huſbandmen, and may be reckoned one of the beſt books written upon the ſubject. There are inſerted at the ſame time many ſtrange and incredible things, favouring of the error of Gentiliſm: but he adds, a pious huſbandman may let thoſe things alone, and ſelect only what is uſeful. Anatolius is highly commended for his integrity and eloquence, for his knowledge of the laws, and for his patronage of learning. Lardner's Works, vol. ix. p. 8—11.

ANATOMY. The word ſignifies ſimply diſſection, yet there are uſually comprehended under this term all thoſe artifices by which the ſtructure of animal bodies is developed and exhibited. As a ſcience, anatomy muſt be admitted to be highly intereſting and important; while other ſciences lead us abroad in purſuit of knowledge, in this we are engaged at home, in concerns truly intereſting, in enquiring into the means by which we live, and move, and have our being. Anatomy alſo furniſhes us with knowledge which teaches how to preſerve health, to correct diſeaſe, and rectify the effects of thoſe injuries to which we are inevitably expoſed.

Anatomy is divided into human and comparative; in the former our reſearches are reſtricted to our own bodies, but in the latter, we may range over the whole field of animated nature.

The anatomical deſcription of the body is technically arranged under the following heads, to which we refer the reader for more particular information.

1ſt. Oſteology, or the deſcription of the ſtructure, ſhape, and uſes of the bones.

2d. Syndeſmology, or a deſcription of their connection by ligaments, and the ſtructure of the joints.

3d. Myology, or a deſcription of the moving powers or muſcles.

4th. Angeiology, or a deſcription of the veſſels engaged in nouriſhing the body, in abſorption, and in the removal of ſuperfluous parts.

5th. Adenology, or a deſcription of the glands, in which various liquors are ſeparated or prepared from the blood.

6th. Splanchnology, or a deſcription of the different bowels, which ſerve various and diſſimilar purpoſes in the animal economy.

7th. Neurology, under which title the brain, the nerves, and organs of ſenſe muſt be comprehended.

This arrangement, which is not very well adapted to the purpoſes of anatomical deſcription, is, however, not at all ſuited to the views of phyſiology; for this ſubject, therefore, we muſt refer the reader to another ſeries of articles. The functions carried on in animals, in the explanation of which phyſiology conſiſts, may be thus arranged.

The terms, however, by which they are diſtinguiſhed, do not correctly expreſs the nature of each function, as will be ſhewn more at large under their reſpective titles.

1ſt. Digeſtion, or the converſion of extraneous matter into the nature of their own bodies.

2d. Circulation, or the diſtribution of the converted matter to every part of the animal for its repair and augmentation. The proceſs is named circulation, from the mode in which it is carried on in the generality of animals.

3d. Secretion, or the ſeparation and depoſition of the particles compoſing the ſtructure of animals and vegetables, as well as various ſubſtances which they produce from the circulating fluids.

4th. Abſorption, by which external matter is imbibed, and that which is depoſited by ſecretion more or leſs removed.

5th. Reſpiration, or the expoſure of the nutritive fluid to the action of the atmoſphere.

6th. Irritability, or the action which is exerted in carrying on the circulation, ſecretion, and abſorption, and which is more ſtrikingly manifeſted in the occaſional motions of the muſcular powers.

7th. Senſation, by which animals become conſcious of the exiſtence of external objects, and alſo of their own.

8th. Generation, by which new beings, ſimilar to the parents, are formed and produced.

Moſt of theſe powers are obſervable in vegetables.

ANATOMY, *Hiſtory of.* The writers on the hiſtory of medical ſcience, and of anatomy, as forming a part of it, generally divide it into four portions. The firſt contains the ſtate of theſe ſciences previous to the life of Hippocrates, who was born about 460 years before the Chriſtian æra; the ſecond contains an account of the additions and alterations that were made before, and by the labours of Galen, who lived about one hundred and fifty years

years after the birth of Chriſt. The third part comprehends the declenſion of theſe ſciences, with learning in general, in the ſixth and ſeventh centuries, and their revival in the fourteenth and fifteenth, to their more perfect eſtabliſhment by Harvey's diſcovery of the circulation of the blood. The fourth part contains an account of the more perfect ſtate of theſe ſciences from Harvey to the preſent time. The deſire of inveſtigating the ſtructure of the body ſeems ſo natural a kind of curioſity, and ſo intimately connected with ſelf-preſervation, that we cannot wonder if a conſiderable portion of ſuch knowledge ſhould be acquired, even where the opportunities of reſearch may have been very limited and inadequate. Omai, who was brought by Capt. Cook from Otaheite, when he ſurveyed Dr. Hunter's Muſeum, manifeſted conſiderable acquaintance with the ſubjects before him, and a great deſire of further information. The ſlaughter of animals for food, the preparation of them for ſacrifice, and accidental opportunities of examining the human ſkeleton, &c. were the firſt ſources of anatomical information.

Amongſt the Egyptians, the moſt ancient nation, of whoſe manners we have authentic memoirs, the rites practiſed in honour of the dead, by embalming their bodies, would familiarize the people to anatomical inquiries. The cuſtom of carrying about, at their feaſts, a ſkeleton, left their gueſts, in the midſt of feaſting and merriment, ſhould forget the frail tenure of life and its enjoyments, ſeems a ſufficient proof of this aſſertion. It is alſo related, that one of their kings left writings on anatomy.

Our accounts of this ſcience are, however, very ſlight and imperfect, till it was cultivated by the enlightened inhabitants of Greece. If the purſuit of anatomical knowledge is ſo natural and important as to intereſt even barbarous nations, it was likely to be proſecuted with greater ardour and ſucceſs as knowledge increaſed, and the powers of the mind in obtaining it became ſtrengthened by exertion. At the time of Homer the Grecians ſeem to have poſſeſſed much general anatomical knowledge, as the writings of that poet evince. We read, that the ſtone, which Diomede threw at Æneas, not only cruſhed the bone of his thigh, but alſo tore the ligaments of the acetabulum. Merion was wounded in one of the large veins, which return the blood to the heart, known to anatomiſts by the name of vena cava; and Ulyſſes meditated to wound the Cyclops juſt where the liver adheres to the diaphragm. Anatomical facts were collected, and the phyſiology of animals inveſtigated by the philoſophers of Greece, who taught theſe ſubjects, as well as other branches of ſcience, at the philoſophical ſchools of Rhodes, Cos, Cnidos, Cyrene, and Crotona. The firſt diſſection on record, is one in which Democritus, of Abdera, was engaged, in order to aſcertain the ſources and courſe of the bile. It is natural to ſuppoſe that anatomical and medical knowledge would be hereditary in families; the father would inſtruct the ſon how to explore the ſtructure of animals by diſſection, and the ſon would communicate his knowledge to his children. Thus would medical ſcience be retained and augmented in ſuch families. This was the caſe in the family of Hippocrates, who was ſaid to be the fourteenth deſcendant from Eſculapius. In the eightieth Olympiad, about 460 years before Chriſt, Hippocrates formed medicine into a diſtinct ſcience, and collected, arranged, and publiſhed all the anatomical and medical information which mankind then poſſeſſed. Anatomical knowledge was conſiderable for the age in which he lived, and it has been diſputed whether he diſſected human ſubjects; but if he did, the number muſt have been very ſmall, his anatomy ſeeming to be of that kind and extent which the contemplation of the human ſkeleton, and the diſſection of brutes, would naturally produce.

No important additional knowledge of anatomy was obtained, till the formation of a medical ſchool at Alexandria, in Egypt, where the diſſection of human bodies was patronized by the deſcendants of Alexander. Here Herophilus and Eraſiſtratus flouriſhed about 200 years before the birth of Chriſt. They ſeem to have been accurate diſſectors, and ſome minute parts of the body are ſtill named after them as diſcoverers. Their writings have been loſt, and it is chiefly Galen who has made us acquainted with their labours and their merits. The Alexandrian ſchool long flouriſhed, and medical men reſorted to it for a knowledge of anatomy, which they could obtain in no other place. Here even Galen received his education. It is quite unneceſſary to notice the unimportant anatomical remarks made in the writings of the Roman authors before or after the time of Galen.

Galen, however, greatly deſerves our attention and praiſe; not merely becauſe he collected and arranged all the then acquired information, but becauſe he was alſo an induſtrious diſſector, and conſiderably enlarged the limits of anatomical knowledge. He alſo inveſtigated phyſiology by experiments, of which it may be right to mention one inſtance; he refuted the opinions of the Alexandrian anatomiſts, that the arteries were tubes, diſtributing air throughout the body. By laying bare one of theſe veſſels in a living animal, tying it in two places, and opening it between the ligatures, he aſcertained that it contained blood and nothing elſe. He therefore concluded, that both veins and arteries ſerved the ſame purpoſe, that of diſtributing blood for the ſupply of the body, but that the florid arterial blood contained more air than the purple blood of the veins. In an hiſtory of this kind it ſeems right to mention the effect of anatomical ſtudies on the mind of Galen: after contemplating the ſtructure of the hand and foot, and their adaptation to their different functions, he breaks out into an apoſtrophe, which has been much admired, and in which he is ſaid to have exceeded any ancient in pointing out the nature, attributes, and proper worſhip of the Deity. In explaining theſe things, he ſays: "I eſteem myſelf as compoſing a ſolemn hymn to the author of our bodily frame, and in this, I think, there is more true piety than in ſacrificing to him hecatombs of oxen, or burnt-offerings of the moſt coſtly perfumes: for I firſt endeavour to know him myſelf, and afterwards to ſhew him to others, to inform them how great is his wiſdom, his virtue, his goodneſs." There was no addition made to anatomy worth remarking by the writers who ſucceeded Galen: the ſcience gradually diminiſhed, and afterwards ſeemed almoſt loſt amongſt the Arabians.

The firſt Arabian phyſicians appear to have employed themſelves in compiling ſyſtems from the Grecian writers, and the later ones in copying from each other. Medicine certainly declined amongſt them, and their religious notions made them almoſt entirely neglect anatomy. In the tenth century Conſtantine, a native of Bagdat, brought with him the Arabian doctrines on medicine to the Salernitarnian ſchool in Sicily; and here anatomy began ſlowly to revive. In the fourteenth century Mundinus diſſected human bodies in Italy, and by degrees other nations acquired that uſeful boldneſs.

Anatomical knowledge, on its revival in Europe, was greatly promoted by the exertions of eminent painters, who were early and accurate diſſectors, correctly delineating the muſcles, after they had removed the integuments which covered them. Raphael, Titian, and Leonardo da Vinci were famous for their anatomical ſkill, which is indeed ſufficiently evident in their paintings. A number of ſketches, deſigned

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as ſtudies by Leonardo da Vinci, are ſtill extant in his Majeſty's collection of drawings, and are ſpoken of by Dr. Hunter in the moſt encomiaſtic terms. Albert Durer, who alſo is ranked by Haller among the reſtorers of anatomy, publiſhed many plates repreſenting the proportions and geſtures of the human form and countenance.

When the Turks had ſubdued Greece, the inhabitants fled for ſafety to the weſtern nations of Europe, bringing with them the Grecian authors on medicine, and tranſlating them; which works the invention of printing, that happened about the ſame time, greatly conduced to diſperſe throughout Europe. People had now an opportunity of becoming acquainted with the writings of Galen and the ancients, and, by theſe means, of arriving at the ſource of that knowledge which they had hitherto obtained only through the channel of the Arabian phyſicians. The ſuperiority of the former was ſoon diſcovered, and the opinions of the Grecian writers were conſidered, even in anatomy, as unimpeachable.

In the middle of the ſixteenth century ſeveral eminent anatomiſts flouriſhed, particularly Sylvius and Veſalius, Fallopius and Euſtachius. Sylvius taught anatomy in Paris in 1532. Veſalius firſt adviſed anatomiſts to inject coloured fluids into the veſſels of the body, in order to facilitate the labour of minutely tracing them. Whilſt he was a young man in college, he purſued anatomical inquiries with great ardour and aſſiduity, and publiſhed ſome of his diſcoveries before he was twenty-five years of age, and ſeven books on the anatomy of the human body before he was twenty-nine, A. D. 1542. Theſe books contain great diſcoveries, and, in many circumſtances, correct the ancients. But although they have entitled their author to the gratitude of poſterity, they procured to him ſcarcely any thing but animoſity from his contemporaries. At that time the authority of Galen was held in high veneration; but when Veſalius expoſed his errors, the hatred of all ſeemed turned againſt him. People could not bear to be ſet right by ſo young a man, and even Sylvius denounced perpetual enmity againſt him. But knowledge was increaſed by theſe contentions, all parties were obliged to refer for the materials and ſupport of controverſy, to the book of nature, which they could not conſult without receiving inſtruction. Even Veſalius was detected, in ſome inſtances, in the error with which he charged Galen; that of deſcribing the anatomical ſtructure of the human body from the diſſections of brutes. In 1561 Fallopius, in Italy, publiſhed his Obſervationes Anatomicæ; he was an indefatigable anatomiſt, and made great diſcoveries. About the ſame time Euſtachius made himſelf conſpicuouſly eminent by promoting anatomical knowledge. He ſeemed calculated for ſubtle inveſtigations; he drew many figures of the human body, and engraved his own plates, the accuracy of which cannot fail of exciting ſurpriſe in an anatomiſt of the preſent day. When the labours of theſe eminent men had, as it were, ſmoothed the path, anatomy was taught with a moderate degree of correctneſs and minuteneſs in the different ſchools of Europe.

Shortly after, as Haller has obſerved, the different nations being engaged in war, the ſame attention was not paid to public inſtitutions and diſſections. Anatomiſts had therefore recourſe to the examination of the bodies of brutes, from which they derived many important diſcoveries.

In the year 1628 Harvey publiſhed his diſcovery of the circulation of the blood. The principal facts relating to this ſubject were known before his time: it remained for him to reject the ſpecious conjectures then maintained concerning the blood's motion, and to examine the truth of thoſe facts which were then known, and by experiments to diſcover thoſe which remained to be detected. This he did, and thereby rendered his name immortal. His doctrines were at firſt oppoſed; but when they could no longer be contended againſt, the merit of the diſcovery was aſſigned to former anatomiſts.

It ſeems proper, in this place, to review the ſeveral ſteps which were made in the inveſtigation of this important ſubject. Hippocrates believed that all the veſſels communicated with each other, and that the blood underwent a kind of flux and reflux from and to the heart, like the ebbing and flowing of the ſea; and he mentions the throbbing of the temporal arteries, as an evidence of this fact. The anatomiſts at Alexandria adopted a wrong, but ingenious opinion; as they found the arteries empty, and the veins containing blood, in their diſſections, they imagined that the former were tubes for the diſtribution of air, and gave them that name which they have borne ever ſince; and that the veins were the only channels for the blood. The heart of man, conſiſting of two ſets of cavities not communicating with each other, and its connection with the lungs, were to them deluſive circumſtances, and ſeemed to favour their opinions. It is true they ſometimes found blood in the arteries, and in the left cavities of the heart, but then they believed that the air or ſpirit had eſcaped, and that the blood had oozed through the ſides of theſe air veſſels, and ſupplied its place. Galen, as has been ſaid, refuted this opinion by experiment, and aſcertained that blood flowed both by the arteries and the veins, though he knew not then its natural courſe. On the revival of anatomy in Europe, the pulmonary circulation was known to many eminent men. The valves at the mouth of the pulmonary artery proved the courſe which the blood muſt take in that veſſel, and it ſeemed naturally to follow, that it muſt return to the pulmonary veins. This appeared to be the caſe to Realdus Columbus, Michael Servetus, and the celebrated Sarpi. But when Veſalius afterwards examined the ſubject of the blood veſſels, we can only attribute his failure in diſcovering the truth of the circulation to his mind being more directed to expoſe the errors of Galen, than to a candid examination of the ſubject. Fabricius ab Aquapendente, the preceptor of our famous Harvey, particularly deſcribed the valves of the veins, the mechaniſm of which would abſolutely prevent the blood from flowing in thoſe veſſels towards the extremities. When Harvey returned from his ſtudies in Italy, his attention being excited to the ſubject, he began thoſe experiments, by which he learned and demonſtrated the fact of the circulation. Harvey's firſt propoſition of the ſubject impreſſes conviction ſo ſtrongly on the mind, that we are left in perfect aſtoniſhment, that a circumſtance ſo luminouſly evident ſhould ſo long remain unobſerved. It muſt be granted, that the heart projects about two ounces of blood into the aorta at every pulſe; what, then, it may be aſked, becomes of this large quantity of blood, unleſs it circulates? It muſt be granted, that the heart receives that quantity prior to every pulſe. From whence is it received, unleſs the blood circulates? Harvey tied an artery, and the correſponding vein received no blood: he tied a vein and all its branches, and thoſe of the correſponding artery were choaked with blood, even to the entire obſtruction of circulation and motion. But Harvey was not acquainted with the direct communication which exiſts between theſe ſyſtems of veſſels. He imagined that the blood tranſuded from the arteries into the veins through a ſpongy, or parenchymatous ſubſtance. Much yet remained to be aſcertained by microſcopical obſervations, and ſubtile anatomical injections and diſſections.

In 1621, a little before the publication of the circulation, the lacteal abſorbents of the inteſtines were diſcovered

covered by Aſelli; and ſhortly afterwards, the lymphatic or general abſorbents of the body were brought into notice by Rudbeck and Bartholin. In 1654 Pecquet publiſhed his diſcovery of the trunk of this ſyſtem of veſſels, by which all the matter abſorbed from every part of the body, as well as the chyle when imbibed from the inteſtines, is poured into the left ſubclavian vein. (See the article ABSORBING VESSELS.) Swammerdam, about the year 1660, taught anatomiſts to uſe waxen injections, which, hardening when cold, enable us to trace and examine the intertexture of minute veſſels with certainty and exactneſs. Shortly after, in the art of injecting and making anatomical preparations, Ruyſch, who was profeſſor at Amſterdam, particularly excelled; and by the anatomical artifices which he inſtituted, he was enabled to develope the vaſcular ſtructure of the body, with a degree of minuteneſs and exactneſs hardly credible.

Malpighi, a great anatomiſt and profeſſor at Meſſina and Bononia, in 1666, broached very ingenious and clear ideas reſpecting ſecretion. He believed that the minute arteries poured a liquor into little cells contained in glands, from which it paſſed off by other tubes, called excretory ducts. Ruyſch denied the exiſtence of cells, and affirmed, that the ſecretory and excretory veſſels were continuations of the ſame tube. Theſe eminent men had each numerous partizans, but the opinion of Ruyſch, which is moſt ſimple, and drawn from accurate obſervations, is now conſidered as aſcertained. Ruyſch alſo contributed to our knowledge of the abſorbing ſyſtem, by particularly deſcribing the ſtructure of its veſſels, and Nuck had no inconſiderable ſhare of merit on the ſame account. Leuwenhoeck, who greatly promoted anatomy, not merely by his own microſcopical obſervations, but by ſhewing what important diſcoveries might be made by the microſcope, ſaw the circulation in the tranſparent parts of fiſh and amphibia, and thus was the knowledge of the circulation perfected.

By theſe diſcoveries much light is thrown on the animal economy; and we are enabled clearly to diſcern many circumſtances which before either eſcaped obſervation, or were imperfectly ſeen. By the diſcovery of the circulation we ſee the truth of the ſcriptural expreſſion, that in the blood is the life of an animal; for from this vital fluid every part is formed and maintained. By the diſcovery of the abſorbents we perceive how the blood itſelf is ſupplied, from the food, which is converted into a milky fluid, by the digeſtive organs; and how the old particles of our bodies, which are no longer fit to remain in it, are removed and conveyed into the blood, to be eliminated by the excretory organs.

When anatomy had thus become a clear and diſtinct ſcience, it was inculcated and taught, in the different nations of Europe, by numerous profeſſors, with a zeal and induſtry highly honourable to themſelves and uſeful to mankind. It would occupy a volume to relate their labours and diſcoveries; we muſt reſtrict ourſelves to mention only the names of the moſt eminent, and the principal ſubjects, which engaged their attention. The celebrated Harvey led the way in inveſtigating one of the moſt curious proceſſes in the animal economy, that is, the procreation of the ſpecies. Leuwenhoeck and Buffon obſerving certain genera of microſcopic animalcules in the ſeminal fluid, formed rather wild ſpeculations reſpecting them, which, however, conſiderably excited the public attention. De Graaf, in 1672, was the propoſer of the moſt rational opinion on this ſubject. In viviparous animals he ſhewed the exiſtence of minute ovulæ formed in the ovaria, which, when fecundated, paſs through the fallopian trumpet into the uterus, and there grow to maturity; the late experiments of Spallanzani, in Italy, and ſome in this country, ſeem to have confirmed his opinion, and proved that the female of almoſt every ſpecies prepares an ovum, which contains parts, which are, as it were, animated, and ſet in motion by the ſemen of the male. As a proſecution of the hiſtory of the ſame ſubject, we may mention, that Dr. Hunter, in this country, has given a moſt complete hiſtory, with beautiful explanatory engravings, of the growth of the human ovum, and of the changes which the uterus undergoes after the ovum has been received into that cavity.

The more conſpicuous parts of the body, the bones and the muſcles, have been moſt accurately deſcribed and delineated; the former by Albinus, Cheſelden, and Sue: the latter by Albinus and Cowper. Albinus, as a minute anatomiſt, alſo deſerves the higheſt praiſe.

In 1672, Diemerbroeck, profeſſor at Utrecht, publiſhed a ſyſtem of anatomy; and in 1711, Winſlow publiſhed a very excellent and accurate work of the ſame kind in Paris, which long ſerved as a kind of text book for ſtudents. But when Albinus and Haller had greatly ſimplified the deſcription of the body, and improved the knowledge of its minute ſtructure, ſome other ſyſtematic work became neceſſary, but none for a long time appeared.

In the mean while Haller publiſhed, at Gottingen, in 1743, his Icones Anatomicæ, with a view to ſupply the deficiencies and correct the errors of Winſlow. The deſcription of the arteries particularly deſerves our praiſe and gratitude. Profeſſor Walthen, of Berlin, has with equal, or even ſuperior diligence, traced the diſtribution of the moſt important nerves, and publiſhed ſplendid repreſentations of them; and lately Maſcagni has given to the public a moſt elaborate and complete account, with elegant plates, of the abſorbing veſſels. Haller not only promoted anatomical knowledge by his accurate diſſections, but diſcovered and eſtabliſhed phyſiological truths by experiments made on living animals. In like manner Mr. John Hunter purſued his enquiries; he was an accurate and minute diſſector, a patient experimentaliſt; and in his researches ſurveyed the whole field of animated nature. To him we owe in anatomy the deſcent of the teſtis, and the natural hiſtory of the teeth; by him phyſiology has been greatly promoted, and the ſtructure and economy of animals diſplayed and explained. In Germany the brain has been examined, and the nerves traced with the moſt ſedulous attention; and of late Vic D'Azyr, in France, an anatomiſt equally comprehenſive and minute, has publiſhed repreſentations of the brain, which are allowed to excel all others. Dr. Monro, in our own country, has alſo publiſhed on theſe ſubjects. Some anatomiſts ſeem to have directed their attention chiefly to the inveſtigation of ſome ſingle organ. Zinn has examined and explained the ſtructure of the eye with ſurpriſing minuteneſs and accuracy. Cotuninus, Meckel, and Scarpa, the ear; and the latter has alſo paid attention to the organ of the ſmelling ſenſe. Of late ſome excellent ſyſtems of anatomy have been publiſhed by Sabatier, in France, and Soemmering and Hildebrand, in Germany.

Morgagni, the pupil of Valſalva, profeſſor of anatomy in Padua, who had very extenſive opportunities of obſervation, and who much improved anatomy in his old age, in the year 1761 publiſhed the reſult of his obſervations De Sedibus & Cauſis Morborum per Anatomen indagatis, a work of the greateſt utility. Doctor Baillie has of late, in this country, proſecuted the ſame ſubject, though in a different manner. He has publiſhed on the morbid anatomy of the body, and illuſtrated his deſcriptions by many elegant, expreſſive, and accurate plates; the proſecution of this ſubject promiſes the greateſt advantages.

We have thus curſorily mentioned the principal ſubjects, in which the moſt eminent anatomiſts have been engaged. The names and employments of numbers of men of high

deſert have, however, been omitted; indeed, they could not be properly noticed unleſs this article were of itſelf to make a volume. Chronological order has been much treſpaſſed againſt, and we therefore return to mention the moſt remarkable anatomiſts, in a ſeries, according to the time in which they lived. As it is difficult to adjuſt their precedency in this reſpect, we ſhall rely on the authority of Haller, whoſe knowledge and judgment will not perhaps be called in queſtion. He conſiders Benedictus, Berengarius Carpenſis, Nicolaus Maſſa, Sylvius, Veſalius, Servetus, and Columbus, as the chief reſtorers of anatomy, whoſe writings are dated from the beginning to the middle of the ſixteenth century. After the reſtoration of anatomy, the ſchools in Italy particularly excelled, and moſt anatomiſts received their education in them. From amongſt the moſt eminent of the Italian ſchool we may ſelect the names of Fallopius, Euſtachius, Aurantius, Cæſalpinus, Varolius, Plater, Caſpar Bauhinus, Aldrovandus, Caſſerius, Fabricius ab Aquapendente, Riolanus, Hoffman, and Spigelius, whoſe writings extend from the middle to the concluſion of the 16th century.

In the beginning of the 17th century the diſſection of human bodies began to decline in the Italian ſchools, and more attention was paid to comparative anatomy and phyſiology. Amongſt the moſt eminent in this department of ſcience we may recite the names of Aſellius, Harvey, Marcus Aurelius Severinus, T. Bartholin, C. V. Sneider, Van Horne, Highmore, D. de Marchettis, Rudbec, Gliſſon, Wepfer, Blaſius, Malpighi, Steno, De Graaf, Herbom, Ruyſch, Swammerdam, C. Bartholin, Brunner, Leuwenhoeck, Duverney, Bidloo, and of thoſe who confined themſelves chiefly to human anatomy, R. Vieuſſens, Cowper, Raw, &c. &c. all of whom flouriſhed in the 17th century. In the beginning of the 18th century, Haller conſiders anatomiſts as having attained a greater degree of learning and knowledge in the ſcience which they ſtudied, and under the title of the more learned in anatomy he gives an account of the works of Morgagni, Winſlow, Cheſelden, &c. which were dated in about the firſt 30 years of that century, except Morgagni's work, "de Sedibus et Cauſis Morborum," which he publiſhed at an advanced age. Under the title of the perfect ſtate of anatomy Haller reviews the works of Albinus, Senac, Monros, (the father and ſon), Haller, Nicholls, Lieutaud, Ludwig, Leiberquyn, Dr. Hunter, and his brother Mr. Hunter, Daubenton, Camper, Walther, Meckel, Zinn, Fontana, Wriſberg, Spalanzani, Hewſon, Portal, Sabatier, Scarpa, Blumenbach, Troja, &c. whoſe writings extend to the preſent time. The Hiſtory which is given muſt neceſſarily be brief, and cannot, in conſequence, be otherwiſe than imperfect. We therefore refer the reader for more ample and correct information on this ſubject, to the writings of Le Clerc, Freind, Goelicke, Portal, and to the Bibliothecæ of Haller.

Anatomy, *Comparative.*—By this term is popularly underſtood the anatomy of animals, compared with the ſtructure of the human body as a ſtandard.—This definition, however, is not ſufficiently comprehenſive. The organization of every animal forms a part of our knowledge of nature, and as far as it exemplifies or explains any of the functions exerciſed by animal bodies, furniſhes thoſe data which conſtitute the baſis of phyſiology. The anatomy of the human body is not more applicable to this purpoſe than that of other animals, and many of the moſt important functions can only be underſtood by comparing the organs by which they are performed in the different claſſes of animals.

The agreement which neceſſarily exiſts between the ſtructure and the habits of animals, renders comparative anatomy an eſſential branch of zoology. No claſſific diviſion of the ſubjects of natural hiſtory can be either permanent or uſeful, which is not founded upon internal ſtructure as well as external characters, and in proportion as this is attended to, we come nearer to that natural arrangement, which ſhould be the chief object of all claſſification. It is in comparative anatomy, then, that the phyſiologiſt principally diſcovers the laws which determine the phenomena of organized matter, and that the naturaliſt finds all his obſervations upon the appearances and manners of animals verified and explained.

The anatomy of animals muſt have formed one of the very firſt ſubjects of human inveſtigation, becauſe in the moſt ſimple and early ſtages of ſociety, almoſt all the means of ſubſiſtence or of enjoyment which mankind poſſeſs, are drawn from other animals. The ſavage, therefore, in killing his prey, and preparing it for the different purpoſes to which it is to be applied, is neceſſarily led to diſtinguiſh the ſtructure and appearance of the ſeveral parts, one ſerving for food, another for raiment, a third for a weapon or an ornament, and ſo on; it cannot be ſuppoſed that this examination ſhould be frequently made, even by the moſt ignorant, unaccompanied by ſome reflections upon the uſes of thoſe parts to the animal in which they are found, or without comparing in ſome degree the anatomy of one animal with that of another: —a very conſiderable portion, therefore, of knowledge on this ſubject muſt have been obtained in ſavage ſociety, but which has been loſt to after ages, from the want of any record of human knowledge.

The ſacrifice of animals which has always made a part of the religious worſhip of uncivilized nations, afforded alſo many opportunities of obſerving the internal ſtructure of animals.

The firſt account that we poſſeſs of comparative anatomy being ſtudied as a branch of philoſophy is amongſt the Greeks. Democritus is reported to have directed himſelf to this ſubject with ſo much ardour, that he at firſt incurred the ſuſpicion of inſanity, but when his objects were explained, the utility of his purſuits was fully acknowledged.

Ariſtotle may be conſidered as the firſt profeſſional anatomiſt; his zootomical reſearches were carried ſo far that his works are read with pleaſure and improvement, even at the preſent day: his opportunities of ſtudying the ſubject were indeed unparallelled; for we are told that Alexander beſtowed upon him 100 talents, (a ſum equal to 50,000l.) to be ſolely expended in procuring animals for diſſection.

Herophilus and Eriſtratus, who ſucceeded Ariſtotle in the ſchool of Alexandria, are ſaid to have diſſected human bodies; but it is more probable that the anatomy of Alexandria was ſtill taught by the diſſection of animals, as beſides the natural feelings to be conquered, there prevailed at that time a notion, that the touch of a dead body communicated a moral pollution: notwithſtanding which, this ſchool became ſo celebrated, that it was not only viſited by the learned men of Greece, but by thoſe of all nations. During the dark ages, comparative anatomy ſuffered nearly an equal depreſſion, with the other ſciences, and it was not until the latter part of the 15th, and the beginning of the 16th centuries, that it began again to be much cultivated; about this time flouriſhed Rondeletius, Bellonius, Euſtachius, Coiter, Fallopius, Fabricius ab Aquapendente, Caſſerius, Severinus, and ſeveral others, whoſe works may be ſtill conſulted with profit. The diſcovery of the circulation of the blood, and of the abſorbent ſyſtem, which may be reckoned as the commencement of another æra in anatomy, opened the door to phyſiological enquiry, from which com-

parative anatomy derived the greateſt improvements, as many of theſe reſearches were moſt conveniently conducted upon animals about this time; alſo the application of the microſcope to the obſervation of the more minute ſtructure of parts, furniſhed a new field for inveſtigation; amongſt thoſe who moſt illuſtrated the anatomy of animals during this period may be enumerated Aſellius, Harvey, Stenon, Borrichius, De Graaf, Redi, Willis, Ruyſch, Malpighi, Swammerdam, Leuwenhoeck, Perault, Needham, Blaſius, Olygerus Jacobæus, Liſter, Borellus, and Tyſon. Comparative anatomy continued to improve in a regular and ſteady manner, during the early part of the laſt century, which will appear in the works of Valiſneri, Valentini, Geoffrey, De Reaumur, Bradly, Maitre Jean Petit, the elder Monro, Trembley, Baker, Bonnet, &c. but it was not until the middle, and towards the cloſe of the laſt century, that the anatomy of animals became a connected ſcience; the diſcourſes of the preceding ages were then arranged, compared, and ſyſtematically applied to the purpoſes of phyſiology; many new and important facts were added, and ſeveral of the moſt curious and intereſting circumſtances in the animal œconomy were fully inveſtigated and explained; collections of preparations to exhibit the ſtructure of animals were formed in Paris, Paria, Gottingen, London, and ſome other parts of Europe; in the three firſt places, public lectures were delivered, by which a knowledge of the ſubject was diffuſed over the continent; this might be conſidered as the Auguſtan age of comparative anatomy, in which we meet the names of Camper, Daubenton, Vic d'Azir, Blumenbach, Pallas, Scarpa, Comparetti, Hunter, Monro, Hewſon, beſides a great number of others of the firſt character.

Some of theſe eminent men are ſtill living, to whom may be added, as the moſt diſtinguiſhed anatomiſt of the preſent time, citizen Cuvier.

It would be impoſſible, within the limits of this article to give any detail of the ſeveral diſcoveries which have been made upon this ſubject; they have only in a very few inſtances been publiſhed in diſtinct eſſays, and are chiefly to be found ſcattered through works on natural hiſtory and human anatomy, or in the tranſactions of literary ſocieties. The works of Collins, Valentine, and Blaſius, which were publiſhed under the name of ſyſtems, are mere collections of facts, without any ſuitable arrangement, and although as a ſimple compilation no book can have more merit than the "Anatome Animalium" of Blaſius; it is, however, to citizen Cuvier we are indebted for the firſt ſyſtematic work on comparative anatomy; the want of ſuch books, and of public lectures has hitherto made this ſcience leſs an object of general attention than its utility and intereſting nature would deſerve; but it may be expected that theſe deficiencies will be ſupplied by the preſent age, in which the value of every kind of knowledge is duly appreciated.

All thoſe who have lately written or lectured upon comparative anatomy, have very properly choſen to arrange the ſubject in a phyſiological manner, inſtead of deſcribing the ſtructure of each kind of animal ſeparately. This mode, however, if ſtrictly adopted, would prove highly inconvenient in a dictionary, in which the matter ſhould be ſo diſtributed, that it could be immediately reſorted to, under familiar heads or titles; on the other hand, to multiply diviſions much is tedious and perplexing, and incompatible with the perfect underſtanding of this ſubject, which requires that a number of facts ſhould be known before any compariſon or concluſion can be drawn. The plan purſued in the preſent work, combines in ſome degree both methods of arrangement. Thus certain claſſes of animals are eſtabliſhed upon the baſis of an agreement in their general anatomical ſtructure; each of theſe claſſes forms a diſtinct article; and the faculties or functions belonging to the animals it contains, make ſo many ſubdiviſions or leſſer heads, under which the ſtructure of the organs, ſubſervient to theſe functions, is diſcuſſed.—See CLASSIFICATION of ANIMALS and FUNCTIONS.

ANATOMY, *Vegetable*.—All natural ſcience conſiſts in the diſcovery and application of facts; its uſual progreſs, therefore, is gradual; hiſtory records no period in which nature has not been ſtudied, and in which the foundation of moſt of the ſciences has not been clearly laid. The internal ſtructure of vegetables, however, during the early ages of mankind, was involved in almoſt perfect obſcurity. It was not indeed until the latter part of the 16th century that the anatomy of plants was formed into a diſtinct ſcience; before this period the ſame opinions were entertained upon the ſubject that were taught by the Greeks, and which were not eſtabliſhed upon actual obſervation ſo much as the analogy that was very properly imagined to exiſt between animal and vegetable bodies. Thus they attributed four parts to all plants:

Firſt, the *ſap* or *juice*, which they conſidered ſimilar in its uſes to the blood.

Secondly, the *fibres* of plants, which they called nerves, from their reſemblance to thoſe parts in animals to which, however, they did not aſcribe the property of ſenſation.

Thirdly, the *veins* or veſſels that were ſuppoſed to contain the fluids.

Laſtly, the *pith*, which they conceived to be analogous to the fleſh of animals. A further account of the early ſtate of this branch of ſcience may be obtained in the writings of Ariſtotle, Theophraſtus, &c. and in the phytologia of Du Val.

It was only by inveſtigations, conducted with the microſcope, that the real ſtructure of vegetables could ever have been developed; it is to the invention of this inſtrument, therefore, that we owe almoſt all the knowledge that is at preſent poſſeſſed upon the ſubject.

The microſcope was firſt made uſe of to diſcover the organic ſtructure of plants by Grew and Malpighi, for what was done before them by Mr. Hooke, and ſome others, ſcarcely deſerves to be noticed, as their attention was chiefly directed to the examination of the external parts of vegetables. In no inſtance, perhaps, have the firſt labours on any branch of ſcience gone ſo far as thoſe of Malpighi and Grew. The books which they publiſhed under the title of the anatomy of plants, rank amongſt the higheſt authorities upon the ſubject at the preſent time. It is remarkable alſo that on the 7th December, 1671, the ſame day on which Grew preſented to the Royal Society the firſt part of his Anatomy of Plants, the ſociety alſo received the manuſcript of the firſt part of Malpighi's "Anatome Plantarum."

In conſequence of the degree of perfection to which theſe eminent men carried vegetable anatomy, the writers who have followed them have been employed in the inveſtigation of the functions, rather than the ſtructure of plants. Some curious and highly important facts have, notwithſtanding, been added with reſpect to the growth of timber, the anatomy of the bark, and the more minute organization of the veſſels, leaves, flowers, ſeeds, &c.

Theſe more modern diſcoveries in vegetable anatomy may be principally found in the writings of Leuwenhoeck, Bonnet, Duhamel, Relreeuter, Gærtner, Hill, Baron de Gleichen, Reichel, Mayer, Guettard, Hedwig, Walther, Deſauſſure, Desfontaines, and Mirbel.

There is ſcarcely any branch of ſcience more intereſting

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in the purſuit, or which holds out a more valuable end, than vegetable anatomy. The delicate, minute, and complicated arrangement of parts, which appears in the organization of vegetable bodies, preſents a continual ſubject of admiration and amuſement, in procuring which, the feelings are never wounded, nor the ſenſes diſguſted. But this ſcience is not a ſubject of mere curioſity or idle ſpeculation; it affords the greateſt illuſtration of the ſtructure and functions of animals, and tends in an eminent degree to improve the arts of agriculture and gardening, from which civilized man derives all his means of ſubſiſtence, either by his own immediate conſumption, or the ſupport which is obtained for domeſticated animals.

There are certain parts of vegetables which may be termed common, on account of their being generally diſtributed thoughout the ſyſtem. Theſe are the cortical ſubſtances uſually included under the name of *bark*—the *wood*, the medullary part or *pith*, and the different orders of *veſſels* for containing the ſap, air, or ſecreted fluids.

There are other parts again which from poſſeſſing different external figures, and performing ſeparate uſes in the vegetable economy, might be called peculiar parts; theſe are the *root*, the *trunk* or *ſtem*, the *branches*, the *buds*, the *leaves*, the organs of reproduction contained in the *flower*, the *ſeed* or *fruit*. It is under theſe ſeveral heads that the anatomy of plants is diſcuſſed at large in this dictionary. Such an arrangement appears the moſt convenient, if not the moſt ſuitable, as by adopting it popular terms are obtained for moſt of the articles, a thing very deſirable in conveying knowledge by means of a dictionary. This diſpoſition of the ſubject alſo is nearly the ſame, that has been choſen by other ſyſtematic writers upon the anatomy of plants.

The functions of vegetable bodies are deſcribed, arranged, and their proper references pointed out, under the article PHYSIOLOGY *vegetable*, which ſee.

ANATOMY, *Picturesque*.—By this term is implied that degree and kind of anatomical knowledge, which is requiſite for painters and ſculptors, &c. comprehending chiefly the bones which ſupport the figure, the muſcles which move them, and the integuments with which they are covered.

Every conſiderate perſon will allow, that the painter, &c. who repreſents the human figure, cannot obtain any great celebrity in his art without ſome knowledge of anatomy; but it may not ſoon appear to every one, that there is a neceſſity for that conſiderable degree which it is requiſite for him to know; and it may be concluded, that little or none of this kind of information will be abſolutely neceſſary for thoſe artiſts, who devote themſelves to the repreſentation of clothed figures. It may alſo be conceived, that however proper the knowledge of the external muſcles may be to the painter of nudities, the bones, being moſtly covered by them, will be no conſiderable object of his attention; and that ſtatues, with the living model, will communicate all the information required.

The ſkeleton being the frame-work ſupporting the human fabric, it would be diametrically oppoſite to our opinion to think lightly of oſteology. As the bones deſcribe the grand points of the figure, and are acted upon by the muſcles and tendons, a principal part of the painter's attention ſhould be given to the configuration of the bones, eſpecially of the joints; and although the knowledge of the muſcles which move them and fill up the cavities demand much of the artiſt's conſideration, yet it is preſumed, that with the uſe of ſtatues and living models, a perſon well informed in oſteology would make a more rapid progreſs in the repreſentation of figures, where great knowledge of the muſcles has not been obtained, than he who has well ſtudied the myology, but had not a competent acquaintance with the bones. This obſervation will alſo apply to the ſuppoſition of clothed figures being painted without a prior acquaintance with anatomy; it being preſumed, that however capable ſuch a perſon may be of painting drapery, without a conſiderable degree of anatomical knowledge, his figures will reſemble bundles of cloth or linen without that animation and grace, which are to be ſeen in the works of thoſe artiſts who have been honoured with the approbation of the judicious.

It is certain that ſtatues and living models are of great uſe to the painter; the antique figures will form his taſte, and living figures are ſo continually uſed by all painters who ſtrive to excel, that they form a very conſiderable branch of the education of artiſts in all their academies. It is, however, next to impoſſible that a painter ſhould copy the object before him, if he do not underſtand it; for, let him be ever ſo diligent and attentive, he will fall into conſiderable miſtakes. Although in attitudes without motion or exertion, the living figure may for a long time direct his pencil with ſucceſs; yet, when violent motion and exertion are to be expreſſed, the living model can but aſſiſt him for a few moments; here the knowledge of anatomy lends its aid, without which the wearied figure before him will only perplex and render his repreſentations inanimate.

"Nor is it, as ſome may be apt to imagine," ſays Algarotti, "merely to repreſent athletic and vigorous bodies, in which the parts are moſt bold and determined, that anatomy is requiſite: it ſhould be underſtood, to repreſent perſons of the moſt delicate frame and conſtitution, even women and children, whoſe members are ſmootheſt and roundeſt, though the parts made known by it are not to be ſtrongly expreſſed in ſuch ſubjects; juſt as logic is equally requiſite under the poliſhed inſinuations of the orator, and rough arguments of the philoſopher. But it is needleſs to ſpend much time in proving, that a painter ſhould be acquainted with anatomy, or in ſhewing how far his acquaintance with it ſhould extend.

"He muſt be acquainted with the figure and connection of the bones, the origin, progreſſion, and ſhape of the muſcles, the different degrees with which they are covered with fat, which ſubſtance lies thicker upon them in ſome places than in others: but above all he ſhould know in what manner the muſcles effect the various motions and geſtures of the body." Count Algarotti wrote with judgment upon painting, and his remarks upon anatomy deſerve reſpect. The following extract was written by a phyſician, who ſeems to have had a taſte for painting; although ſome of his remarks may have been anticipated, it is thought proper to preſent them to our readers; they will be found, amongſt other uſeful things, in Dr. Briſbane's Anatomy of Painting. After ſpeaking, in the preface, to ſurgeons, the doctor obſerves, that "as the repreſentation of the outſide, or the ſurface of the human body, is the chief object of his art, he ought to ſtudy the ſtructure of the body and its inward parts, chiefly for the ſake of, or as they affect, or are referred to the external ſurface, and make their appearance there, or are aſſiſtant in the better drawing and repreſentation of it. Hence the parts which ſhew themſelves upon, or affect the ſurface of the body, ought to be the ſole or chief object of the ſtudy of a painter. The parts, therefore, that lie neareſt to the ſurface, or outſide of the body, and conſequently [illegible] are moſt immediately concerned in forming its outline, are firſt to be conſidered by a painter, *viz.* the external layer of the muſcles, eſpecially the larger ones, and thoſe that are moſt ſubject to appear in the movement and attitudes of the body. As to the ſkin and fat under it, theſe are ſpread over the

the whole body, and are to be conſidered merely as a drapery or covering to the more inward parts, which appear every where more or leſs through them, at ſome times and places in a ſtronger, and at other times in an obſcurer manner. But though the parts neareſt to the ſurface are the firſt and moſt obvious that belong to the ſtudy of a painter, yet nature has ſo contrived the human body, that the external parts cannot be well underſtood, without a juſt idea of the internal ones, even of thoſe which are, as it were, buried in the centre of the body; I mean the bones or ſkeleton, which are the foundation and frame on which the whole fabric is built, and to which, as a baſis, all the other parts are mediately or immediately referred; particularly the muſcles, ſo neceſſary to be known by painters, which are chiefly inſerted into the bones, and make conſiderable marks and impreſſions upon them; and conſequently without the knowledge of the bones, the muſcles, and other ſoft parts cannot be underſtood; but there is another reaſon why the bones muſt be ſtudied by the painter, *viz.* becauſe parts of the bones, though covered by the integuments, appear not obſcurely to the eye in many places of the body, and, like the large muſcles, are the cauſe of the outline, and of the character, proportion, beauty, and appearance of many parts; and when properly conſidered and underſtood, the bones, by ſo many fixed points, give the ſineſt direction to a painter, not only how to find and place the muſcles, but alſo how to draw the human body; nor can it be ſo juſtly or readily drawn by any painter, as by one who underſtands anatomy in a maſterly manner, particularly the bones and external muſcles, and can point them all out upon a living man, and, by means of that knowledge, determines all his points, and the forms and proportions of every part and member, adding one part to another as he knows they lie upon the body; this is the true and natural method of drawing the human figure. But though the bones and external muſcles are the moſt neceſſary part of the anatomical ſtudy of a painter, yet it muſt be confeſſed, that at leaſt a general knowledge of the whole fabric is of great uſe, in order to a more complete and maſterly repreſentation of the human body, and in order to be able to diverſify, and give reaſon for every appearance; and not only the ſolids muſt be known by a painter, but he ought likewiſe to have ſome idea of the fluids, as on theſe chiefly depend the various tints and colours of the ſkin that appear in the different ſexes and ages of life, in different characters and occaſions, climates, and nations. And as the human frame is ſo contrived, that the movements and paſſions of the mind affect the body, and are evidently ſeen and diſtinguiſhed upon the countenance, and are expreſſed there and in other parts of the body by ſtrong and certain characters; and as this is the moſt delicate and higheſt part of the painter's art, by which he is capable to move, to delight, and to inſtruct mankind, and to recommend himſelf and his art to their eſteem and admiration; therefore, the ſtudy of the mind, and its various characters, paſſions, and movements, ſo far as they are marked upon and expreſſed by the body, ought to be above all things the ſtudy of a painter; for as the members of the human body, in a good picture, beautifully appear through the drapery; and as the bones and muſcles appear through the ſkin, ſo the mind itſelf, in all its characters and paſſions, appears upon the countenance, and in the expreſſive proportions, attitudes, and tints of the various parts. A lover of the arts of deſign, or indeed any anatomiſt of true taſte, will look upon the human body, and all its parts, with the eye of a painter; otherwiſe, he will ſee and deſcribe it in an ignorant and ruſtic manner. Obſerving the human body with the eye of a painter, enables us to ſee all its beauty and perfection, and raiſes in our minds a thouſand ideas of the uſes and propriety of the ſeveral parts, whereof one ignorant of painting will be totally inſenſible; and, in deſcribing the human body upon this plan, we naturally do it in the moſt clear, ſhort, and agreeable manner." We wiſh to impreſs upon the mind of the young painter, that he *muſt* abſolutely obtain a competent knowledge of anatomy, and therefore have ſtrengthened by quotation what we before obſerved. At the ſame time we have purpoſely omitted Dr. Puſbane's reprehenſion of the method adopted by all artiſts, *viz.* that of proportioning the figure by heads, &c. (ſee Adrian's meaſures of the antique figures) which, if he had well conſidered and underſtood, he could not have rejected.

In a well-formed figure, all its parts are in proportion to each other: if the head be the tenth part of the height of a perfect model, its imitation cannot be well, or with certainty, made without this being uſed as a ſcale for the other parts: if the face be divided into three parts, and one of theſe parts be allowed to be the length of the noſe, which it is in all the fine ſpecimens of beauty and proportion, either ancient or modern, then may the figure be ſaid to meaſure eight heads in height, or thirty times the length of the noſe; and this ſcale will give a right proportion to figures of all dimenſions. It is well to caution the ſtudent againſt departing from the revered *ancient* path by the haſty determination of any perſon, as the young artiſt may be ſeduced by his adherence to *individual* inſtead of the *generale* of nature. See Reynolds's Diſcourſes to the Students of the Royal Academy. See alſo Fuſeli's Lectures. While he is beginning this purſuit, at the very time when he is the moſt liable to err, we preſent our caution. It is not intended to ſpeak of picturesque anatomy, merely to amuſe perſons who wiſh to have ſome conception of it, but to endeavour ſo to treat the ſubject, as to aſſiſt thoſe who deſire to be directed into the right path of attaining neceſſary information in order to practice; to point out the method, by which the ſtudy is to be purſued; what books, tables, and caſts are conceived to be moſt proper; and which, by experience, have been found the moſt uſeful. Some obſervations will alſo be made that we apprehend are very much required, and which are not to be found in any printed work upon this ſubject, that we know to be extant. Some of our readers may think too great ſtreſs is laid upon anatomy for artiſts, while to others theſe inſtructions will ſeem ſuperficial. To the former, we recommend a ſecond conſideration of what has been ſaid; to the latter we ſubmit, and refer our readers, for deeper knowledge, to the anatomical labours of the gentlemen, to whom thoſe parts of the Cyclopædia are committed; while at the ſame time we adviſe the ſtudent in painting not to pay too much attention to thoſe curious parts of anatomy, which do not concern his profeſſion. In excuſe for any want of connection which may appear, though it is meant to be as methodical as the nature of the requirements will admit, it ſhould be noticed, that ſome of our obſervations are meant to be impreſſed upon the memory, and retained as diſtinct maxims.

Having thus far offered general obſervations, we might now immediately proceed in the particular ſteps, by which the ſtudent is to purſue his practical knowledge, were it not for a conſideration, that an attention to theory ſhould in a ſlight manner, at leaſt, precede practice, for which reaſon it is thought neceſſary to exhibit a general ſyſtem of the bones and muſcles in this place. This has been done by excellent writers upon anatomy, but many of them have been too particular for our preſent purpoſe. As we think it may not be in the power of our readers to procure thoſe works which are written in a ſlight manner, ſuch as is at preſent required, when it will be neceſſary; for this reaſon the following

lowing general ſyſtems of oſteology and myology may be here introduced with great propriety.

The ſyſtem of the bones or ſkeleton, is, as it were, the ſolid frame that contains, defends, and gives ſtability to the ſofter parts, and to which they are ultimately attached, and conſequently this bony fabric has of itſelf the general form, ſize, and appearance of the entire body. This ſolid frame is moſt artfully compoſed of different parts, jointed to one another, ſo as to be capable of every uſeful and graceful motion in the whole and in all its parts: and the various bones and pieces of which it is compoſed differ in ſize, form, and ſtrength, in poſition, connexion, and motions, according to the uſes and exigencies, and even the beauty of every part, to which they often add a certain grace and character, by obſcurely appearing here and there through the ſofter parts, even in the living body.

The head is, as it were, the dome or cupola to the whole edifice. In this higheſt part the ſenſes are placed, and the brain defended by ſolid bone. The head, like the reſt of the body, derives its ſize, form, proportions, and principal characters firſt from the bones; but the ſofter parts that cover them add life to the motions and the finiſhing beauty, in which laſt the hair alſo concurs; and it is ſurpriſing how ſo few ſimple organs, and ſo thin a covering to the ſoft parts, are capable of ſuch infinite variety of forms and expreſſions as we ſee in the human countenance, affording an endleſs field of ſtudy. In the head the bony part is a more complete fabric, and comes nearer to the form of the living ſubject than any other part of the ſkeleton; being the ſeat of ſo many noble organs, and the chief part to be ſtudied by the painter, it deſerves the firſt place, according to the cuſtom of ſome anatomiſts.

Here veſtiges of the ſmooth poliſhed bone ſhew themſelves in the forehead, in the riſings all around the eye, in the hollow of the temples, on the noſe and cheek bones, and margin of the jaw, giving great pleaſure to the painter who underſtands anatomy.

Next comes the elegantly bent pillar of the ſpine, ſtrong, yet flexible, by conſiſting of ſo many parts firmly tied together. This bony column, at the ſame time, gives ſize, ſtrength, and motion to the body, attachment to many ſurrounding parts, and being hollow through its whole length, ſerves to conduct and ſecure the ſpinal marrow, and to tranſmit nerves to every part of the trunk and extremities. The ſpine conſiſts of four and twenty vertebræ, generally increaſing in ſize as they deſcend, and gradually varying in their figure; ſeven of theſe vertebræ belong to the neck, which admit of peculiar and conſiderable motion, and allow of many graceful movements to the head and neck. The next twelve belong to the back; theſe are almoſt rigid, and admit of very little motion: to theſe, as to a ſolid baſis, the twelve ribs of each ſide are attached, which, together with the ſternum and their own cartilages, form a kind of yielding cage or baſket to contain the heart and lungs. This bony cage admits of a ſmall motion when we breathe; to the lower margin of it all around is fixed the diaphragm, a tranſverſe muſcular partition, dividing the thorax from the abdomen, a main organ of reſpiration, and of other functions. The five lower vertebræ belong to the loins, admit of conſiderable motion, and are of great uſe in the firm and graceful attitudes, and flexions of the trunk, and in many offices of common life. Between the ribs and pelvis there is a great void in the ſkeleton, eſpecially before. In this ſpace lie many of the abdominal viſcera, with the parts that contain and cover them, making on the fore-part the beautiful ſwell of the abdomen, elegantly marked by the containing parts.

To the ſuperior part of the thorax, by means of the tranſverſe clavicles, and of large and ſtrong muſcles, are appended the upper extremities, which, at the ſhoulders, give breadth to the thorax above, and ſerve many noble purpoſes of ſtrength, of art, of defence, of expreſſion, and of beauty. Theſe are divided into the ſhoulder, conſiſting of the clavicle before, and the thin broad ſcapulæ behind, which, moving free among the muſcles, by their means govern the motions of the whole arm, and its triangular form has a moſt beautiful effect, ſeen floating among the ſoft parts in the naked figure; and indeed the whole ſhoulder is a moſt noble part, and a fine exerciſe to a painter; for, beſides many large muſcles, the bones themſelves alſo moſt beautifully and diſtinctly appear. Next comes the arm bone, capable of a large and free motion, whoſe round head at the ſhoulder, in lean perſons, obſcurely appears, and at the lower end its condyles are evidently ſeen, where it is joined to the fore arm; this conſiſts of the radius and ulna, which move upon the arm bone with the more confined motion of flexion and extenſion; but for the ſake of the hand, and its various and important uſes, the radius and ulna likewiſe revolve upon each other lengthways, in a very curious and ſingular manner, turning the hand alternately prone and ſupine, as upon an axis. Laſtly comes the hand itſelf; it conſiſts of the carpus, metacarpus, and five fingers, the thumb being, as it were, an antagoniſt to the other four; the whole together, by its general form, and different parts and motions, ſerving almoſt every poſſible uſe, and its various attitudes being capable of great beauty and variety.

We come now to the pelvis and lower extremities; the pelvis ſupports and defends the lower viſcera. The back part, or os ſacrum of a triangular form is, as it were, the baſis and continuation of the ſpine, whoſe vertebræ it obſcurely reſembles, and performs its offices by receiving the extremity of the ſpinal marrow, and tranſmitting nerves to the ſurrounding parts. The lateral and fore-parts of the pelvis, though fixed and immoveable, anſwer in ſome reſpects to the ſcapulæ and clavicles, as they afford ſockets for the thigh-bones, and alſo a ſeat to many ſtrong muſcles that belong to the trunk and extremities. The upper margins of the oſſa ilium appear gracefully in the living body on the fore-part, and form a kind of boundary between the belly and the thighs. The ſpines of the os ilium, as of the vertebræ, obſcurely appear in bodies not loaded with fat, and alſo the great trochanter is deeply immerſed among large and ſtrong muſcles; but at the knee the bones make a very fine appearance, *viz.* the condyles of the thigh-bone, the tops of the tibia and fibula, and the patella, a bone ſo beautiful and ſo uſeful in the government and defence of this joint. The bone of the tibia appears through the whole length of the leg, and at the lower part of the tibia and fibula, the two ankles elegantly appear, and fix the bounds between the leg and foot. The foot, a thick and ſolid part, ſerving as a baſis and ſupport to the whole body, conſiſts of the tarſus, metatarſus, and toes; in the whole, and in every part, it in ſome ſort reſembles the hand, and, although much inferior, comes next to it in beauty.

The ſkeleton is one ſimple ſyſtem of ſolid parts, ſerving as a jointed frame on which to build the reſt of the body. But the muſcular or fleſhy parts that clothe and move the ſkeleton are ſoft, and form a more various and complicated ſyſtem, conſiſting of different ſtrata or layers, one covering another, and divided into numerous portions of different ſize and figure, regularly diſpoſed over the whole body, compoſing a great part of its bulk, and the chief cauſe of the ſize and form of the members; for when ſtripped of its uniform coverings, *viz.* the ſkin, and cellular or fatty membrane, the

the external muſcular figure nearly reſembles that of the entire body.

The muſcles differ greatly in their ſize, figure, and other particulars, according to the parts where they are ſituated, and the uſes to which they are applied. But in general they are compoſed of fibres; the middle part or belly being large, ſoft, and red, and the extremities or tendons, which are generally inſerted in bones, being ſmaller and harder, white and ſhining. The red part is properly the moving power, and acts by contraction, during which it ſwells, and becomes hard and ſhorter, ſometimes to a great degree, and thereby pulls the parts to which its extremities are affixed. The muſcles are governed by the power of the will, except the fibres of the heart and of the inteſtines, &c. which are of all others the moſt irritable; the muſcles of reſpiration act in both ways. The muſcles can act in a moſt gentle and delicate manner, and alſo with great ſtrength and velocity, though much of their power is loſt by the places and manner in which they are often ſituated and inſerted on the parts to be moved. The cauſes of muſcular motion are difficult to be accounted for.

The muſcles are arranged in their places, and allowed to ſlide upon each other by means of the cellular or fatty membrane; and their fibres are lubricated every where by the oil it contains, and in the fabric of the body, and of the muſcles themſelves, many contrivances are uſed to aſſiſt their actions. The muſcles are in ſufficient number, and ſo diſpoſed and contrived, as to be a warm covering and defence to the more inward parts, as well as to move the joints in all the directions they are capable of, to aſſiſt in many functions of the body, and to place and retain it in every poſſible attitude; in doing which the particular muſcles ſeldom act alone, but in the moſt various manner co-operate with, or oppoſe each other; ſo that the whole muſcular ſyſtem may be conſidered as one muſcle, every fibre being under the power of the will, at the pleaſure of which the whole body, and all its parts, are at once or alternately moved and governed, as it were, by ſo many bridles. Beſides this grand purpoſe of the muſcles, they likewiſe ſerve the general uſes of the animal machine, being the chief cauſe of reſpiration, and of the circulation of the blood and juices; alſo promoting digeſtion, abſorption, ſecretion, excretion, nutrition, and growth; hence they likewiſe prevent and cure obſtructions, and other diſeaſes, and by their inceſſant action, are one great cauſe of the hardening and waſting of the body, and the decays of old age.

Although we think too great an attention to the minutiæ ſhould be avoided by the ſtudent, eſpecially at the firſt, yet it will be worth the attention of the young artiſt to examine the nature of a muſcle a little more carefully; and to know that the fleſhy part of a muſcle conſiſts of a bundle of thin long threads, and is divided into a great number of faſciculi, or little muſcles, each incloſed in its proper membrane. The faſciculi of muſcular fibres have not always the ſame ſituation in regard to each other, nor run in the ſame direction, but ſometimes run parallel to themſelves and their tendons, and are ſometimes diſpoſed obliquely both to their tendons and to each other; but information reſpecting circumſtances of this nature will be more completely obtained by inſpecting the muſcles themſelves. A ſight of the object will impreſs the knowledge conveyed by the anatomiſt in the moſt forcible manner upon the ſtudent's mind.

Some have thought that the moſt proper method for the painter to begin his ſtudies is under the inſtruction of ſome able anatomiſt; but, unleſs the anatomiſt underſtand the arts of deſign, this we diſapprove, and think it beſt that the aſſiſtance of diſſections ſhould rather follow than precede the general practical knowledge. It is therefore recommended that the ſtudent provide himſelf with ſome of the tables which anatomiſts have publiſhed. The tables of Albinus are deſervedly eſteemed; and what are, perhaps, better, thoſe cut in wood, and which illuſtrate the ancient folio volume of Veſalius, edited in 1543, ſaid to be drawn by Titian; but whoever the artiſt was, they are delineated with great judgment, the figures are graceful, the muſcles are repreſented in a robuſt ſtate, and properly ſwelling to the action of the figures: if this be of no great conſequence to ſurgeons it is to painters. Theſe tables may be copied with great advantage. We ſuppoſe the ſtudent to be expert in drawing, which is the firſt ſtep to be taken in the painter's art. Tinney's compendious treatiſe of anatomy is alſo to be recommended: it is a ſelection made with judgment, although the plates are copied; the ſhapes and ſituation of the external muſcles, their names, attachments, and uſes are mentioned. This compendium was publiſhed by Sayer, in Fleet-ſtreet, in 1772. While ſuch repreſentations as theſe are copying, which ſhould not be in a careleſs but in a decided and determined manner, the ſtudent will attain a great deal of the general knowledge of anatomy, eſpecially if he ſhould write upon the margin of his different views of the ſkeleton the names of the principal muſcles, which, in the complete figure, unite themſelves by their tendinous attachment to the bones, with lines drawn to their origin and their inſertion; and alſo if the drawings of the muſcular figures in this work have in their margins the names of the muſcles, to which may be added their characters as flexors or extenſors, and the limb they bend, extend, or rotate, pronate, or ſupinate, &c. Tinney's compendium, before mentioned, will readily aſſiſt in this particular, although the original figures in Veſalius are more recommended as objects to copy after, if that work can be procured.

The next ſtep we recommend is to obtain the uſe of a good ſkeleton, ſupplied with a careful imitation of the natural cartilages and its articulations. With this ſhould be compared the drawings which the ſtudent has been directed to make, and the different views they repreſent, as in front, ſideways, or behind, gratifying his curioſity, and imprinting the object upon his memory. To the complete bony fabric, the head, trunk, and limbs ſhould be obtained ſeparate, for convenience, and their more particular inſpection; and ſome of the bones ſingly, that the joints, &c. may be more carefully obſerved. We adviſe the young artiſt to draw theſe in different views; firſt, the ſeparate bones as large as nature, marking the tuberoſities and ridges, which give attachment to the muſcles, the condyles of the joints, &c. with written remarks on the margin. We conclude that the ſtudent has been initiated into the principles of grace, and knows, in ſome degree, how to produce a figure in eaſy progreſſive motion, or prepared for ſuch motion, which is what painters mean by grace (ſee GRACE.) In the ſkeleton he will obſerve how the joints, &c. by their mechaniſm, admit the muſcles to produce theſe effects in the living body: this will open a great field of contemplation reſpecting his art, and in the wonderfully contrived object before him, the profound wiſdom of his *Maker*. When he has thus advanced to an examination of the ſkeleton itſelf, he may derive much aſſiſtance from an anatomiſt, who knows how to point out to the artiſt ſuch parts as will be requiſite in his art; adapting himſelf properly to the degree of attainment which the ſtudent has made. In the want of ſuch a friend, however, the works of anatomiſts are recommended.

The following hints, we apprehend, will be of uſe; they are few and ſhort, though they may be important, as we only mean to give directions reſpecting the manner in which the painter is to purſue his ſtudies.

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It is of no great conſequence whether we commence with the head or the pelvis: but in conformity to the ſyſtem already given, the head is firſt mentioned; in which it was obſerved, the bony part comes nearer to the form of the living head than any other part of the ſkeleton. This ſhould, like the reſt, be drawn carefully; the face being complicated in its parts demands great attention, which may be deferred for the preſent. Let the artiſt, however, examine the maſtoid proceſs of the head, which will be important to him in future; let him obſerve how the head is placed upon the atlas of the ſpine, which moves freely upon the tooth-like proceſs of the ſecond vertebra. Let him obſerve the general ſupport which is given to the trunk and upper extremities by the baſis of the ſeveral vertebræ, the degree of motion which is allowed to each part, much in the neck and loins, little in the back, and none in the vertebra of the ſacrum; how near the centre of the body this is placed, although the ſpinal proceſſes of the vertebræ in the back approach ſo near to the contour of the figure, forming that ridge which is uſually called the back-bone; yet the pillar of ſupport which is compoſed by the baſis of the vertebræ, articulated in a peculiar manner to each other, is, upon the whole, much nearer to the centre of the body than will be ſuppoſed upon the firſt inſpection. Although the figure of each rib, which is attached to the ſpine, may be examined in future with more attention, yet, at firſt, we recommend the conſideration of the whole together, that is, the general figure of the ribs with the ſternum and cartilages, as the ſtudent's proper object, for conſideration; the ſudden turns which the ribs take backwards from their connexion with the ſpine, after which their curvature is not ſo ſenſible; alſo that the capacity of the upper part of the trunk is very ſmall when compared with that which is below, contrary perhaps to what might be expected from a ſight only of the living figure: he may be inquiſitive reſpecting the extent of motion of the ribs while breathing, in which his anatomical inſtructor can greatly aſſiſt him. Let him examine the junction and ſituation of the clavicle; the degree of elevation to which the other end of the clavicle being attached to the acromium of the ſcapula, is permitted to riſe by the elevation of the ſhoulder. The ſcapula ſhould be carefully drawn as well as inſpected, the outſide of the parts behind, and eſpecially the ſpine of that important bone; how much it can be moved by the elevation of the arm above the head, and how much nearer the baſes of the ſcapulæ can approach each other, when the ſhoulders are drawn backward; alſo how diſtant from each other the baſes are, when the ſhoulders are drawn forwards. Several views of the end of the ſcapula ſhould be delineated, both in connexion with, and without, the bone of the arm, marking the acromium and coracoid proceſs. The inſide view of this bone ſhould be ſketched with the clavicle and humerus removed; that the mind may be clear in theſe parts, although they are very much hidden by muſcles, &c. in the living figure. When the nature of the ball and ſocket-joint of the humerus with the ſcapula has been well obſerved, nothing need, at preſent, to be noticed, but to draw and mark that bone of the arm, and notice the parts upon it which give attachment to the muſcles, until the ſtudent come to the extremity united to the ulna; which, we think, ſhould have conſiderable attention paid to it, both as united with the bones of the fore-arm, and ſeparate, that the hinge-joint may be well underſtood, being careful to examine the condyles, and alſo the ſmaller tuberoſities, &c. If he can have an opportunity of drawing from a natural ſkeleton (a natural ſkeleton is one prepared with its own proper cartilages) it will be greatly advantageous to him; and more ſo, if he can inſpect and draw from theſe parts when newly diſſected. We alſo adviſe that particular attention be given to the inner and outer protuberance of the humerus, giving attachment to ſome very important muſcles with which artiſts ought to be acquainted.

The ulna ſhould be drawn ſeparate and in connection with the radius, its hinge-joint alſo with the humerus: this ſhould not be paſt over haſtily. Its extremity at the elbow ſhould be very much conſidered, and the permiſſion it receives by the hollow of the humerus, &c. of ſinking, as it were, into that hollow, when the fore arm is extended. The ſame attention muſt be paid to the peculiar ſhape of the radius, the junction of the upper extremity of this bone with the ulna and humerus, the rotary motion which is admitted, in pronation and ſupination; the ſize of theſe bones at the elbow and at the wriſt, the head of the ulna being larger above, ſmaller below, and the contrary in the radius; as well as the general ſhape and proportion when both are united together. Laſtly, with reſpect to the preſent conſideration of the radius, we call particular attention to the tubercle, in which is inſerted the tendon of the biceps muſcle. The compact bones of the wriſt or carpus being articulated to the radius, with the conſiderable motion it allows, will be an object to which, even at firſt, the attention is due, and its union with the hand, &c. The metacarpal bones, and thoſe of the fingers may be well underſtood by making careful drawings.

We now deſcend to the pelvis, compoſed indeed of ſeveral bones, but perhaps better underſtood by artiſts, when they are together, than when ſeparate, as they admit of no motion in themſelves, except at the coccyx: but the motions of the pelvis itſelf, upon the thighs, demands, we think, even at the very firſt, as much attention, if not more, than any other bone of the human body.

The underſtanding of the turns which this compages of bones take in ſtanding or moving figures, will particularly aſſiſt the informed artiſt to produce graceful effects in his imitations, or, at leaſt, without knowledge of this particular, it is by accident only that he can produce his figures in graceful poſtures. When by drawing this baſon for the abdominal viſcera (without concerning himſelf with its contents), he is become acquainted with its form, he ſhould ſtudy in the following manner: let him obſerve the upright poſture of a graceful figure, ſtanding upon one leg, right or left; let him next conſider how the ſpine of the ilium will appear in that ſtate; then place the pelvis ſo before him, and draw it carefully, the inclination of that important part being according to the poſture. This hint will do for a perſon who is eager in the purſuit of knowledge, in all other ſtates in which the action moves the pelvis; and will exhibit to him the different nature of the ſtudy of anatomy, in a ſurgeon or a painter, or to what different ends the ſame ſtudy may be applied.

The ball and ſocket-joint ſhould be well conſidered, where the femur is articulated with the ilium, the whole form of the thigh-bone ſhould have due attention paid to it: particular notice ſhould be taken of the great trocanter, and alſo ſome obſervation ſhould be made upon the ridges in the femur. This ſhould be ſtudied by the artiſt; being ſet in the different poſtures that it ſuſtains, under particular actions, as was before directed for the pelvis; but the condyles, and the nature of the joint, and its tuberoſities, demand ſtrict attention in connection with the large bone of the leg. It ſhould be obſerved, that this joint is very ridged when the leg ſupports the figure, and admits of no rotatory motion; this joint ſhould alſo be ſtudied without, as well as in connection with the patella. When the leg is firmly extended, as in ſupporting the body, the patella is drawn up by ſtrong muſcles, and riſes above the joint, being then ſtationed on the outſide of

the

the head of the femur; but when the leg is bent, the point of the patella again falls within the joint

By carefully drawing the tibia and fibula they will be underſtood; but the protuberances forming the ankles muſt be obſerved, and the faithful delineation of them ſtored up in the mind; noticing that the inner ankle, formed by the tibia, is higher, and advances more forward than the outer ankle formed by the fibula. The heel and tarſal bones with the metatarſal, ſhould be ſtudied as they are united, noticing the manner in which the bones of the leg are placed upon them, together with the whole of that finely conſtructed arch that bears up the whole body.

In addition to what has been ſaid upon the ſtudy of the knee, the aid which the natural ſkeleton affords, ſhould lead the draftſman to correct knowledge of this important and beautifully formed and uſeful joint. If he has opportunity, it ſhould be alſo ſtudied after a freſh diſſected ſubject, with the leg in extenſion, as well as in its ſtate of flexion, and, as before hinted, his obſervations written on the margin ſhould accompany the drawings.

In contemplating the articulations in the natural ſkeleton, it will be obſerved, that the lengthening of the body at one time more than another, is not by drawing out like a worm one part of the body from another, but by the muſcles bringing the bones more perpendicularly over each other. This leads to the conſideration of the *muſcles*.

"A muſcle is compoſed of two tendinous and ſlender parts," as Count Algarotti expreſſes himſelf; "one called the head, and the other the tail, both terminating at the bones, and of an intermediate part, called the belly; the action of a muſcle conſiſts in an extraordinary ſwelling of this intermediate part, while the head remains at reſt, ſo as to bring the tail nearer to the head, and conſequently the part to which the head of the muſcle is fixed, nearer to that part into which the head of it is inſerted. There are many motions, to effect which ſeveral of the muſcles (for this reaſon called co-operating muſcles) muſt ſwell and operate together, while thoſe calculated to effect a contrary motion (and therefore called antagoniſt muſcles) appear ſoft and flaccid. Thus, for example, the biceps and the brachiæus internus labour; and when the arm is to be bent, and become more prominent than uſual, while the gemellus, the brachiæus externus, and the anconæus, whoſe office is to extend the arm, continue as it were flat and idle. The ſame happens reſpectively in all the other motions of the body. When the antagoniſt muſcles of any part operate alone and at the ſame time, ſuch part becomes rigid and motionleſs; this action of the muſcles is called tonic." It is to be wiſhed that the ſtudent may be informed by a diſſected ſubject of the nature of the different ſorts of muſcles, as thoſe whoſe fibres are direct, like the biceps, of others which are oblique, as the pectoral muſcle, of thoſe which are called penniform or feathery, as that which moves the thumb. Thoſe which are round, being internal or little ſeen, do not belong to his ſtudies. He ſhould alſo be taught that the tendons admit of no contraction or extenſion; that they are long for convenience, and that they are in general confined near the centre of motion, by annular ligaments, to prevent deformity, and alſo to admit of a more quick motion, as in the wriſt; but where the contrary arrangement renders them more uſeful, they are not thus confined as in the hamſtrings, and the bend of the fore-arm.

He ſhould know that the ſame muſcles are uſed to draw the body to the arm, which draw that member to the body; alſo, that thoſe muſcles which bend the thigh on the body, when the feet are fixed, bend the body on the thigh; that ſome muſcles have not all their motions engaged in every action in which ſuch muſcles are employed, but only part of them, as the deltoid, the portions of which have various motions; ſuch portions, however, never act without the concurrence of ſome other aſſiſting muſcle with them.

Theſe things being premiſed, the ſtudent is to be directed how to proceed, and what are the readieſt means. We before directed him to the tables publiſhed by anatomiſts: this advice, we ſuppoſe, to have been complied with. It is, therefore, recommended him to draw with care from a good caſt of a muſcular figure, after the ſkin and other integuments have been taken away by a ſkilful anatomiſt. In the Royal Academy there is a valuable figure of this kind, which is ſtrongly recommended to thoſe who can have acceſs to it; and where he will alſo find other ſubjects of this nature worthy his attention, as well as proper inſtruction from a very reſpectable profeſſor of anatomy; but in the want of the inſtruction which that inſtitution has provided for its ſtudents, &c and the uſe of the large anatomical caſts, which it poſſeſſes, a caſt ſhould be procured from thoſe ſhops which ſupply artiſts with anatomical and other figures in plaſter of Paris. Mr. Banks made an excellent model after the original, which we mentioned to be in the Royal Academy, about three feet in height, which was caſt in plaſter; and we recommend it above any others that we know can be obtained. The figure (of which this is an admirable copy, though of reduced ſize) was prepared for the artiſts by the late Dr. William Hunter, to which every attention was paid both by him and the artiſts who aſſiſted in placing the figure in a graceful attitude.

The unfortunate ſubject of that caſt was executed for murder, the body was taken from the place of execution as quickly as poſſible, and while warm, and the muſcles capable of contraction, to which their nature diſpoſes them (even without the influence of the will), the body was ſet in the poſture it now ſtands, and in which ſtate it was diſſected; then the caſt, of which we ſpeak, was produced. Many ſimilar attempts have been made, but this appears to be by far the moſt ſucceſsful of any figure we are acquainted with, which ariſes from ſeveral concurring circumſtances; ſuch as its being a well proportioned figure, its attitude graceful, the limbs ſo diſpoſed as to ſhew each part diſtinctly, and its having been prepared by a great anatomiſt. Being a caſt from nature itſelf, the mind has an unbounded confidence that he who ſtudies from it cannot be miſled by the miſtakes of an artiſt; and that the figure being ſet while the muſcles were warm, they have, in a great degree, the proper ſwell, comporting with the ſtate of the limbs. Mr. Spong made a ſmall model of this figure, the bronze caſts from which, for their ſize, are excellent. There are ſeveral other caſts to be met with which may greatly aſſiſt the ſtudent: that after the anatomical figure which was modelled by Mr. Rubiliac, is very natural and good; there are alſo ſome executed by the French Academy. We recommend the head and neck as large as life from the French, and alſo the trunk and upper extremities in a reduced ſize; one ſide having the external muſcles taken off, and the other ſide retaining them for the ſake of compariſon. Another of the leg and thigh of a man with half the pelvis, exhibiting the pſoas muſcle; the laſt which we particularize, and deſerving as much notice as any, are two diſſected arms, caſt under Dr. Hunter, which are fine exhibitions of muſcular ſtrength. While the ſtudent is in practice, and as his judgment expands, or his fellow practitioners recommend, he will find aſſiſting objects of this nature preſented to him in abundance. Theſe hints concerning the caſts, &c. may be of uſe to ſome of our readers, eſpecially thoſe who are ſituated at a diſtance from the metropolis.

Whatever caſt of the muſcles the ſtudent's judgment or con-

convenience has ſelected, he ought to examine and copy different views, writing upon the margin (as we directed concerning the ſtudy of oſteology) the names of the muſcles, their origin, inſertion, and their uſe, as flexors, extenſors, and rotators; obſerving, with the ſame attention, the ſituation of the bones behind the muſcles, and where the projections on the ſurface are cauſed by them. While the young artiſt is making ſuch drawings, he will do well continually to examine and compare the living figure with the anatomical caſt; the figure being placed in the ſame attitude with the object of his imitation; tracing with the finger the bones and muſcles of the living ſubject to aſcertain the cauſes of the effects he obſerves, and which he cannot otherwiſe account for. This will greatly facilitate his knowledge.

A common-place book for anatomical ſketches, as well as the complete drawings he has been adviſed to make, will be very uſeful, in which the ſeparate parts may be delineated; beginning with the head, and deſcending to the lower extremities, in the following manner. Firſt, ſuppoſe it to be the front view of the head and face of the ſkeleton; then he may draw from a plaſter caſt of the head, &c. with the ſkin taken off; ſuch as the large diſſected head, from nature, which we mentioned as being prepared by the French academy; or if this be not at hand, the head from any of the before-mentioned anatomical figures. Then a drawing ſhould be made in the ſame view from a living perſon, one in whom the muſcles are to be diſtinguiſhed, the ſubject not being covered too much with fat. Several views of the face ſhould be treated in this manner.

What has been ſaid of the head will apply to the neck, trunk, the arms, hand, thighs, legs, and feet; this practical method will be of conſiderable uſe to the artiſt, and if the ſeparate parts in different views be alſo drawn from ſome of the antique figures, ſuch as are placed in a ſimilar poſture, his taſte and ſtyle will, at the ſame time, be greatly improved; it will naturally ſuggeſt itſelf, that ſuch of the antiques as are robuſt and herculean, will be moſt proper for him at firſt to ſelect, for ſuch purpoſes; theſe objects will lead him not only into the knowledge of the parts, but he will naturally imbibe the right ſtyle of repreſenting muſcular motion from them. We are acquainted with no critic who has obſerved any anatomical error in the antique ſtatues, or an inſtance in which the profound knowledge of anatomy does not appear; none who have detected a falſe ſwelling of the muſcles, or any oſtentatious diſplay of anatomy; for thoſe well-informed artiſts exhibited no more of their knowledge than was proper, as it reſpected the character of the ſubject, either delicate or robuſt, at reſt, in motion, or in violent exertions.

This remark, we believe, is ſtrictly due to the ſtatues and fragments of the ancients, though it may not be ſo applicable to the valuable works, in other reſpects, of the great *Michael Angelo* himſelf; whoſe figures will, notwithſtanding, be of a very improving nature, eſpecially while the artiſt is in purſuit of anatomical knowledge; but he ſhould be cautioned not to follow even this extraordinary man in repreſenting theſe appearances too ſtrong, where it is not requiſite; nor in giving the ſwelled motion of the muſcles to the whole body and limbs, flexors, and extenſors, at the ſame time,—which cannot be, but in rare inſtances, as in ſudden ſtarts of ſurpriſe or agony. A common-place book of the nature which has been recommended, beſides the original exerciſe, will reſtore to his memory the impreſſion which time may efface from it. This being the ſtudent's own work, a ſight of it, and his other ſtudies of the ſame nature, will more aſſiſt his recollection, concerning the ſubject he has formerly conſidered, than a much longer examination of prints or drawings by other perſons can be ſuppoſed to do.

In order to prevent embarraſſment amongſt the great number of muſcles, the following arrangement is made; by which the ſtudent's attention at firſt may be circumſcribed, and *theſe* demand his particular attention, *viz.*

Temporalis
Zygomaticus
Maſſeter
Sternohyöidæus
Sternomaſtoideus
Latiſſimus colli
Cleidomaſtoideus
Trapezius or cucularis
Rhomboides
Pectoralis
Deltoides
Biceps
Brachiæus internus
Gemellus
Anconæus
Pronator teres
Supinator radii longus
Flexor carpi radialis
Flexor carpi ulnaris
Palmaris
Perforans
Perforatus
Extenſor digitorum
Extenſor minimi digiti
Extenſor pollicis manus
Serratus major anticus
Obliquus deſcendens
Rectus abdominis
Latiſſimus dorſi
Teres major
Infraſpinatus
Splenius
Sacrolumbaris
Longiſſimus dorſi
Glutæus major
Glutæus medius
Triceps
Pſoæ
Membranoſus
Sartorius
Gracilis
Biceps femoris
Seminervoſus
Semimembranoſus
Vaſtus internus
Vaſtus externus
Rectus femoris
Tibialis anticus
Peronæus
Gaſtrocnemius
Soleus
Extenſor digitorum pedis
Extenſor pollicis pedis.

Theſe muſcles ſelected, and thus arranged, are few in number, and will not perplex the ſtudent; conſidering how important they are to his art, he ſhould not be diſcouraged when informed, that with moſt of theſe he ought to be intimately acquainted. With reſpect to the pſoæ, and one or two more of the internal muſcles, it is neceſſary only to know that they exiſt, and where they are ſituated; but moſt of the other muſcles, thus particulariſed, ſhould be very familiar to him, not only where they are placed, but how they appear when at reſt, in common action, or in violent exertion; and if the method we have recommended be adhered to, a tolerable capacity will attain a great degree of knowledge reſpecting the muſcles, as well as the bones of the human figure.

In the Royal Academy will be ſeen, beſide that already mentioned, another muſcular figure, prepared by Dr. Hunter, one ſide only of which has the ſkin, fat, &c. taken off, that a compariſon may be made with the other ſide of the figure, in which it may be ſeen how much thicker ſome parts of the human body are covered than others. The ſtudent ought to have information reſpecting this circumſtance by other means, if he has not acceſs to this figure. It ſhould alſo be known that although there is a conſiderable difference in the ſize of the muſcles in different ſubjects, between thoſe who are accuſtomed to labour and exerciſe, and thoſe who are more ſedentary; yet it is the cellular membrane, or fat, which principally conſtitutes the difference between corpulence and meagreneſs, and not the muſcular fleſhy ſubſtance of the body; and alſo that children's muſcles are in proportion with adult, according to their ſize and age: the painter will ſee the propriety of this remark.

One more obſervation is neceſſary to be made reſpecting the covering of the muſcles, which is concerning thoſe tendinous expanſions that wrap up and bind them together

in many parts; theſe are uſually ſtrong, although thin and tranſparent; on that account they cannot in general be ſo well expreſſed by caſts or drawings, but in the diſſected ſubject, which the ſtudent ſhould inſpect if poſſible; the ſkin and fat being taken off, the expanſions are diſcovered by their white and ſhining appearance. We adviſe all young artiſts to obtain inſtruction reſpecting theſe aponeurotic expanſions, and particularly the faſcia, which ariſes from the tendon of the biceps muſcles inſerted into the radius, and alſo from the palmaris covering the palm of the hand, and the expanſion from the glutæus, where it is united with the trochanter, covering the muſcles of the thigh; he ſhould conſider this as no trivial object of his concern. In the fore-arm the ſtructure from the aponeuroſis is ſo ſtrong as greatly to affect the form of that part of the limbs where it paſſes over the pronator teres, flexor, carpi radialis, palmaris, &c. and it is ſtrong enough to ſhew itſelf, even in caſts from nature; in the caſt from an arm prepared by Dr. Hunter, this is beautifully preſerved, although a diſſected arm will ſhew it better. It will perplex the ſtudent to account for ſuch appearances in general, although he may have the moſt perfect knowledge of the bones and muſcles, unleſs he be informed reſpecting this circumſtance alſo.—In various parts of the body ſome of the larger veins appear, ſuch will be found upon the ſurface of the ſubjects, from which the painter makes his ſtudies, and therefore he need not to be particularly directed, nor concerning thoſe which redden the parts upon exertion, as the fore-arm, when the hand is ſtrongly graſping a ſword, &c. or the redneſs and paleneſs occaſioned by the different paſſions of the ſoul. See PASSIONS.

We might deſcribe the action of the muſcles we have ſelected, and in the order they are arranged; but this would be deſcending to particulars more than we propoſed, eſpecially as they are beſt learned under the immediate inſtruction of an anatomiſt, pointing them out on the living figure, or which the ſtudent may obſerve upon his own perſon in a glaſs, (a method much recommended by the late Dr. Wm. Hunter,) or upon a living muſcular ſubject. We ſhall, however, particularize a few muſcles as ſpecimens, in order to lead him into the proper method, by which he is to proceed with the reſt, and alſo preſent ſome obſervations for his conſideration.

A figure ſtanding gracefully cannot, with propriety, be ſaid to be in motion or exertion, but many of the muſcles are in exertion to produce even this effect, *i. e.* thoſe which ſupport the figure in the erect poſition, eſpecially the muſcles of the ſtanding leg and of the loins.

When the body is prepared by the mind to receive and ſupport a weight, the muſcles are in exertion, prepared to ſupport what it expects to be received: ſhould a man offer to another any heavy weight, covered with a light ſubſtance, as cork, &c. bringing it with ſuch an air as to imply it was not heavy; from the mind being thus deceived, there would not be a preparation or exertion of the muſcles adequate to ſupport it, and conſequently it would fall and endanger his toes, although the perſon would be more than capable of ſupporting it under other circumſtances. On the contrary, if a body of a light nature be thus preſented, covered ſo as to repreſent a very heavy ſubſtance, and the perſon conveying it ſeems to exert himſelf as bearing a conſiderable weight, ſo ſoon as the palms of the hand come in contact with the pretended heavy ſubſtance, the muſcles would be ſo prepared to exert themſelves, as immediately to heave it into the air. This may be ſeen alſo in the muſcular exertion of a perſon catching a ball projected with a ſtrong degree of force. An artiſt may obtain information reſpecting the propriety of muſcular exertion, from the ancients, by placing a living perſon in the action of any of the antique figures, as performing what they repreſent the figure doing; ſtrictly comparing with the figure the ſeveral muſcles and limbs, as well as the general form; whether ſtanding gracefully, as the Antinous, more exerted as the Apollo Belvedere, or in violent exertion, as the Laocoon.

This method is the beſt we can recommend for the improvement of the ſtudent's taſte and judgment, other methods will conduce to his knowledge of the parts; but this will communicate the idea of graceful motion and the proper expreſſion of the figure. Studies from the living figure ſhould be continually made, and thoſe who are wiſe and are not prevented by other avocations, ſhould in England, as in France and Italy, never forſake the life academy, in which ſchool much of practical knowledge will be learned; but the ſtudent's taſte muſt be formed from the antique figures, in all that relates to proportion, elegance of form, and anatomical propriety. A ſound knowledge of anatomy, is the ground of the painter's art; it is, however, better to know and produce the effects like the ancients, after their deepeſt reſearches, ſo as to hide the artifice by which thoſe effects are produced. *Ars eſt celare artem.*

Although it is not our intention to deſcribe the minutiæ of the muſcles, included in the liſt, yet we ſhall notice a few of them and ſome other circumſtances, as a ſpecimen. Dr. Hunter has often been heard to ſay, that the principal method he uſed in order to attain the knowledge of muſcular motion was by conſulting his own body, becauſe he could give the action to thoſe muſcles he wiſhed to examine, and he ſtrongly recommended this method to others. This trial, from ſo eminent a character, will be adopted ſo far at leaſt, as it reſpects the intricate muſcles of the fore-arm, and by a glaſs he may inſpect the front of the whole figure; but ſuch parts as cannot thus be examined, muſt be ſought for in another perſon. When a living muſcular ſubject is placed before the ſtudent, (with an aſſiſtant to oppoſe the effort which he is to make, in order to retain the muſcles in action for a ſhort ſpace of time, while they are under immediate notice), the commencement may be with the head. The maſſeter and temporal muſcles will be in exertion when the teeth are ſtrongly preſſed together; this exertion will be ſeen in a man when he is lifting a great weight; theſe muſcles ſhould be felt as well as ſeen, that the mind may be quite ſatisfied reſpecting them. The effect of the zygomatic muſcles in drawing up the corners of the mouth will be perceived when the ſubject is ſmiling, &c. Although theſe muſcles do not always ſhew themſelves, they ought to be conſidered attentively, as they have a great influence in expreſſing the paſſions. Sternohyoideus will be in action when there is an attempt to ſwallow any thing. We ſuppoſe all the muſcles in our arangement have been well conſidered; and that the ſtudent has become acequainted with their form, origin, and inſertion, and alſo with the uſe of the ſeparate muſcles.

The ſterno-maſtoideus draws the head downwards, forwards, and ſideways; now in order to notice the action of this muſcle, firſt let the man turn his head over the right ſhoulder, when it will be found that the portion of this muſcle, which is on the left ſide, will belly out, conſequently it will grow tenſe, and ſhorten itſelf, while that portion which is on the right ſide, will be longer and flaccid; this will be evidently ſeen, and may be felt and meaſured with a ſtring, that the ſtudent may be perfectly informed reſpecting a muſcle ſo important to all artiſts. The face ſhould be then placed in the centre, and the perſon muſt be then directed to endeavour to bring his face down upon the breaſt,

breaſt, while an aſſiſtant places his hands upon the forehead of the living model, to oppoſe his bringing it down; while making this attempt the ſterno-maſtoideus will be ſeen in ſtrong action in both portions, and be very conſpicuous; but when the head is in the centre, and in each way in the ſame direction with the body, and that perfectly upright, this muſcle will not ſo viſibly ſhew itſelf, excepting near the inſertion in the ſternum.

The pectoralis will be ſeen in very ſtrong action, by the man endeavouring to bring the fore-arm to his breaſt, the hand being lifted up about the height of his ſhoulder; if the aſſiſtant, at the ſame time, make an effort to keep the arm outwards. If the man with his arm thus raiſed, move it inwards and outwards ſeveral times, an opportunity will be given to obſerve the motion of this muſcle: ſo alſo if the hand be lifted higher than the head, then brought downwards and inwards, he will alſo perceive that the pectoralis ſhould properly be conſidered as a muſcle belonging to the arm, notwithſtanding it is ſituated upon the breaſt.

Thus the flexors and extenſors, pronators and ſupinators, ſhould be examined in motion, after their place and uſe have been rendered familiar by the order and method of ſtudy we have been detailing. What has been advanced upon the ſtudy of muſcular motion in a few inſtances, we hope, will be a proper clue to all the other external muſcles; many errors may be avoided, and much time will be ſaved, if the ſeveral parts be pointed out to the ſtudent, by a ſkilful anatomiſt, who will demonſtrate to him, that although it may be proper to remark the action of the ſeparate muſcles by themſelves, yet ſtill no action of a limb is performed without the co-operation of ſeveral muſcles. This ſhould become as evident to the mind of the artiſt, as that the deltoid elevates the humerus, or that the biceps is a flexor of the fore-arm.

He will, by ſuch an inſtructor, be informed that ſome of the muſcles, or parts of them, are ſo thin, as to ſhew the motion of thoſe which lie underneath, as the latiſſimus dorſi; and although others are deeply ſeated, yet they have great expreſſion in ſome actions, as the longiſſimus dorſi, which will become very conſpicuous, when the body of the figure, being bent downwards, endeavours to regain an erect poſition.

The ſtudent ſhould let the figure before him raiſe his head and depreſs it again; turn it over one ſhoulder, then over the other; this may be done quickly and repeatedly, while he makes his obſervations on the muſcles in the neck.

He ſhould direct the man to bow his body downwards, and bring it up again repeatedly, at one time more quickly than at another, while he obſerves the motion of the rectus abdominis, &c.

The model ſhould alſo be directed to draw in his breath, to ſhew the boundary of the true and falſe ribs, which muſt be well obſerved. He ſhould make him ſtand upon one leg, then upon the other, ſhifting them continually more or leſs quickly, while he notices, with great ſtrictneſs, the change this will cauſe in the ſpine of the ilium, and the other parts of the pelvis; on this we lay particular ſtreſs, as in a preceding inſtance, when directing the ſtudy of the bones, without the muſcles.

He may now examine the motion of the patella, and the muſcles rectus and vaſtus of the thigh, with the ſame care.

He ſhould cauſe the man to lift up one foot, and bring the heel to the other knee, in order to exhibit the motion of the ſartorius muſcle.

By quickly moving the toes, the man will ſhew the muſcles in action, which give them their motion.

He ſhould be directed to elevate and depreſs the arms, as well as bend the fore-arm, to ſhew the performing muſcles of thoſe parts; to turn the palm of the hand upwards and downwards, which will exhibit the pronators and ſupinators. The wriſt bent and extended, and the fingers quickly moved will ſhew their muſcles.

When the back of the figure is ſeen, the ſame method ſhould be purſued to expreſs thoſe muſcles which are behind upon the trunk, and the extremities; carefully noticing the motion of the ſcapula, eſpecially the different ſituations of that bone, when the arm is lifted upwards, and brought downwards; likewiſe examining the motion of the muſcles in the ſide view of the figure in the ſame manner.

Particular attention ſhould be given to thoſe muſcles which form the edges of the armpits, and of the hamſtrings of the thighs; and laſtly, as ſtudy and drawing ought to be conſidered by the painter as ſynonymous words; we adviſe that ſuch things as ſtrike the mind, when they are newly diſcovered, ſhould be noted by the ſtudent in a book kept for the purpoſe, with ſuch ſketches as may tend to recal to his mind in future, or deſcribe to others, what cannot be ſo well conveyed by words alone. Advice of this ſort has been repeated under each head of ſtudy, as we know the conſequence it may be of to ſome of our readers.

Dr. Briſbane judiciouſly obſerves, reſpecting comparative anatomy, "that the painters ſhould at leaſt be acquainted "with the anatomy of thoſe animals which are moſt commonly introduced into their works, particularly of that "noble and uſeful animal, the horſe, and of that faithful "companion of mankind, the dog; as for other animals, as "they more rarely appear in pictures, and are leſs particularly known and attended to, a ſlighter repreſentation of "them may generally ſuffice." We, however, believe that birds ſhould be examined in the interior, as opportunity offers, eſpecially the ſkeleton. In reſpect to the horſe, we recommend the painter to read, and examine the valuable labours of Mr. Stubbs and Mr. Blaine, which we conceive to be an honour to our country. He may alſo be furniſhed with an anatomical caſt of an horſe, which is ſold at the ſhops; from whence information in this reſpect may be derived, eſpecially after the human figure has been well underſtood; for, by knowing which are flexors, and which are extenſors, in general, the ſtudent will be in a great meaſure informed how they will act in this animal. Aſſiſtance will be alſo gained by obſerving the animal itſelf, which he will have before him while he is painting it. Some animals, but eſpecially leopards and tigers, are formed ſo much like a cat, that this common animal will be very uſeful to him; their muſcles may be judiciouſly expreſſed, if a dead cat be put into the poſture of the animal to be repreſented, before its muſcles are cold, and then the ſkin being taken off, it will be an almoſt perfect direction to the painter, who is familiarly acquainted with the action of the muſcles in general.

See the names of the MUSCLES of the human body in the Cyclopædia, their character, nature of their fibres, origin, inſertion, and uſes, to which our readers are referred for more particular directions concerning them.

ANATOMY, *Veterinary*.—Human anatomy, in point of intereſt and importance to mankind, evidently holds the firſt place; that of brutes, particularly ſuch as are domeſticated and employed for various important purpoſes in ſociety, in reſpect to their anatomy, holds the ſecond place. The anatomy of theſe, without being entered upon ſo circumſtantially as the human anatomy, deſerves a due ſhare of regard equal to its importance. To deſcribe each part of the horſe individually and ſeparately, would be often only repeating the more elaborate

deſcriptions of the human anatomy more frequently than thoſe but little converſant with this ſubject would ſuſpect; many of the viſcera, and even the myology of the trunk and extremities, often correſpond in their principal circumſtances: there are, however, great and various differences in the ſtructure of the two animals, which it will be our duty more particularly to deſcribe. For the ſame reaſon that the ſtudy of the human anatomy is uſeful, as it tends to preſerve the health and lives of men, equally ſo is that of brutes, inaſmuch as it tends to ſave the lives of theſe uſeful and often coſtly animals. Nor will it be neceſſary to deſcend far down the chain of quadrupeds; the few only which from their domeſtication are rendered ſerviceable to mankind, deſerve this particular notice; in carrying anatomical reſearch farther among the brutes, and in deſcending into the more ſubordinate orders of animated beings, the ſtudy of their anatomy receives its ſhare of importance, in proportion only as it ſerves to illuſtrate the uſes and functions of particular organs and parts of the more complicated and noble animals, from the very various figure and ſtructure theſe parts are found to aſſume in them, from which much information of their uſe may be obtained; and then, inſtead of *veterinary anatomy*, it becomes properly the ſubject of, and arranges under the head of *comparative anatomy*.

This ſcience may be properly termed *veterinary anatomy*, which, in ſtrict propriety, ſhould include only thoſe animals employed as beaſts of burden, as the root of the word (*veho vecto*) from whence it is derived implies; but it is neceſſarily extended to all domeſticated animals employed in the ſervice of man. The horſe, the aſs, the camel, the ox, the hog, the dog, the ſheep, &c. rank principally under this claſs. The anatomy, however, of the horſe has only been much cultivated, and that but of late years; various eſtabliſhments of conſiderable munificence have appeared within the preſent century for the cultivation of this ſtudy, as that of Charenton near Paris, Lyons, Berlin, London, Copenhagen, Vienna, &c. Theſe inſtitutions, together with the exertions of individuals, have begun to advance this ſcience into reſpect and eſtimation; the anatomy and ſurgery have already received a high ſtate of cultivation, as being more eaſily attainable by direct mechanical means; the progreſs of medicine is more ſlow, and it will be more readily admitted by thoſe moſt converſant with the ſubject, to be at preſent in a ſtate of great obſcurity; and from certain difficulties attending the culture of medical ſcience in general, and particularly in theſe animals, a long period will be neceſſary for it to obtain much conſiſtency or preciſion; ſmall effects are with difficulty traced in mute animals, and no feeling or change in them can be deſcribed or known, unleſs powerful enough to be externally viſible. On the other hand it is but juſt to remark, there is a more free and unlimited opportunity of experimental inquiry and reſearch, as their diſeaſes are fewer, and ariſe from leſs complicated cauſes, than thoſe of men.

This ſcience, though it has long lain in a neglected and degraded ſtate in this country eſpecially, and throughout all Europe, yet has not wanted men of refinement for its cultivators. Among the writers who have diſtinguiſhed themſelves in this line of ſcience are to be enumerated among the ancient Romans, Vegetius; he is ſuppoſed to have lived about the time of the emperor Valentinian the Third, in the fourth century, and is generally conſidered the ſame writer, whoſe book "De Re Militari," has been ſo much admired, as giving the beſt account of the military tactics and warlike weapons of the ancients; his treatiſe "De Arte Veterinaria," is not leſs curious in the preſent age, as handing down to us the practice and opinions on the veterinary art at a very refined period of the Roman empire: his work is principally a compilation from the moſt eſteemed authors of his own time, and eſpecially the Greeks; the prefaces, or introductory chapters to his four books carry with them ſufficient evidence of their author, and are remarkable for ſtrong and elegant language. Better reaſons or apologies for the cultivation of this ſcience have, we believe, never been penned; and though medical reaſoning and phyſiology were at this period in a low ſtate, ſtill we view with ſurpriſe, that the practice was very often not materially different from that which would be ſuggeſted by the moſt refined reaſoning of the preſent day. Columella has treated largely on this ſubject; he lived prior to Vegetius, in the ſecond century, under the emperor Tiberius. Cornelius Celſus, about the ſame period, is alſo underſtood to have written on this ſubject, but of his work there are unfortunately no remains. At a ſtill more remote period than this we find Greek writers on this ſubject of conſiderable note; no leſs than ſeventeen are enumerated by Ruellius, who was phyſician to Francis Firſt, king of France. The ſurviving fragments of theſe authors were edited by Ruellius, by the orders of his munificent patron, firſt in Latin, in folio, in the year 1530; afterwards the original Greek text, in 8vo. in the year 1537; both ſplendidly printed, ſo as ſcarcely, in this reſpect, to be ſurpaſſed by any thing of the preſent day. To this collection of eſſays, Abſyrtus, Eumelus, Hierocles, Pelagonius, Theomneſtus are among the chief contributors: their writings conſiſt of diſſertations on the various diſeaſes of the horſe, beginning moſtly in the epiſtolary form, with the uſual ſalutations in uſe among the Greeks. We learn from Suidas, that Abſyrtus was a Bithynian by birth, and ſerved under Conſtantine in the Scythian war. Hierocles appeared in the courts of law in trials reſpecting thoſe animals, and did not, like Theomneſtus and Abſyrtus, ſerve in the armies of the emperor. The period in which the others lived there are no means left of aſcertaining; it appears, however, to be moſt probable that they lived at an early period after the formation of the eaſtern empire. In theſe writers the ſymptoms of ſome diſorders are pointed out with much acuteneſs, in which conſiſts the greateſt value of their writings. Their preſcriptions are often ill-digeſted farragoes, compoſed of many incongruous ingredients, ſome but little known, and others altogether diſuſed at preſent in medicine. In the adminiſtration of remedies of a ſurgical nature they were more happy, eſpecially that of topical bleeding, which they well underſtand, from every part of the body. Xenophon has alſo treated expreſsly on theſe ſubjects in twelve ſhort eſſays or chapters reſpecting the training, management, and external figure of horſes, and is the moſt ancient of all the writers extant on horſes, being between three and four hundred years before Chriſt. At the decline of the Roman empire this ſcience underwent the general fate of all the other ſciences, and ſuffered an occultation longer than almoſt any of them. A period of more than a thouſand years elapſed without adding as much to the human knowledge of this ſubject as has been done within the laſt twenty only in Europe: during this period, however, of the obſcuration of ſcience, at an uncertain date, was propagated the art of ſhoeing horſes' feet with iron, and which at length became general; an art that has been variouſly practiſed, and never yet reduced to certain rules. It appears alſo, that, during this period of declining literature, the veterinary art ceaſed to exiſt as a diſtinct profeſſion, or was practiſed ſo feebly, that, on the diſcovery of the art of ſhoeing, what knowledge then remained of it was eaſily transferred to the working ſmiths, who alone could practiſe this art. Its ſiſter ſcience, human ſurgery (it would hardly now be credited), underwent a ſimilar fate; and, for the

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want of ſchools to teach, and profeſſors to practiſe, paſſed into the hands of the barbers, from whom it has not been entirely removed till within the laſt century. Theſe ſmiths became at length from habit, and the cuſtom of mankind in ſeeing them ſo employed, as it were, the legitimate ſons of veterinary ſcience; their labours, through a long period of years, have not advanced the ſcience a ſingle ſtep, and they were neceſſarily employed in this art when it had no regular profeſſors, as being more likely to be ſkilled in theſe matters than thoſe leſs deeply engaged in them, though it would be clearly ſeen, on reflection, that the good practice of medical knowledge, even on brutes, would require as much knowledge of anatomy and the principles of medicine as the ſame practice in the human being. Therefore, for the liberal practice and advancement of it previous information on theſe points was abſolutely neceſſary. In the modern revival of this ſcience the French appear to have led the way; and in taking a ſhort review of thoſe men who have principally promoted it, we ſhall firſt mention the name of Bourgelat, (Les Elemens de l'Art Veterinaire) and Lafoſſe (Cours d'Hippiatreque) as among the earlieſt uſeful authors on this ſubject. The Earl of Pembroke very much promoted the ſcience in this country by a ſmall treatiſe on the manege, in which he firſt ſuggeſted the idea in England of ſchools being formed expreſsly for the cultivation of this ſubject, having ſeen thoſe in France about this time. Many expenſive and oſtentatious works were publiſhed on the manege, which nevertheleſs did not appear in the ſmalleſt degree to promote the medical branch of this art. Berenger's work in 4to. 1771, "on the hiſtory and art of horſemanſhip," is filled with intereſting matter reſpecting the manege, and muſt highly gratify every inquirer after this branch of the art. We cannot recommend too ſtrongly the writings of Mr. James Clark, of Edinburgh, on theſe ſubjects, as poſſeſſing much good ſenſe, and none of that fulſome ſufficiency which marked moſt of the later writings of our countrymen previous to his time. In France Vitet (Medicine Veterinaire) has laboured the anatomy of the ox, and added it to that of the horſe, which had not been much cultivated before. Our countryman, Mr. Stubbs, has, however, done the greateſt ſervice to the ſcience by his excellent anatomical engravings of the bones, muſcles, and many of the blood veſſels and nerves of the horſe, a work in port folio ſize, which, for faithful deſign and good engraving, will not eaſily be exceeded. Snape's work is alſo reſpectable on the general anatomy of the horſe. Blundeville publiſhed a uſeful treatiſe on all the different branches of this art in the reign of Queen Elizabeth, written with conſiderable learning and modeſty; and there is another publication of this deſcription by Leonard Maſcal, in the year 1662. Soon after this a bad ſtyle of writing on theſe ſubjects crept in, and has too much held its place to the preſent time. Gervaſe Markham, in the reign of Charles II., publiſhed his "Maſterpiece," and here appear to begin the preſumptuous ſtyle and empty knowingneſs which has characteriſed the greateſt ſhare of the works which have followed; theſe have not promoted the ſcience in the ſmalleſt degree, but have groſsly declaimed againſt and abuſed what they were pleaſed to denominate the ignorance of grooms, the ignorance of ſmiths, and the ignorance of all their predeceſſors, taking all unfair advantages of their works, in judging concerning them by the improvements of ſucceeding times. In this way we find Markham, Burdon, Bracken, following each other with uncharitable aſperity and "puny criticiſm;" and to this liſt others might be added of the preſent day. They have written page on page in this abuſive way, without adding one ſingle diſcovery or uſeful fact to that art they ſo arrogantly pretend to teach.

And in this place we cannot help noticing a ſingular barbariſm, that appears to have been the offspring of the above writers, which has found its way into common uſe, in one of the terms belonging to the veterinary ſcience, and which we conceive ought no longer to paſs uncorrected, as terms miſapplied in ſcience always confuſe, and often lead to error. The word *farriery* is at this preſent time univerſally in this country employed to ſignify the whole veterinary art, and is a barbarous mode of ſpelling the word *ferriery*, as it is immediately derived from *ferrer*, French, to ſhoe a horſe, and that from the radical *ferrum*, Latin, iron; and ſhould ſignify no more than what the word implies, the application of the iron ſhoe to the horſe's foot. The want of regular practitioners in the veterinary art rendered it neceſſary that the ferrer ſhould adopt the art; and hence the whole art became included in the general term ferriery. In reducing this word to its proper ſpelling, for there can be no authority to juſtify the preſent mode of ſpelling it, and in expunging it, we commit no violence on the uſage, or introduce any innovation on the Engliſh language, for there exiſts ſufficient teſtimony to prove that the old Engliſh writers did not ſpell it as we do at preſent; as in Blundeville, who wrote during the reign of Queen Elizabeth, which, according to Johnſon (ſee preface to his Dictionary), was the pureſt æra of the Engliſh language, we find it ſpelt, with great propriety, with an *e*; ſee book fourth, in his "Addreſs to the Gentlemen of England:" he writes, "All horſes, for the moſt part, do come into their decay ſooner than they ſhould do, by one of theſe four waies: that is to ſay, either for lacke of being well bred, or through the raſhneſs of the rider, the negligence of the keeper, or elſe through the unſkilfulneſſe of the *ferrer*." Again, in the ſame chapter, "Martin Ghelly, of Arton, called Martin Alman, chiefe *ferrer* to the Queen's majeſtie;" and ſo on throughout the work. The title of Earl of Ferrers and Derby might alſo be adduced in proof of this being the ancient and proper mode of ſpelling this word, the arms of this nobleman being quartered with the horſeſhoe, and formerly accompanied with ſome ſingular privileges to the family. This word, therefore, reduced to its original and proper ſignification, only relates to the art of making and applying the iron ſhoe to the horſe's foot; and in this ſenſe we ſhall have occaſion to employ it, as the veterinary art embraces this and all the other branches of the ſcience.

Indeed, on purſuing an hiſtorical retroſpect of the ſtate of this ſcience in England, it has ſeemed to us, for the laſt hundred years and upwards, to have been taking a retrograde courſe, which we feel rather diſpoſed to attribute to the unbounded rage for horſe-racing, which, while it was of great ſervice to the Britiſh nation, by encouraging the beſt breeds of ſtrong and fleet horſes, was of diſſervice, by promoting an artificial vitiated taſte with regard to theſe animals, which overawed all attempts at modeſt inquiry reſpecting their diſeaſes. The knowledge of horſes was ſuppoſed to conſiſt in a ſort of intuition, which was not to be defined or taught to others. Jockeys, ſharpers, and gamblers, were ſuppoſed principally to poſſeſs this knowledge, which was all that was thought neceſſary reſpecting them, and all farther information could be of no uſe. Jockeys before this period were of ſmall note, but from being entruſted with the ſecrets of the courſe, ſoon became engines of great importance in purſuing this ſpecies of traffic, and men at length were brought to reſign their underſtandings to them, imagining it a ſubject too myſterious and difficult for them to comprehend; hence alſo appears to have ariſen the great difficulty of founding a ſeminary for the ſtudy of veterinary medicine and ſurgery in this kingdom, which was almoſt the laſt country in Europe that adopted this ſalutary ſtep for the improvement of the art.

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A more just and candid mode of conſidering this ſubject has now ariſen; and a ſtyle of writing and enquiry, which muſt (however it may labour under difficulties for a time) bring forth light, and, with the great improvements in chemiſtry, and all the arts and ſciences which can promote it, will ſoon place it on a footing far beyond what was known in ancient or modern times.

Having gone through what appears to us to be the outline of the hiſtory of the art, as far as we are at preſent acquainted with it, we ſhall immediately paſs to a deſcription of the ſkeleton of this uſeful animal.

On taking a general ſurvey of the bones of the horſe, (ſee *Plate* I.) we may divide them into thoſe of the head, ſpine, trunk, fore and hind extremities; and here it will be proper, in purſuing this general view of the ſkeleton, to remark a circumſtance that is not univerſally known, *viz.* that the horſe, when in the beſt poſſible proportion and ſhape, comes within the ſquare, the head and upper part of the neck only being excepted; and this applies alike to horſes of every deſcription, as well the race-horſe as the dray-horſe: to explain this aſſertion, the dotted line is given, pointing out the limits of the ſquare. If this principle was more generally known to the painters and ſtatuaries, we ſhould not have ſo many ugly and miſerably diſproportioned animals from their hands. This ſubject we propoſe to treat of more extenſively under the article SYMMETRY of *Horſes*.

On a farther examination into the general properties of the ſkeleton, we propoſe to ſhew alſo, that the weight of the horſe is ſupported by a *contrapoſition* of the angles of the ſuperior part of the fore and hind extremities, as the ſhoulder-blade, or ſcapula, *a*, *b*, *c*, *d*, *e*, from the withers, leans obliquely forward, forming an obtuſe angle with the arm, or humerus, *f*, *g*, *c*, *h*; in the hind extremity the reverſe of this ſtructure is obſervable in the poſition of the bones, as the hip-bone, or ilium, *a*, *b*, *c*, *d*, *g*, and the iſchium, *f f*, which paſs in a ſloping direction backwards, and form with the thigh-bone, or femur, *h*, *m*, *k*, *n*, an obtuſe angle forwards. Now it is evident, that the angular poſition of theſe bones being oppoſed to that of the ſhoulder and arm, will readily, by acting in oppoſition to it, ſuſtain the weight of the body which is placed between the two angles; the reſt of the two extremities are diſpoſed nearly in the perpendicular line to theſe angles, and ſupport the weight as ſimple columns, ſtill, however, following, in a ſlight degree, at the hocks and knees the above angle of ſupport. From this curſory view of the entire ſkeleton, it will be neceſſary to paſs to a more detailed examination of the bones which compoſe it, without being too minute for an elementary work of this kind; and we ſhall begin with the *head*, which is formed of the ſkull, face, and jaws, and which are diviſible into about 32 diſtinct bones; the *ſkull* conſiſts of 11 bones; the two *frontal* (ſee *Plate* I.) bones, *a*, *b*, the two *parietal*, *c*, four *temporal*, *h*, *i*, *k*, one *ſphenoid*, one *ethmoid*, and one *occipital* bone, *d*, *e*, *f*, *g*. The temporal bone in the horſe is made up of two diſtinct portions, the ſquamous and petrous, which in this animal always remain diſtinct. The occipital bone differs much from the correſponding one in the human ſkull, forming the top of the head, and is poſſeſſed of very great ſtrength and thickneſs, with a deep depreſſion on the centre, where the cervical ligament is attached. The *face* is made up of 21 bones, as follows, two *naſal* bones, (ſee *Plate* I.) *r*, two *angular* bones, *m*, two *malar*, or cheek bones, *l*, two ſuperior maxillary, *n*, *o*, *p*. The inferior maxillary bone, *q*, is not found in the human ſkeleton, and has been termed by Profeſſor Blumenbach, the *intermaxillary* bone: it was ſuppoſed by him for a conſiderable time to be peculiar to the brute, and would ſerve for a diſtinctive mark by which every other genus of the *mammalia* might be diſtinguiſhed from the human; his latter reſearches have, however, diſcovered that no ſuch bone exiſted in ſome of the long-tailed monkies, though, it is worthy of remark, the ſame bone is found in ſeveral of this tribe of animals with ſhort tails. There are two ſuperior palatine bones, two inferior palatine, two ſuperior turbinated, two inferior, two pterygoid bones, and the vomer. The turbinated bones are particularly large in the horſe, as are alſo the maxillary cavities; and by the elongation of the face, the head of the horſe is extended in length beyond almoſt every other quadruped. Two thin plates of bone, almoſt diſtinct from the palatine bones, and divided by a ſuture, following the ſame direction as the large palatines, are obſervable in the ſpace between the incitor and molar teeth of the upper jaw: theſe might be termed the leſſer palatines; they are, however, merely proceſſes of the intermaxillary bones, and not divided from them by any ſuture. The intermaxillary bones in this animal contain the whole of the inciſor teeth, but not the canini, or tuſks, the ſuture paſſing between them. The inferior maxilla, or rather, in the horſe, the poſterior, or jaw bone, is formed of one bone, at leaſt in the adult, and is not, as in the human, made up of two bones, united by ſymphyſis at the chin; it is neceſſarily longer and deeper than the jaw of moſt other quadrupeds. The jaws are furniſhed with alveoli, or excavations, which receive 40 teeth, *viz.* 12 nipping, or inciſor teeth; 4 tuſks, or canine teeth; and 24 grinders. The tuſks are never ſhed in the horſe, though they are in the dog, and ſome other carnivorous animals; the three firſt pair of molar teeth are alſo ſhed in the horſe, and receive a ſecond ſet; the three laſt pair are permanent; the firſt ſet of inciſors, or milk teeth, are alſo ſhed as in all other animals. For the growth, ſtructure, and other particulars of theſe bones, and ſome remarks reſpecting the indications of the age, we refer the reader to the article TEETH of *Horſes*. The *ſpine* is a canal of bone, of a very elongated conical figure, and, in the horſe, is made up of about 32 pieces, independent of the bones of the tail, which is formed of about 14 bones. The cervical vertebræ are ſeven in number, which number it has been remarked by anatomiſts, prevail in all quadrupeds, whether the neck be long or ſhort. Theſe bones in the horſe are altogether different from thoſe of the human ſkeleton in their formation: the body of the bone is conſiderably more elongated, and the proceſſes of a different figure.

The firſt vertebra in the horſe is termed, as in the human ſkeleton, *atlas*, but evidently with not ſo much propriety, as the head of the horſe is rather ſuſpended from this bone than reſting upon it; it differs eſſentially in figure from the other vertebræ of the neck, being more extended laterally, and in being without any dorſal apophyſis; it is alſo much ſhorter than any of this range of vertebræ; it receives anteriorly the condyloid proceſſes of the occipital bone, and likewiſe poſteriorly the tubercle of the ſecond vertebra within its articulating cavities.

The ſecond cervical vertebra is in figure almoſt the reverſe of the former, being long and narrow in its body, the dorſal proceſs, or criſta, very elevated and enlarged, rough on its upper ſurface, for the ſtrong inſertion of ligament; and this ſpine, or elevated plate of bone, at its poſterior part, is bifid, or cloven, with a middle depreſſion, or foſſa, affording a ſtronger and wider ſurface for muſcular and ligamentous attachment. This vertebra has no ſuperior oblique proceſſes, and enters the former bone by a half tubercle, or capitulum, expoſing the ſpinal marrow on its upper part, and is kept in its ſituation by two broad lateral articulating ſurfaces.

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The other five bones, which compoſe the neck, are of a more uniform figure than the two former, conſiſting of a body of bone, ſomewhat lengthened, having a large cylindrical perforation for the paſſage of the ſpinal marrow, externally of an irregular, almoſt quadrangular, figure, having various angular and ſpinous elevations of bone, which are termed according to their ſituation, as the ſpinal apophyſis, the ſuperior and inferior oblique proceſſes, the tranſverſe and anterior proceſſes, which are intended for the ſtrong inſertion of muſcles, tendons, and ligaments for the ſupport and motions of the neck. The articulating proceſs of theſe bones conſiſts of a round head of bone, the poſterior articulating ſurface of a ſuitable indentation to receive it. This knob of bone is obſerved by Stubbs to be wanting in the ſixth vertebra of the neck: theſe bones poſſeſs alſo various perforations for the tranſmiſſion of blood veſſels and nerves.

The dorſal vertebræ are 18 in number, ſometimes 19, and are remarkable in the horſe for the length of the dorſal or ſpinous proceſſes, extending from the firſt to the eighth, and which form what is called the withers of this animal, and againſt which the ſuperior part of the ſhoulder is brought to recline.

The dorſal vertebræ differ in ſtructure from the cervical, being much ſhorter in the body or ſolid part of the bone, the ſpinous apophyſis being longer, the anterior proceſs is wanting for the underſide of theſe vertebræ, and thoſe of the loins preſent a ſmooth rounded ſemicircular ſurface to the viſcera. The interpoſing cartilage, or elaſtic ligament, in the cervical vertebræ, is not conſiderable in the dorſal vertebræ; it makes in the recent ſkeleton more than an eighth part of the whole length of this part of the ſpine.

A dorſal vertebra of the horſe poſſeſſes almoſt a ſimilar number of proceſſes as are found in thoſe of the neck, though very differently ſituated and proportioned; theſe proceſſes are all placed ſuperiorly to the two articulating ſurfaces of the ribs; and it is almoſt unneceſſary to repeat that they poſſeſs foramina for the paſſage of nerves and blood veſſels, and the ſpinal marrow.

The lumbar vertebræ. Where the ribs terminate, begin the lumbar vertebræ, which are ſix in number, and poſſeſs very much the ſame proceſſes and character as thoſe of the back. The ſpinous proceſſes are ſtronger, the lateral proceſſes broader and longer, and ſometimes articulate with the body of the vertebra, and in ſome meaſure ſerve the purpoſe of ſpurious ribs. Theſe bones are often united into one maſs in the horſe, by oſſific depoſit, as are alſo thoſe of the back.

The five next bones of the ſpine are united into one maſs in the adult, to give ſtrength and energy to the various motions of the hind quarter, and in their conſolidated ſtate are called the os ſacrum. The interſtices occaſioned by the union of theſe bones on their underſide, form what, at firſt ſight, appear to be huge foramina, being rounded, as theſe generally are.

The ſuperior part of this bone poſſeſſes longer ſpinous proceſſes than thoſe of the loins, and admits a vaſt ſurface for the attachment and depoſit of muſcles; and here are placed the muſcles of *loco-motion*, which, in all animals, are the largeſt in the body.

On the ſuperior ſurface of the tranſverſe proceſſes of this bone reſts the flat inferior ſurface of the ilium, to which ſurface it is attached by ſtrong ligaments, ſo that the body of the horſe is, as it were, entirely ſuſpended by ligamentary and muſcular ſubſtance, for the ſcapula has no other than this ſpecies of attachment: hence the entire excluſion of a ſolid bony articulation of the extremities with the ſpine muſt ſoften every motion of the animal to itſelf, and conſequently to what it has to carry.

The remaining portions of the ſpine, conſiſting, in the horſe, of 18 pieces, gradually loſe the ſtructure and properties of the foregoing parts of the ſpine, and become ſimple rounded cylinders of bone, ſolid and enlarged at the points of articulation, and towards the extremity of the tail are of a conſiſtence nearly cartilaginous.

Of the trunk. The coſtæ, or ribs, are bones of a curved figure and elaſtic, ſerving to defend the principal part of the thoracic and abdominal viſcera; and in the horſe are generally 18 in number, ſometimes 19; theſe are articulated by one extremity to the dorſal vertebræ by two ſurfaces, a lateral and terminating articulating ſurface. The eight firſt of theſe ribs terminate on the ſternum itſelf by an *oſſeo-cartilaginous* ſubſtance; the others do not reach the ſternum, but are attached to each other by a long ſurface of adheſion of the ſame kind.

The ſternum in the horſe is compoſed of ſeven pieces of bone firmly united, and differs widely from the human in being curved, and, inſtead of being flattened, is anteriorly acute, like the prow or keel of a veſſel. This anterior part is alſo of an oſſeo-cartilaginous conſiſtence, terminating above by an obtuſe eminence above the articulation of the firſt rib, and inferiorly by the ſcrobicular cartilage of an oblong figure. This ſtructure enlarges the cheſt, and gives room for a ſtronger attachment of the fore extremities to the ſhoulder for the ſupport of the body.

Of the ilium, iſchium, and os pubis.—Theſe we may conſider as forming part of the trunk; they are, however, only attached to the ſpine by ligaments, having no actual articulation, and might be referred to the hind extremities. Theſe bones form collectively the haunch, the thigh being included, and internally the pelvis.

The ilium, or hip-bone, in the horſe, is not of a rounded figure, as in the man, but is extended in three directions, forming three powerful branches or proceſſes, which may be denoted, by way of diſtinction, the ſuperior, inferior, and poſterior rami, the three exterior margins or edges of the bone included; between the above rami we propoſe to diſtinguiſh by the terms anterior, ſuperior, and inferior criſtæ. The ramus inferior is ſhorter than the others, and obtuſely truncated, giving an anterior and poſterior pointed angle. The extended branches and wide upper ſurface of the ilium give a place for the attachment of ſeveral ſtrong muſcles which are thus ſituated, to the greateſt mechanical advantage, to the points on which they are to act, giving with the iſchium a magnitude and power to the buttock not equalled perhaps by any other animal.

The iſchium in the horſe is remarkably extended, forming a ſtrong proceſs poſteriorly for the reception and attachment of powerful muſcles, and which proceſs is entirely wanting in the human ſkeleton. This elongation of the iſchium may be denominated the *proceſſus triquetrus iſchii*, from its figure: this ſingular proceſs diſpoſes the muſcles attached to it very advantageouſly for powerful action on the thigh and leg, by removing them to a diſtance from the centre of motion.

In the os pubis there is to be remarked the very extraordinary depth of the ſymphyſis, affording an extenſive ſurface for muſcular attachment.

The above three bones unite in forming the acetabulum, or cup, which receives the head of the thigh bone, in both the human and equine ſkeleton.

There appears to be a ſlight degree of motion of the ilium

on

on the tranſverſe proceſſes of the ſacrum, ariſing from the ligamentous connection between theſe bones; in the dog this motion of the ilium is more evident, and on diſſecting this part we have obſerved a ſingularity which, we believe, has not been generally noticed, and which is worthy of remark in this place. The os ilium in this animal riſes ſo conſiderably above the tranſverſe proceſſes of the lumbar vertebræ on its interior part, that the inſide of it, inſtead of being occupied as in other animals with the iliacus internus muſcle, is entirely filled up by the muſcles of the back, and the above muſcle is entirely wanting. We may, perhaps, illuſtrate the cauſe of this peculiar ſtructure by remarking, that the action of the dog, as in galloping, is performed principally by the muſcles of the back, in the horſe it is more effected by the action of muſcles of the extremities.

In taking a view of the figure of the pelvis in this animal we may obſerve its depth is greater, its area wider, and axis more in the line of the ſpine than in the human.

Of the extremities.—The great variety of accidents and diſeaſes to which the extremities are liable, and the peculiarity of ſtructure which attends theſe parts in the horſe, render a knowledge of them more intereſting and neceſſary to the veterinarian or amateur in theſe matters than any other part, and will engage us to conſider them with more minuteneſs and detail than we have done in executing the preceding imperfect outline of the deſcription of the other parts of this animal.

The extremities of the horſe are conſtructed of much the ſame members as the human, though very differently diſtributed and proportioned; the human hand, the firſt of all executive inſtruments, is here converted into the ſolid foot, uſeful only for ſupport and progreſſion: the hand grows more complex towards its termination, while the horſe's foot becomes more ſimplified, following the purpoſe for which it is deſigned. Notwithſtanding, theſe parts in all quadrupeds have a relation to each other, and poſſeſs rudiments which even appear ſuperfluous, but ſerve to point out the connexion between the different families of them; as the ſtyloid bones of the horſe are evident rudiments or relics of the two outſide metatarſal bones of the digitated animals, and appear to ſerve no very important purpoſe, as the mammæ or nipples of the male quadrupeds are rudiments void of uſe of the ſame parts, which are highly uſeful in the female.

Of the fore extremity. The ſcapula, blade bone, or ſhoulder of the horſe is conſiderably lengthened, and is proportionably narrower than the human, being of an oblong triangular figure, poſſeſſing neither acromion nor coracoid proceſs, though there is a prominent, obtuſe point of bone in the ſituation of the latter, and a rounded eminence often on the ſpine of the ſcapula, which denotes the ſituation of the former. The horſe, we may obſerve, poſſeſſes in this part no proper back, for the withers can hardly be conſidered as ſuch, therefore the ſcapula does not materially paſs out of the plane of the os humeri, or arm, as in the human, but is ſimply reclining on the ſide, its upper part reaching near the extremities of the dorſal apophyſes or withers, its lower part directed forwards, and approaching the firſt rib and upper extremity of the ſternum. The under ſide of this bone is concave, and is found in old horſes covered with aſperities for muſcular attachment: the upper ſurface is divided longitudinally into two unequal parts by a bony ridge, called its ſpine, affording ſurface for the attachment of various muſcles and tendons; the baſe or broad extremity of the ſcapula is furniſhed with a cartilage, which embraces the muſcles of the withers; its ſmall end poſſeſſes an articular cavity which receives the head of the humerus, and is termed the glenoid cavity. The motion of this bone is different from any other in the body, not moving upon either extremity, but librating round a point which is ſituated near the centre of the bone.

Of the humerus, or arm. This bone is particularly ſhort when compared with the bone of the human arm, ſcarcely paſſing beyond the line of the cheſt, and is proportionably ſtronger, paſſing from the point of the ſcapula in an oblique direction backwards; and inſtead of partaking of the various motions of the above bone, poſſeſſes but one motion, that of being brought from its inclined poſition forwards to the perpendicular line of the body. This bone poſſeſſes various ſtrong elevations and depreſſions for the lodgment and inſertion of muſcles, of which there is hardly any trace in the bone of the human arm. It articulates inferiorly by two ſtrong condyles with the radius. It is this bone, often by being too long, that brings the horſe's fore-legs too much under his body, a fault much diſliked by the amateurs of riding horſes; this may alſo ariſe from the ſhoulder being too upright. The fore-limb of the horſe not requiring any rotatory motion, as in the human arm, we find no diſtinct os ulna, but the point of the elbow, or olecranon, being very much enlarged and extended in length, is firmly fixed to the back of the radius, ſending off a proceſs of bone downwards, which is brought to a point about the middle of the radius, uniting firmly with it; from its poſition being fixed in reſpect to the radius, it can perform but one of the offices of the human ulna, and ſerves for the attachment of thoſe muſcles, which bring back the fore-arm, from its bent poſition forwards, to the ſtraight line, under the preſſure of the weight of the body. For the os radius, ſee *Fig.* I. *l. l.* The radius or fore-arm of the horſe is nearly ſtraight towards its middle and inferior extremity, bending a little forwards; it is uſually miſtaken for the arm of the horſe by caſual obſervers, its poſterior ſurface is flattened, it grows broader at its extremity, forming two condyles, poſſeſſing motion, upon the bones of the knee, admitting an extent from the perpendicular of the leg, conſidered together with the bones of the knee, to a very acute angle backwards.

Bones of the carpus, (ſee *Plate* I. *fig.* 1, 2, 3, 4, 5, 6,) are the bones which compoſe the carpus, vulgarly called the knee of the horſe, and correſpond to the bones of the human wriſt; theſe bones do not afford a ſimilar extent of motion with the ſame bone in the human carpus, not admitting any motion forward beyond the perpendicular line, nor of any lateral motion whatever.

On a firſt view of the bones of the knee of the horſe, their poſition ſeems reverſed to the human wriſt, the olecranon or elbow being placed at the back of the radius, and the flexion taking place in a direction towards it; and the bones which form the back of the wriſt appear to form the front of the knee. This inverſion, however, is only apparent, and not really ſo, as by a ſlight rotation of the radius, the human wriſt may be placed in the ſame relative poſition to the ulna, as the bones of the knee of the horſe are with reſpect to it.

The knee of the horſe is made up of ſeven bones, ſometimes eight, a very ſmall, round bone being often ſuperadded on the ſide, about the ſize of a pea, and is not preſerved in the generality of the ſkeletons of the horſe.

This joint is formed of two regular layers or phalanges of bone, the upper phalanx or row being placed upon and between the diviſions of the other three in each phalanx, the 7th being thrown behind.

The firſt layer, *viz.* that placed on the cannon, has little

or no motion; the ſecond layer has conſiderable motion on the firſt as thoſe have alſo on the radius, making in their total flexion about 30 degrees of a circle.

To ſtrengthen this joint, and to ſecure theſe bones more firmly in their ſituations, they are formed with alternate elevations and depreſſions both in their upper and lower ſurfaces; this joint is alſo rendered ſtronger from having an articulation, which admits of motion in one direction only, that of flexion, and that in the oppoſite direction to the flexion of the hock, tending by this means to ſupport the animal, as we have before obſerved.

The weakneſs of this joint, called *knuckling* in horſes, obſervable in thoſe that have been overworked, or grown old, does not, we believe, proceed from any defect of the joint itſelf, but from the rigidity of thoſe muſcles which ſerve to bend it, and eſpecially thoſe which paſs to the foot, the extenſors, which are comparatively ſmall, not having ſufficient power to counteract it.

Theſe bones have but little reſemblance to thoſe of the human wriſt, though they occur in the ſame number; it will therefore anſwer no good purpoſe to force an analogy between them by calling them by the ſame names; for the uſe of the names deduced from the human anatomy makes a perpetual recurrence to thoſe bones neceſſary to ſee where they may, without impropriety, be introduced, and where they cannot be admitted; it is this circumſtance which has rendered it abſolutely neceſſary to compare both the ſkeletons in this preſent eſſay.

Theſe bones might very naturally be denominated from their ſituations as follows; the *os externum ſuperius* and *inferius*, *os internum ſuperius* and *inferius*, *os medium ſuperius* and *inferius*, *os poſticum*, *os acceſſorium*, and this would be a very deſirable thing, for they would belong to a great number of quadrupeds without being miſapplied. There is, however, a conſiderable objection to their adoption, which is, that in deſcribing the attachment or inſertions of ligaments or muſcles, it would render a circumlocution neceſſary if any other language was uſed, which would be attended with inconvenience, and for which reaſon we decline the uſe of them.

Mr. Stubbs, in his excellent work, in following too cloſely the names of the bones after the human ſkeleton, has been betrayed into the uſe of names, which cannot well be admitted in the equine anatomy. The *piſiforme* is a very ſmall rounded bone in the human, not larger than a pea; the *os poſticum*, though a perfectly diſtinct bone, and differently figured from any in the human anatomy, has been deſcribed by Mr. Stubbs under that name.

If it were deſirable to make any analogy between theſe bones and the human *carpus*, we ſhould on comparing them remark, that in the horſe's knee there is a conſolidation of ſome of the human *carpal* bones, and a ſeparation or diviſion of others; there is, however, the ſmall acceſſorium bone included, the ſame number in each, *viz.* eight bones.

The *os trapezoides* and *magnum* appear conjoined in the horſe, forming one large flat bone, whilſt the bone in the horſe, which ſerves the purpoſe of the unciform bone at the back of the knee, is made of two diſtinct bones; the human *unciform* bone appears in front of the wriſt as well as behind and is one ſingle bone. This curved bone alſo differs in the horſe in being removed to the upper row or phalanx, for the bone, ſerving the ſame purpoſe in the human wriſt, is ſeen in the lower row of the carpal bones.

In this way they may be compared and underſtood, as, after this explanation, the others fall in very naturally in their proper ſituations in both. Were it not on account of the names, it would not be neceſſary at all for the veterinarian to purſue any compariſon with the human ſkeleton, and we think it would be advantageous to avoid it; for the alteration of their figure, on which the human names are founded, renders the ſame names in the horſe totally inadmiſſible.

A nomenclature for the oſteology, which would include nearly, or quite all the quadrupeds known, might be conſtructed, and would be attended with great utility; ſuch a nomenclature, however, would require, that neither figure nor ſituation ſhould ſupply the names, as theſe would be perpetually varying.

It is no eaſy matter to give appropriate and unexceptionable names to all theſe bones, nor ſhould we be deſirous of undertaking it, if the above circumſtances, and others that might be adduced, did not point out the abſolute neceſſity of it; we are aware of the circumſpection neceſſary in ſuch a meaſure; and after as much conſideration as we have time to devote to this ſubject at preſent, venture the following as the beſt adapted which at preſent occur to us.

The middle bone in the upper phalanx we propoſe to name *os intermedium*, being found near the middle of the upper range of bones in all the animals we have examined.

The large internal bone of the ſame phalanx we propoſe to denominate *os parietinum*, which, not conveying any preciſe geometric figure, will apply, without glaring impropriety, to a great variety of ſhaped bones: the external bone of this range, *os gibboſum*, having ſome gibbous elevations on its ſurface.

Of the lower ſeries, the central one we ſhould be led to expreſs by the term *os majuſculum*.

The external one, *os pollicare*, carrying the thumb in all digitated animals, and reſting even in the horſe on the internal ſtyloid bone, which appears evidently the correſponding rudiment of this member in the horſe, and is actually elevated above the level of the ſhank bone, and is placed higher than the ſtyloid bone on the oppoſite ſide, ſerving to confirm the reſemblance. It is this bone which ſo frequently becomes diſeaſed with oſſific depoſit, termed ſplints.

The external bone of this range we would denominate *os ſubunciforme*, being provided with various elevated points, rudiments of the hook-like proceſs, and correſponding to the human *unciform* bone.

The bone ſerving the office of the unciform bone in the horſe, and holding nearly the ſituation of the piſiform, connecting and ſupporting the tendons, &c. which paſs through it, being altogether a different bone from that of the human ſerving the ſame office, which has a curved proceſs on the inſide the wriſt; that no confuſion might ariſe with this bone, we change the terms unciform, or piſiform, in the horſe, and call this additional bone, which is found in moſt quadrupeds, and even in the feline tribe, whoſe digitated extremity is a much nearer approach to the human hand, the *os poſſicum*, or the *poſt-carpal* bone.

This bone gives great force and ſupport to the tendons which paſs through it, or are attached to it, allowing depth and ſolidity to the knee. It is this bone which occaſions the prominent point at the back of the knee, affording a ſtrong and handſome outline to this part; it alſo ſerves for the attachment of a very ſtrong tendon at its extremity, which being then removed farther from the centre of motion in the joint, is empowered to act with very great force, and reſembles, in this reſpect, the office of the *os calcis* on the hind extremity.

The *os acceſſorium* is a ſmall round bone, about the ſize of a pea, which articulates with the poſterior ſurface of the *os pollicare*.

The *os poſticum* has been termed by Vitet, a celebrated French writer on this ſubject, *os hors de rang*, a name perfectly

ſcarcely intelligible in any other language. *Medicine Veterinaire*, Lyon. 1788; tom. i. p. 100.

We ſhall only farther obſerve on the bones of the preſent joint, that the ſurfaces for motion between the ſecond phalanx and the firſt are particularly diſpoſed to the outſide of the joint, tending by this means to ſeparate the legs when in action from each other, and prevent cutting. This is particularly remarkable in the *os ſubunciforme* and *majuſculum*. The flexion of the upper phalanx upon the radius is directly backwards only, and forwards to the perpendicular of the extremity.

Of the metacarpal or ſhank bones.—The great difference of proportion in the parts which compoſe this extremity to the human is no where more conſpicuous than in the metacarpal bones. The range of bones which form the wide palm, or the paws, of animals, is here for the principal part condenſed into one ſolid cylindrical bone, longer conſiderably than the humerus itſelf, the rudiments conſiderably abbreviated of the two exterior metacarpal bones remaining to point out the general connection among quadrupeds; the cow has the ſhank bone deſtitute of ſplint bones, but at its inferior extremity is divided, forming two condyles for the reception of the two claws, and in this way forms as near an approach to the fingered animals, though in a different way.

The ſhank bone is flattened poſteriorly for the reception of the ſuſpenſory ligament and tendons going to the foot, which we may obſerve is more conſiderable in the fore extremity than the hind one; the latter is longer, and of a more cylindrical figure, being generally deſcribed as having no perceptible difference. The ſtyloid, or ſplint bones, adhere to the ſhank bone ſtrongly, and are moſtly united to it by oſſific depoſitions, otherwiſe every where preſerving a divided outline between the two bones. In the fore extremity theſe moſtly dwindle to a point, about two-thirds down the length of the ſhank bone, and are not ſo large as in the hind extremity. Theſe ſplint bones, though ſo often productive of diſeaſe, tend to ſtrengthen the joint laterally; and perhaps by their elaſtic yielding to the perpendicular preſſure of the limb, being elevated above the general articulating ſurface of the ſhank, may act as cuſhions in a ſlight degree in preventing concuſſion; they alſo ſerve to ſtrengthen the limb, by affording a ſurface for ligamentary attachments. The inferior extremity articulates with the paſtern bone by a condyle, having an elevated ridge of bone in the middle to ſupport it, which enters a correſponding depreſſion in the paſtern bone. This joint, though ſtrongly fortified with ligament and tendon, is more ſubject to ſuffer from violent uſage than any in the body. In the cloven footed animals the diviſion begins in this part.

Oſſa ſeſſamoidea. Seſamoid bones, *fig.* 1. *p. p. v. v.* are placed at the back of the paſtern joint, and reſemble, in their figure and properties, the ſame bones in the human foot; diminiſhing friction, powerfully aſſiſting the tendons going to the foot, and at the ſame time ſupporting the paſtern joint by their preſſure.

Of the os ſuffragineum, or paſtern bone. This bone correſponds to the firſt phalanx of bones of the fingers, the five bones of which may be conſidered as conſolidated into one ſingle bone; its general figure reſembles ſufficiently a bone of this part.

The paſtern bone, at either end, is indented for the reception of the prominent condyles of both the ſhank and coronet bone, *fig.* 1, *o, o, u, u.*

The *os coronæ*, or coronet bone, *fig.* 1. *r, r, w, w*, is, like the former, a ſimilar condenſation of the five bones of the ſecond phalanx of the fingers, and is proportionably ſhorter than it; it articulates by a divided condyle with the coffin bone.

This and the preceding are rough on their ſides, with depreſſions for the ſtrong inſertion of ligament, eſpecially laterally, in the point of the axis of the condyle, where a deep indentation is obſervable.

Of the os baſis, or coffin bone. Fig. 1, *s, s, x, x*.—This name, and that of the two former bones, have been taken from thoſe Latin writers who have treated on this ſubject, and, we conceive, will not require any alteration.

A diſtant reſemblance may be traced between the enlarged rounded point of the extremity of the bone of the finger and this bone. The particular ſtructure, however, of this bone and the ſhuttle bone, and their various appendages and integuments, is ſufficiently important to form a ſeparate deſcription. See FOOT *of the Horſe.*

Of the hind extremity.—The *femur*, or thigh bone, of the horſe, compared with the human, and, indeed, with moſt other quadrupeds, is unuſually ſhort, ſo as ſcarcely to appear beyond the *parietes* of the abdomen externally on a curſory view, and is therefore overlooked by thoſe unaccuſtomed to this ſubject; and the bone below is uſually miſtaken by them for the thigh of the horſe.

This bone is of vaſt ſtrength, poſſeſſing ſeveral elevated and depreſſed points for the ſtrong inſertion of tendons and muſcles, which ſerve to diſtinguiſh it from the thigh bone of every other animal. See *Plate* I. *fig.* 1. *h, i, k, l, m, n.*

The head of the thigh bone in the human is carried by an oblique proceſs, or neck, to a diſtance from the bone, whereas, in the horſe, the head is without any length of proceſs of this kind, placed at right angles, nearly to the bone, not affording that variety of motion which the human ſtructure of this part does; a motion directly backwards and forwards, being for the moſt part the only movement requiſite in this animal.

In a ſtate of reſt the thigh bone is not nearly in the perpendicular line of the body as in the human thigh, but inclines forwards, making an angle with the body of about 45 degrees, and forms poſteriorly an obtuſe angle with the reſt of the extremity. This circumſtance is neceſſary to be obſerved with attention previouſly to underſtanding the deſign of the muſcles of this extremity, concerning the uſes of which we propoſe to advance ſome ideas, which, as far as we know, have not before been entertained reſpecting them.

The muſcles which are attached to the poſterior part of this bone are called its extenſors, ſerving to draw it from the oblique line it deſcribes forwards, backwards to the perpendicular of the body, being attached near its head, and rather laterally.

Thoſe muſcles alſo which render thisangle more acute, by drawing it forwards under the belly, are called its flexors, and are attached to its anterior ſuperior part. We mention theſe rules reſpecting the functions of the muſcles of this part the more particularly, as the terms flexion and extenſion but ill expreſs the operation of theſe two claſſes of muſcles on this bone, for the inverſion of the terms would apply almoſt equally well; adduction and abduction are alſo generally attributed to other muſcles, as they are found to attach to the inſide or outſide of the limb. We propoſe to demonſtrate that ſuch are rarely or never neceſſary among quadrupeds; and that ſuch a vaſt body of muſcles as there are to be found in both extremities of this deſcription, have a much more important purpoſe to perform.

The great trocanter of the horſe, ſee *fig.* 1. *Plate* I. riſes conſiderably above its articulation with the acetabulum. This removal of the ſurface of attachment of the glutæus muſcle farther from the head of the bone, muſt beſtow uncommon

power

power on this muſcle in the horſe, in extending the thigh backwards.

The leſſer trocanter in the human thigh is placed almoſt behind it, in the horſe laterally internally.

The moſt notable circumſtance in the thigh bone of the horſe is a ſtrong, curved proceſs of bone on the outſide oppoſite the leſſer trocanter, ſee *fig.* 1. *k*, which receives in its curvature the *vaſtus externus* muſcle, *muſculus faſciæ latæ*, and muſculus faſciæ glutealis ſend off portions of tendon, which are inſerted in this curved proceſs.

As this proceſs is altogether wanting in the human, and in the ox, hog, dog, and in moſt quadrupeds, it is without a name; we have, in our deſcription of muſcular and tendinous attachments, termed it the *proceſſus recurvatus femoris*. Mr. Stubbs terms it the protuberating part of the *linea aſpera*; and Vitet *l'apophiſe recourbée*, tom. i. p. 121.

On the poſterior and inferior part of this bone, near its exterior condyle, there is a deep cavity, in which the *perforatus* muſcle takes its riſe.

The condyles of this bone are remarkable for their magnitude and ſtrength; the outer condyle is larger, and is placed poſteriorly to the inner condyle.

In the dog, and alſo in the cat, we have obſerved a ſmall, round, moveable bone attached to the exterior condyle by a ligament not obſervable in the horſe.

Of the patella.—The knee-pan, or ſtifle bone, is particularly large, elevated, and thick in the horſe, having the lubricous cartilage on its inſide where it meets the femur poſſeſſing correſpondent, impreſſed condyles for this purpoſe. This ſpecies of cartilage is common to all ſurfaces of bones which are contiguous; therefore the continual repetition of this circumſtance, in deſcribing the articulations of the bones of the ſkeleton, has been omitted.

This bone ſerves to increaſe the ſurface for tendinous inſertion of the muſcles of the thigh, &c. paſſing over an angle on which it can eaſily glide; it elevates the tendons high above the point they are deſtined to act upon, and in this way vaſtly increaſes their force on the principle of the pulley and block: and we may here obſerve a property of this bone not generally obſerved, that it ſerves to unite in one focus the action of the muſcles lying on the oppoſite ſides of the bone, as the *vaſtus externus*, *internus*, and *anterior*, bringing them to act for one purpoſe on a ſingle point, in which is clearly ſeen an inſtance of a principle we are about to deduce reſpecting the adductor and abductor muſcles.

Of the tibia, or leg-bone of the horſe.—This bone correſponds in ſtructure with the human much more than the *femur*; it is, however, ſhorter, *cet. par.* There is near its head a ſharp apophyſis, which might be called its anterior criſta; its external ſide is concave, in which lie the bodies of ſeveral muſcles; its internal ſide convex, poſteriorly it is flattened; its epiphyſis may be divided into two condyles, external and internal, in the young foal; from the latter ſprings a ſmall, ſpinous proceſs of bone, the rudiment of the human *fibula*, which is totally wanting in the ox; the hog, cat, and dog poſſeſs a perfect fibula.

Of the tarſus, hough, or hock of the horſe.—This important joint in the horſe is made up of ſix bones, ſometimes ſeven; the internal cuneiform being ſometimes divided in two parts, as in the preparation at preſent before us. This joint in the ox, deer, and ſheep appears to have no more than four bones, which ſeems to point out an extraordinary proviſion in the horſe to increaſe the perfection of the joint, and prevent the ill conſequences of violent concuſſion, as the additional bones in the joint of this animal are evidently well calculated for ſuch a purpoſe.

The human tarſus makes a right angle with the tibia, and, in the act of ſtanding or walking, meets the ground; in the horſe it makes a very open angle with the tibia, and is very far elevated above the ground: and here we may remark, that all the bones from the hock downwards are uſed for walking on by different tribes of animals; where the metatarſal bones are elongated, it is raiſed above the ground. The kangaroo, however, appears to be a remarkable exception to this general rule.

The aſtragalus bone in the horſe poſſeſſes two very ſtrong, prominent condyles, which are not obſervable in the human aſtragalus.

The *os cubiforme* is found holding the ſame figure and ſituation in both animals reſting by its inferior ſurface upon the external ſtyloid and ſhank bone, its upper ſurface receiving the inferior extremity of the os calcis by an articulation not poſſeſſing motion.

The two central cuneiform bones of the human tarſus appear to be united in the horſe to form one flat extended bone, which reſts upon, and covers greateſt part of the articulating ſurface of the head of the ſhank bone.

The *os naviculare* alſo of the human tarſus is here converted into a flat extended bone, reſting on the former; theſe two bones together equal in height the *os cuboides*. By theſe two flat plates of bone, with their interpoſing cartilages, a ſpecies of cuſhion is formed, which renders the effect leſs ſevere of the violent efforts and concuſſions this part is expoſed to: that they have a purpoſe of this kind may be inferred from their taking no part in the flexion of the joint.

The internal cuneiform bone, or a bone that holds its ſituation in this animal, is found reſting on the head of the internal ſtyloid bone, which appears to correſpond with the bone of the great toe in the human anatomy.

We are again ſubject to the ſame difficulty in giving appropriate names to the bones of this joint as we were reſpecting thoſe of the knee. The bone, called in the human anatomy *os naviculare*, in no reſpect in the horſe reſembles a boat, nor the one beneath it a wedge, therefore to continue theſe names would be abſurd; their ſituation alſo as little correſponds as does the purpoſe they ſerve in the two animals.

The cuboid bone, the *aſtragalus*, the *os calcis*, and the internal cuneiform bone may, without any impropriety, continue to receive thoſe names in the horſe, and particularly as it will be attended with convenience to hold as many names as can be admitted correſponding to the human anatomy, by which, at all times, a more ready communication can be held between the two ſciences, but not ſo as to preſs this compariſon too far by a ſervile copy of it, and a compariſon between things which have little or no reſemblance, or relation, by which the greateſt confuſion may be created, and the ſcience at its commencement be clogged with improprieties.

The only changes it will be neceſſary to make in this joint from the human anatomy reſpects the two flat bones, which may be termed, with propriety, the *os planiforme ſuperius* and *inferius*. Theſe are the bones which often become diſeaſed with the depoſition of oſſific matter, forming an enlargement which is termed ſpavin, and alſo the internal *cuneiform* bone.

The metatarſal, or ſhank bones of the hind extremity do not differ in any reſpect, ſo as to deſerve a ſeparate deſcription, from thoſe of the fore extremity; to the differences there adduced, we may perhaps add, that the ſtyloid bones in general deſcend lower in the hind extremity, and are often clavated at the extremity inſtead of being pointed.

Of the muſcles of the horſe, &c. The following is a brief account and explanation of a large portion of the moſt intereſting muſcles of the horſe; the ſhort ſpace of time al-

lowed for the preparation of this article, and the preſſure of other affairs have prevented us from conſidering more accurately this ſubject; the muſcles of the extremities, as being the moſt intereſting and important, are more particularly ſelected; they are accompanied with deſcriptions taken from actual diſſection, during our ſtudies, in the year 1793. The remainder is an explanation of two of the principal muſcular figures, given by Mr. Stubbs.

This account is neceſſarily imperfect; it may nevertheleſs afford thoſe who are deſirous only of an elementary knowledge of the ſubject ſufficient information; thoſe who wiſh to deſcend deeper into the ſtudy will do well to conſult the following writers: Bourgelat, Elemens de l'Art Veterinaire; Lafoſſe, Cours d'Hippiatrique, and eſpecially the uſeful work above mentioned of Mr. Stubbs: a good monograph on the muſcles of the horſe, giving a proper deſcription of their figure, attachment, inſertion, and uſe, ſtill remains a deſideratum in veterinary ſcience, to which ſhould be ſubjoined the ſynonyma of the different writers on this ſubject.

Our deſcription of the muſcles of the hind extremity is with diffidence preſented to the public, as a ſpecimen of the manner we conceive ſuch a work ſhould be executed.

Of the panniculus carnoſus. The fleſhy panniele is the moſt exterior and general of all the muſcles of the body; it is found in moſt or all quadrupeds, and often ſerves them in lieu of hands, lying immediately underneath the ſkin, to which it is attached, and over the cellular membrane covering the muſcles; it is of a pale red colour, and envelopes a large part of the body; as it paſſes towards the extremities it forms a thin expanded tendon or *aponeuroſis*, which deſcends to the ſuperior part of the extremities, enveloping the muſcles, and loſing itſelf in the cellular membrane of thoſe parts, and by attachment to the tendons and elevated points of bone.

When this muſcle contracts it corrugates the ſkin, and aſſiſted perhaps by other muſcles, it can ſhake the whole frame with conſiderable violence, thereby diſlodging from the coat duſt, dirt, flies, and other offending matters.

The butchers are careful in expoſing this muſcle on their meat, which ſerves to give it a more agreeable appearance; it is ſeen of a pale red colour, and here and there they cut through it a longitudinal nick or ſlit to expoſe the white cellular membrane and fat which lye beneath.

The muſcles of the fore extremity of the horſe are about 34.

They are diſpoſed about the limb when detached from the body ſo as to form a pyramidal figure, whoſe baſe is attached to the body, and whoſe apex is reſting on the ground: on the baſe of this pyramid, if we may be allowed the expreſſion, or upper end of the extremity, the muſcles are found to poſſeſs a four-fold poſition, *viz.* an exterior, interior, anterior, and poſterior poſition; ſuch is eſpecially their arrangement about the ſcapula and humerus; as we deſcend they become more ſimple, and occupy at length only a two-fold poſition, ſerving for mere flexion and extenſion, as is obſervable about the *radius;* at the apex of the cone no muſcles are obſervable but merely the tendons of the laſt ſeries of muſcles, with the bones and ligaments to which they are attached.

Abduction and adduction have been the uſe imputed to ſuch muſcles as are attached to the inſide or outſide of the ſcapula, extenſion and flexion to ſuch as are attached behind or before it; it will, however, we believe, be obvious on reflexion that the ſcapula can have no occaſion for ſuch movements as adduction or abduction, and ſo alſo reſpecting thoſe of the *humerus;* therefore we are diſpoſed to conclude that theſe muſcles in whatever direction ſituated have their principal effect in producing a combined operation, promoting the grand object in view, the ſupport and progreſſion of the animal; and we ſhall endeavour to ſhew hereafter, that an abductor and adductor contracting at the ſame inſtant of time with equal force, will not produce an effect in either of thoſe directions, but will co-operate according to the poſition of the bone in an extenſor or flexor motion.

The muſcles of the ſcapula are ſix: *trapezius, rhomboideus, levatorius, pectoralis anticus, triangularis, ſerratus major.*

1. The *trapezius*, is a thin extended muſcle of a triangular figure, whoſe point or termination is fixed on the ſpinous ridge of the *ſcapula*, rather above its middle, its baſe extending from the cervical ligament along the ligament of the 1ſt, 2d, 3d, 4th, 5th, 6th, 7th, ſpinous apophyſes of the dorſal vertebræ or withers. It ſends off an aponeuroſis which envelopes great part of the abdominal muſcles, terminating at length on the linea alba; it alſo ſends off a fleſhy portion to the muſcles of the neck. Le Trapeſe, Vitet. tom. 1. p. 155. Stubbs, Anat. Horſe, tab. 1. o. p. *q. q. r. ſ. t. w. x. x. x.*

2. The *rhomboideus* is a ſhort almoſt ſquare, fleſhy muſcle beneath the former, takes its attachment to the cervical ligament and ligament connecting the ſpinous apophyſes of the dorſal vertebræ, and paſſes underneath the cartilage at the baſe of the ſcapula, which it almoſt wholly occupies by its fleſhy adherence.

This muſcle poſſeſſes no tendon, and ſerves, independent of its effects on the motion of this part, ſtrongly to attach the ſcapula to the body.

See *Plate* II. letters *a, a, b.* Triangulaire, Vitet. Med. vet. i. p. 157. Stubbs, Anat. Horſe, *pl.* ii. *a, a, b.*

3. *Levatorius*, or *extenſor ſcapulæ.* This muſcle is of conſiderable length, and of a conical figure, its baſe being fixed to the ſuperior and anterior angle of the ſcapula, its fibres mixing with thoſe of the *rhomboideus*, from which in ſome ſubjects it can hardly be ſeparated; it paſſes tapering along the neck, adhering to the cervical ligament till it terminates in a point or tendon on the ſame ligament about the ſecond vertebra.

4. *Triangularis.* The triangular is a fleſhy muſcle ariſing from the occiput; where it embraces the neck it grows narrower as it approaches the ſcapula, where it terminates by a flat tendon, uniting itſelf to the *rhomboideus*, and to the tendinous inſertion of the ſerratus major; its fibres are ſtraight, and the muſcle is divided into diſtinct faſciculæ by interpoſed cellular membrane.

5. *Serratus major.* This very large muſcle forms collectively the figure of a fan inverted, the point thereof being towards its inſertion beneath the ſcapula, its circumference on the ribs.

It takes attachment by numerous digitations of muſcle from the firſt to the 10th or 11th rib, the poſterior digitations of this muſcle interweave themſelves with the digitations of the oblique muſcles of the abdomen, and the anterior portions or *radii* with the intercoſtal muſcles. The *triangularis* above deſcribed may alſo be conſidered as a part of this very extenſive muſcle; the fibres converging from this vaſt circumference at length terminate by a tranſverſe fleſhy adherence to the ſuperior interior part of the ſcapula between the *rhomboideus* and *ſubſcapularis* muſcles. There is a faſcia ariſing from the upper ſurface of this muſcle which runs to the linea alba over all the muſcles of the abdomen.

Theſe digitations of the ſerratus major may act in ſucceſſion, as ſo many ſeparate muſcles, or in maſſes, the motion being transferred from one to the other, by which it can co-operate with any other ſeries of muſcles or alone, by producing a ſpecies of rotation of this bone about its axis.

It

It is alſo in quadrupeds a powerful ſuſpender of the body, raiſing it on its contraction upon the extremities. *Plate* II. *c, d, e, f.* Vitet, Le grand Deuntle. Stubbs, Anat. H. *Plate* II. *c, d, e. f.*

6. *Pectoralis anticus.* This is a fleſhy muſcle of conſiderable length, of the figure of a very elongated cone; its baſe being attached by fleſhy fibres to the ſternum and firſt rib, anteriorly to the large pectoral, from whence it grows narrower till it terminates on the anterior *criſta*, or edge of the ſcapula, it alſo contracts a ſtrong adherence to the pectoralis minor, and its aponeuroſis covers all the muſcles of the ſcapula. *Plate* II. *c, d, e, f.* Vitet I. p. 155. Le pectoral anterieur. Stubbs Anat. Horſe. *Plate* II. *c, d, e, f.* Serratus minor anticus, p. 12.

Note. The human *ſubclavius* muſcle is only wanting, all the other muſcles belonging to this part in the human anatomy are found in the horſe.

The muſcles of the *humerus* of the horſe are 12: *Elevator, anteſpinatus, communis, pectoralis major, depreſſor, dorſalis major, latiſſimus dorſi, ſubſcapularis, pectoralis brevis, adductor, poſtea ſpinatus abductor, abductor brevis.*

1. *Elevator proprius* lies immediately before the *anteſpinatus*, uniting itſelf with it. Its attachment is along the anterior criſta of the ſcapula; paſſing with the *anteſpinatus* it terminates on the lateral internal part of the humerus. This muſcle is ſo cloſely connected with the anteſpinatus, that one tendinous expanſion is common to them both. It terminates on the anterior proceſs of the head of the humerus by a tendon which ſurrounds it.

2. *Anteſpinatus.* This muſcle fills the whole ſpace of the ſcapula anterior to the ſpinous ridge, adhering to its whole ſurface by fleſhy fibres; it terminates by a ſtrong tendon on the head of the *os humeri*, covering entirely the protuberance repreſenting the coracoid proceſs.

Plate II. *a, b, c, d, e, f.* Vitet. Med. Vet. L'Anti-epineux. tom. i. p. 159. Stubbs, Anat. Horſe. *Plate* II. *a, b, c, d, e, f.* ſupra-ſpinatus ſcapulæ.

3. *Communis.* This muſcle is of conſiderable length and nearly uniform ſize throughout, and is common to the *humerus* and neck; the panniculus carnoſus forms ſtrong fleſhy adheſions to this muſcle; its firſt attachment is by a ſmall tendon to the ſide of the atlas; it there forms attachments to the muſcles of the neck by fleſhy portions ſent to them, and lower down the neck it ſends off ſimilar portions, mixed with tendon, to be inſerted in the oblique proceſſes of the 4th, 5th, and 6th cervical vertebræ, paſſing fleſhy over the articulation of the *humerus* with the *ſcapula*, it terminates on the anterior part of the humerus, about its middle, by a ſhort tendon; it ſends off a large aponeuroſis, which unites ſeveral muſcles together, and forming at the joints the annular ligaments. It alſo contracts a very ſtrong adheſion to the leſſer pectoral muſcle. Vitet. Med. Vet. i. p. 158. L'Humero-cervical.

The above three muſcles come under the denomination of extenſors.

4. *Pectoralis major.* On removing the ſkin and fleſhy pannicle this muſcle is ſeen taking its attachment along the ſternum and ribs, from the middle of it, between the fore-legs, to its poſterior extremity, growing ſmaller as it approaches the humerus, terminating on the internal ſurface of the ſuperior condyle of the humerus.

Plate II. 1, 1, 2, 3, 5, 6. Vitet Med. Vit. i. p. 160. Le grand Pectoral. Stubbs, Anat. Horſe. *Plate* II. 1, 1, 2, 3, 5, 5, 6. Pectoralis, p. 12.

5. *Latiſſimus dorſi.* This vaſt muſcle is ſituated above the *ſerratus major*, and under the *panniculus carnoſus*: its *aponeuroſis* is covered by that of the *trapezius*. It takes riſe by a very ſtrong *aponeuroſis* on the ſpinous proceſſes of the laſt dorſal vertebræ, extending to the loins; on the back it becomes fleſhy about its middle, covering part of the falſe ribs, and part of the ſurface of the *ſerratus major*; paſſing between this laſt muſcle, and the ſcapula, it terminates by a thin tendon on the lateral internal part of the humerus: it has likewiſe a ſtrong attachment by tendon to the middle of the *depreſſor* muſcle, paſſing with the tendon of that muſcle to the ſmall prominence on the inner ſide about the middle of the humerus, going between the extenſors of the *ulna*. *Plate* II. *r. r. ſ. t. w. w.* Vitet, Le grand Dorſal. i. p. 160.

6. *Depreſſor, or teres major.* This muſcle is of ſome length, oval, and ſomewhat flattened, lying on the underſide of the ſcapula, and cloſely embracing the *ſubſcapularis*, having its attachment to the ſuperior and poſterior edge of the ſcapula; paſſing over the articulation, it terminates by a flat tendon with the preceding muſcle, obſerving the ſame direction in its courſe as the long abductor does on the oppoſite ſide of this bone. Le grand rond. Vitet. i. 159.

The above three muſcles are depreſſors or flexors of the humerus.

7. *Abductor proprius ſeu coraco-humeralis.* This is a ſmall muſcle, cylindrical, and tapering at each extremity, forming a tendon; the uppermoſt takes its attachment to the lateral internal part of the coracoid proceſs of the ſcapula, the lower tendon to the inferior and anterior part of the humerus, paſſing over the articulation, and in contact with the inſide of that bone. This muſcle acting ſingly draws the lower part of the humerus to the body, as the ſubſcapularis does the upper part of this bone. Vitet. Med. Vet. Le Coraco Humeral. i. p. 161.

8. *Pectoralis brevis.* This muſcle will admit of being variouſly divided, and is ſtrongly attached to the *panniculus carnoſus*. This muſcle forms the breaſt like prominence between the fore-legs of the horſe; it is of a figure nearly ſquare, diviſible into diſtinct parallel faſciculæ, from the point of the ſternum, where it joins the muſcles on the oppoſite ſide, it paſſes, forming a flattiſh tendon to the humerus. We have ſeen this muſcle deficient on the one ſide, and full on the other.

9. *Subſcapularis.* It occupies the underſide of the ſcapula, with which it accords in figure, and needs not any particular deſcription, growing narrower with this bone it deſcends, forming a broad tendon in the large inner proceſs of the head of the humerus, and will admit of being ſeparated into ſeveral ſmaller muſcles. Vitet. Med. Vet. Le ſous ſcapulaire, i. 160.

There are alſo two other ſmall muſcles, which may be conſidered as adductors, or perhaps rather inflexors; the firſt of theſe is not ſo ſmall as the other, and takes its riſe at the interior projection of the ſcapula, or rather ſuperior part of the glenoid cavity by a flattiſh tendon paſſing over the joint on the inſide, and taking an oblique direction over the humerus; it terminates in the cavity formed by the condyles of the humerus. We give it the name of *M. articularis major.* The other, which is much ſmaller *(M. articularis minor)* ariſes from the tendon of the preceding muſcle, or the ſuperior and internal ſide of the glenoid cavity, and terminates on the head of the humerus by a fleſhy attachment. This muſcle is not found, we believe, in every ſubject. Theſe ſmall muſcles, it is clear, cannot produce any motion of the limb; their bulk is too ſmall, and they are ſituated too near the centre of motion to operate with any force in this way. Some have imagined theſe ſmall muſcles about the articulation were deſigned to move the capſular ligament out of the way of being pinched, an idea we cannot ſubſcribe to: thoſe ligaments ſurrounding the cavity of the joint not being

lax

lax enough to be in any danger of this ſort, and with their inner ſurface too well lubricated to be caught hold of by an obtuſe round head of bone. The above three muſcles may be conſidered, with the two ſmall ones when acting ſingly, as adductors.

10. *Poſtſpinatus* occupies the oſſeous part of the ſcapula, behind the ſpinous ridge; it grows narrower with the bone till it reaches the joint, where it forms a lubricous cartilage, which is kept in its ſituation by two round prominences in the head of the os humeri, acting like the ſides of a pulley-block: it then terminates on the external round proceſs of the head of the humerus. *Plate* II. *k, i, l, l, m, n.* Vitet. i. p. 101. le poſt épineux.

11. *Abductor longus* takes its attachment at the ſuperior part of the poſterior edge of the ſcapula; in deſcending it cloſely adheres to the *poſtſpinatus*, becoming gradually broader and more fleſhy; it terminates on the curved proceſs, which is obſervable on the upper part of the exterior ſurface of the humerus, following the ſame direction on this ſide as the adductor does on the oppoſite ſide of the bone. *Plate* II. *o, p, q, q,* Vitet. Le grand rond. i. 159. Stubbs. Teres Minor, *Plate* II. *n, p, q, q.*

12. *Abductor brevis* takes its riſe at the inferior and poſterior edge of the ſcapula, or rather from the fibres of the *poſtſpinatus* muſcle, lying between it and the *longus abductor.* This and the former paſs over the extenſors of the cubitus, and terminate between the above muſcles on the large crooked proceſs of the humerus. It only differs from the former in being conſiderably ſhorter. It ſends a tendon to the ſcabrous edge of the cotyloid cavity. Vitet. Med. Vet. i. p. 162. Le petit rond. The effect of the principle we wiſh to eſtabliſh reſpecting the co-operation of muſcles on oppoſite ſides of the bone, is no where more obvious than in the two foregoing muſcles, with their congeners, the adductors on the inſide. This mode of operation of theſe muſcles appears to have eſcaped entirely the writers hitherto on this ſubject. Vitet has remarked reſpecting them, "ils font executer a l'humerus des mouvemens, de flexion, et de demirotation en dehors."

The muſcles of the radius and ulna are ſeven; two to bend, five to extend them.

1. *Extenſor longus ſeu poſterior.* This muſcle is the moſt exterior of thoſe which fill up that triangular ſpace formed by the humerus and ſcapula. It takes attachment at the ſuperior and poſterior edge of the ſcapula, and paſſing down cloſely, adhering to the large extenſor, it terminates on the extreme point of the olecranon. This muſcle is the moſt powerfully ſituated of any of this extremity. *Plate* II. P. Stubbs Vitet. Med. Vet. p. 165, Le long anconé.

2. *Extenſor magnus.* This is nearly the largeſt muſcle of the extremity, of a triangular figure, and occupies great part of the angle between the humerus and ſcapula poſteriorly; it riſes by tendinous fibres from two-thirds of the poſterior and lower edge of the ſcapula, growing narrower, it terminates on the inner ſide of the olecranon by ſtrong and ſhort ligamentous fibres. *Plate* II. *fig.* 1. N. Vitet. Med. Vet. Le Moyen anconé, p. 164. Stubbs, *Plate* II. N.

3. *Extenſor tranſverſus.* This muſcle is of a figure nearly ſquare; paſſing obliquely acroſs the other muſcles, it riſes from the interior part of the crooked ſpinous proceſs of the humerus, and terminates on the point of the ulna, uniting often with the preceding. *Plate* II. O. Vitet, Med. Vet. p. Le Court anconé.

4. *Extenſor pygmæus,* is ſituated beneath the others, of a cylindrical figure, tapering to either extremity, riſing from the middle part of the humerus, and terminating by tendon on the inſide of the olecranon. Le petit anconé. Vitet, Med. Vet. 165.

5. *Extenſor minimus.* This is a ſmall muſcle of a pyramidal ſhape, whoſe baſe is fixed by fleſhy fibres to the *olecranon* on its anterior edge, growing narrower, it terminates by fleſhy fibres on the back part and inſide of the humerus, rather below its middle; this muſcle fills up the cavity formed by the two condyles of the humerus poſteriorly. Stubbs, Anat. Horſe, tab. 5. *c.* Vitet, Med. Vet. L'Olicranien, p. 165.

Theſe muſcles ſtraighten the limb after it has been carried forward by the flexors, raiſing the body upon the extremity as a fixed point.

6. *Coraco-radialis.* This beautiful muſcle is externally covered with a ligamentous coating, which gives it a ſilvery appearance, eſpecially on its inſide, a ſtrong tendinous faſcia enveloping it; it occupies the front of the humerus, extending from the coracoid eminence of the ſcapula to the anterior part of the head of the radius, to which it is fixed by ſtrong, ſhort, ligamentous fibres. Near its lower extremity it ſends off a ſtrong tendon, which, paſſing along the radius, inſerts itſelf into the tendon of the extenſor muſcle of the ſhank. This muſcle, in paſſing the joint, is lodged between the two circular, ſmooth prominences on the anterior part of the head of the humerus, and is provided with a lubricous cartilage beneath. This muſcle is the biceps of the human anatomy, which name will not apply in the horſe, having but a ſingle origin. Its body is very deeply cleft. Stubbs, Anat. Horſe, *Plate* VIII. *i, k, l, m, n.* Vitet. Med. Vet. Le Curaco-Cubital. p. 166.

7. *Flexor convolutus.* This muſcle lies in contact with the bone, filling the large cavity or neck of the humerus; formed by the curved proceſs on its exterior part it riſes under the poſterior part of the head of the humerus, making a ſpiral turn, it paſſes over the bone, filling the cavity above-mentioned, and terminates anteriorly in the hollow of the head of the *radius.* Stubbs, Anat. Horſe. tab. 9, *r, s.* Brachialis internus. Vitet. Med. Vet. p. 165. La brachial.

The two laſt muſcles are termed flexors; they carry the lower part of the extremity forwards, and the extenſors ſerve the purpoſe apparently of removing the body to it as a fixed point on the ground.

The muſcles of the knee and ſhank are ſix, two to extend, four to bend them.

1. *Extenſor carpi.* It is the body of this muſcle which forms the handſome rotundity obſervable on the lateral and rather external part of the radius. It is attached ſuperiorly to the anterior condyle, uniting to the extenſor of the foot; it decreaſes, ſuddenly, forming a flat, broad tendon lying cloſe to the bone, paſſing under the lateral extenſor tendon, and over the bones of the knee, it terminates on the ſuperior part of the ſhank bone, on the anterior tuberoſity, by ſtrong ligamentous fibres. Stubbs, *Plate a, a, b. Plate* II. *d, e.* Extenſor carpi radialis. Vitet. Med. Vet. Le Cubital externe anterieur, p. 168.

2. *Extenſor lateralis.* This muſcle takes its attachment for a conſiderable length along the ſharp edge on the external ſide of the *radius*; forming a flat tendon, it takes a direction acroſs the leg, and paſſing over the tendon of the principal extenſor, purſuing an oblique direction over the bones of the knee, it terminates on the inſide this joint on the *os pollicare. Plate* II. *g.* Stubbs, *Plate* II. *q.* L'extenſeur de Genou, Lafoſſe.

3. *Flexor carpi poſterior.* This muſcle has an attachment by ſtrong tendons to the poſterior and lateral external part of the humerus; increaſing in ſize, and becoming very flat, it deſcends, keeping an uniform ſize, down the radius, forming a large flat tendon, dividing into two parts; one is

ſtrongly

ſtrongly inſerted in the crooked bone, *(os poſticum,)* the other paſſes to the ſhank, and is inſerted on its head. Stubbs, *Plate* II. *m, n, n, o, o, p, q, r, s.* Vitet. i. p. 169. Le Cubital externe poſterieur.

4. *Flexor oſſis poſtici.* This muſcle takes its attachment on the oppoſite ſide of the humerus to the former, ſending off a conſiderable branch to the inſide of the *olecranon*, it terminates by ſtrong tendon on the external convexity of the poſt-carpal bone. Stubbs, *Plate* XII. *f.* Vitet, Le Cubital interne poſterieur.

5. *Flexor internus.* This muſcle is ſmaller than the two former, and is placed more internally; it takes attachment at the lateral internal condyle of the *humerus*, and, paſſing along the radius, forming a thin tendon, which paſſes through the capſular ligament, it at length terminates on the poſterior part of the cannon or ſhank bone, and ſuſpenſor ligament of the perforans muſcle. Vitet. Med. Vet. Le Cubital interne.

6. *Flexor poſtremus.* This ſmall muſcle is the moſt poſterior of thoſe about the head of the radius, extending from the point of the ulna on its inſide to the annular ligaments of the knee, uniting to the cartilage which ſurrounds the flexors of the foot, its aponeuroſis covers the whole ſurface of the extenſors of the cubitus. Le cubital grêle, Vitet. i. p. 170.

Beſides the above muſcles, there are two others belonging to the ſhank bone which are very minute; they are termed by Lafoſſe *les canoniers*, and by Vitet lombricaux, p. 175. Theſe very ſmall muſcles, which are not always deſcribed, are found between the ſuſpenſory ligament and the ſtyloid bones, one on each ſide; they riſe under the knee, are fleſhy about two or three inches, then form a tendon, which terminates on the cellular membrane of the fetlock joint. They appear of little uſe, and may rather be conſidered as the effête rudiments of the interoſſei muſcles, or *lumbricales* of digitated quadrupeds.

The muſcles of the paſtern, coronet, and foot are five; two to extend, and three to bend them.

Theſe three bones always forming one line and making an angle to the reſt of the limb, we conſider as one bone in deſcribing the muſcles and their effect, as any diviſion would tend to confuſe rather than elucidate the general purpoſe of the muſcles going to theſe parts. Lafoſſe has, we think, erred in being too minute in this reſpect by ſubdividing parts neceſſarily connected.

1. *Extenſor ſuffraginis* is a ſmall, thin muſcle, riſing by fleſhy fibres from the external condyle of the humerus; it paſſes fleſhy about half way down the *radius*; adhering to its external ſharp edge, it paſſes in a groove through the annular ligaments and capſular ligaments of the knee, and continues its courſe along the outſide of the ſhank to the fetlock, where it becomes wider, and terminates by a broad tendon on the ſuperior anterior part of the paſtern bone. It ſends off a branch of tendon which paſſes round the knee to the flexor tendons under the poſtcarpal bone. Vitet. i. 1752. L'extenſeur anterieur du Paturon.

2. *Extenſor pedis.* This is the largeſt of that aſſemblage of muſcles which ſurrounds the head of the radius. It ariſes from the external condyle of the humerus uniting its fleſhy fibres with thoſe of the extenſor of the cannon or ſhank, it becomes tendinous above the knee, being lodged and confined by ligaments in a groove; it perforates the capſular ligaments of the joint, and, paſſing down the front of the ſhank at the fetlock joint, it forms an union with the extenſor of the paſtern, and growing broader, and enveloping almoſt the whole front of the coronet, it finally terminates on the anterior eminence of the coffin bone. Stubbs, Anat. Horſe, tab. viii. 1, 2, 2, 3, 4, 5, 6, 6. Extenſor Digitorum Communis. Vitet Med. Vet. i. p. 173.

The two former muſcles ſerve to bring the three bones of the foot forward, and we may remark are, when compared with the flexor, diſproportionably ſmall, for the weight of the horſe operates as a powerful extenſor of this part, and renders great muſcular power unneceſſary.

3. *Perforatus.* This muſcle takes its attachment by fleſhy and tendinous fibres to the internal condyle of the humerus; uniting with the *perforans* near the knee, it forms a ſtrong tendon, which, at the back of the knee, (within the concavity of the poſtcarpal bone,) is received within a ſtrong ligamentous groove, paſſing down the ſhank behind the tendon of the perforans; at the paſtern it forms a remarkable ligamentary *annulus* for the reception and paſſage of the perforans tendon, expanding into a broad flat tendon at the back of the paſtern, and, covering the perforans, it divides, forming two tendons which paſs obliquely over the joint, and terminate on the upper part of the coronet. Stubbs, Anat. Horſe, tab. 13. *m, n, o.* Sublimis, p. 42. Vitet. Med. Vet. i. p. 173. Le Perforé.

4. *Perforans*, is a conſiderable muſcle riſing with the former, and lying more internally; it will admit of diviſion into three parts, which Monſ. Lafoſſe has deſcribed, with his uſual bounty, as three diſtinct muſcles. This muſcle is fleſhy till it reaches the knee, when it forms a flat tendon joined by the *flexor poſtremus cubiti*, and *radialis* tendons inſerted into a flat, ſmooth cartilage under the *os poſticum*, forming here a large cylindrical tendon, when about half way down the ſhank it is joined by a ligament from the poſterior part of that bone arriving at the fetlock, it paſſes through the *annulus* of the *perforatus*, and continuing between its divided tendon, terminates by a broad, flat tendon on the inferior ſurface of the coffin bone being covered by the frog. Stubbs, Anat. Horſe, Profundus. Vitet. Med. Vet. i. p. 174. Le Perforant.

5. *Adjutorius.* This is a flat muſcle lying cloſe to the *radius*, and filling the hollow on the poſterior part of that bone, it ſoon becomes tendinous, uniting with the tendon of the perforans.

Of the Ligaments of the Fore Extremity. 1. *Ligamentum ſuſpenſorium*, ſuſpenſory ligament, takes its riſe a little below the head of the ſhank by muſcular and ligamentous fibres, lying between the heads of the ſtyloid bones, it paſſes down the poſterior ſurface of this bone, quitting its adherence to it about the middle, and, becoming detached, it divides at the fetlock into two branches, which cloſely and ſtrongly embrace the ſeſamoid bones; it forms one ligament again at the back of the paſtern, filling its hollow cavity, and finally terminates on the head of the coronet bone. At the fetlock it alſo ſends off two branches in an oblique direction downwards, which unite with the extenſor tendon of the coffin bone, and preſerves it firmly in its ſituation. Stubbs, Anat. Horſe. Interoſſeum. Lafoſſe has made a muſcle of it. Flechiſſeur du Paturon.

This ligament is the main ſupport of the fetlock joint, and this joint, though ſo ſtrongly fortified, is, for obvious reaſons, the moſt ſubject to be injured of any part of the body.

There are many other ligaments belonging to this extremity, which the propoſed limits of this article will not allow us to give a deſcription of, as the lateral ligaments, the capſular ligaments, the burſal ligaments, the reſtraining ligaments, crucial ligaments, &c.

The muſcles of the abdomen, allowing for the magnitude and depending poſition of this part in the horſe, are much reſembling thoſe of the human.

Obliquus externus, ſee *Pl.* II.—I. I. I. I. K. K. L. *m. n.*

Obliquus

Obliquus internus, *Plate* III. tab. 4. Stubbs. *s. s. t. u. w. x. y.*
Rectus abdominis, Stubbs. *tab. 3. z.*
Tranſverſalis, ſee *Pl.* III. P. *p, q, r, s, t, u.*

Muſcles of the back, &c. obſervable in the inſerted figures, taken from Mr. Stubbs' ſecond and fourth plates.

Intercoſtales externi, *Pl.* III. 1, 1. and 2, 2, &c.
Semiſpinalis and *ſpinalis dorſi*, *Pl.* III. Stubbs. 4. *a, a. b. c. c. d. e, e.*
Longiſſimus dorſi, *Pl.* III. *g. h. h. i. i.* K. K. K.
Sacrolumbalis, *Pl.* III. *l, m, n, n, o.*

Muſcles of the neck and head obſervable in the inſerted plates.

Sterno-maſtoidæus, *Pl.* II. *a, b, c.*
Coraco-hyoidæus, *Pl.* II. *f. f.*
Sterno-hyoidæus, *Pl.* II. *g.*
Tranſverſalis, *Pl.* II. *h, i.*
Trachelo-maſtoidæus, *Pl.* II. *k, l.*
Rectus internus major capitis, *Pl.* II. *m. n.*
Intertransverſales minores colli, *Pl.* II. *o, o, o, o.*
Longus colli, *Pl.* II. *p, q.* *Pl.* III. C, D, E, F, G, H, I, K.
Splenius, *Pl.* II. *r, s, t, u, w.*
Sterno-thyroidæus, *Pl.* II. x. *Pl.* III. *l, m, n.*
Hyothyroidæus, *Pl.* II. *g.* *Pl.* III. *r.*
Crico-thyroidæus, *Pl.* II. *z.* *Pl.* III. *o, p.*
Conſtrictor pharyngis inferior, *Pl.* II. &c. *Pl.* III. *q, q.*
Rectus capitis poſticus major, *Pl.* III. *t, u.*
minor, *Pl.* III. *w, x.*
Obliquus capitis ſuperior, *Pl.* III. *y, z.*
inferior, *Pl.* III. A. B.
Intertranſverſarii poſteriores colli, L, L, and M, M.
Intervertebrales, *Pl.* III. N, N, N.
Multifidi ſpinæ, *Pl.* III. O, O, O, O, P, Q.
Spinalis cervicis, *Pl.* III. R, T, U.
Dilatator narium labiique ſuperioris, *Pl.* II. *a, b, c, d.*
Dilatator narium anterior, *Pl.* II. *f.* *Pl.* III. *x.*
Orbicularis oris, *Pl.* II. *g, h, i, i. k*, *Pl.* III. p. p.
Naſalis longus labii ſuperioris, *Pl.* II. *l, m, n, o.*
Maſſeter, *Pl.* II. *p. q.*
Buccinator, *Pl.* II. *r.* S, S. *Pl. 3. w, w.*
Ciliaris, *Pl.* II. *u, u. zu.*
Muſculus alæ narium at præcipue conchæ narium inferiore pertinens, *Pl.* II. *x, g.*
Muſculus temporis, *Pl.* II. 2, 2, 3.
Muſculi minuti membranam pituitariam retrahentes, 4, 4.
Muſculus caninus, *Pl.* II. 6, 7, 7. *Pl. m, m, n, n, o.*
Depreſſor labii inferioris, *Pl.* II. 9, 10.
Retractor labii inferioris, tab. *3. s.*

Muſcles of the eye.

Attollens,	*Pl.* III. *e.*	Stubbs. *Pl.* 4.	*e.*
Deprimens,	*f.*		*f.*
Adducens,	*g.*		*g.*
Abducens,	*h.*		*h.*
Obliquus ſuperior,	*i.*		*i.*
—— *inferior*,	*k.*		*k.*
Trochlearis,	*l.*		*l.*

Glans thyroidæa, tab. 3. *a.*
Glans parotidæa, *tab.* 3. 26. 26.
Ductus ſalivæ, *tab.* 3. *d. z.*
Alæ narium, tab. 2. *f.*
Septum narium, tab. 2. &.

The Muſcles of the poſterior extremity of the Horſe and other domeſticated Quadrupeds, with the Synonyma of human and veterinarian Authors.

Quis vituperationi det id poſſe curare, quod laudi ducitur poſſidere? VEGETIUS, Lib. 1^mus.

The different motions of the hind extremity of the horſe are performed by the means of about thirty two muſcles.

15 proper to the thigh, 3 to extend, 3 to bend it, 4 termed adductors, 5 called rotators.
2 common to the thigh and leg, 1 to bend and turn them inwards, 1 to extend and turn them outwards.
8 proper to the leg, 3 extenſors, 2 flexors, 3 adductors.
2 proper to the hock and ſhank, 1 to the os calcis, called an extenſor, and the other to the anterior ſide of the head of the ſhank, called its flexor.
1 to the coronet bending it backwards.
4 to the foot, 1 flexor, 1 extenſor, and their lateral muſcles, — 1 to each.

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On diſſecting the muſcles of a man's thigh and leg, and thoſe of the thigh and leg of the horſe, and comparing them together, the diſſimilarity has been found ſo great, that it would only create confuſion and miſconception to apply the ſame names to both; where they agree we gladly embrace the human names, where they are not at all alike, we do not attempt to make them appear ſo by impoſing the ſame names, but have given names expreſſive of the ſituation, attachment, or ſhape of the muſcle. Where the compariſon between the human and the horſe was doubtful, we have taken ſome intermediate animal not ſo diſtantly removed from man in ſtructure, by which we could more eaſily detect the coincident part, and transfer them to the horſe.

The muſcles of the thigh are 15, diſtributed as follows:

Glutæus externus, magnus, parvus } Straighten the thigh by drawing it backwards, or rather move the body forwards to the thigh already advanced by the flexors.

Pſoas magnus, Iliacus major, minor } Flexors, advancing the thigh forwards.

Adductor teres, magnus, parvus, Muſculus faſciæ latæ } From their ſituation appear to act as drawing the thigh cloſer to the body, but probably in conjunction with the common muſcles on the oppoſite ſide, which terminate about the ſtifle, co-operate in the general purpoſe of removing the body.

Obturator externus, internus, Pyramidalis internus, M. parvus articulationis Gemelli. } Termed *rotators*; a purpoſe they cannot ſerve in this animal, and therefore their uſe appears by human anatomiſts to have been wrongly aſſigned; they appear to co-operate according to their ſituation with the muſcles above deſcribed.

From the manner in which theſe muſcles are deſcribed, and their uſes aſſigned in the publications on human anatomy, we conceive they convey but a feeble idea to the mind of the ſtudent of their real purpoſes. In the horſe their uſes are more ſtriking and ſtrongly marked, which ſuggeſted the explanations which are here given of their effects, though we are convinced much more remains to be done than has been hitherto done on this extenſive and complicated ſubject.

Previouſly to entering on theſe muſcles we muſt advert to the deſcription given of the thigh bone in the oſteology, to which we muſt refer the reader.

Glutæus

Glutæus externus. This muſcle lies the moſt exteriorly of all the muſcles of the buttock, and is of a ſmall ſize: it extends from the ſecond and third ſpinous proceſſes of the ſacrum to the anterior angle of the inferior *ramus* of the ilium, where it joins the *faſcia lata*; from thence it extends to the *proceſſus recurvatus externus* of the thigh. This muſcle is ſurrounded on all ſides by *aponeuroſis*, that on its ſuperior part, covering over the muſcles of the rump, is affixed to the ſpinous proceſſes of the loins; the aponeuroſis of its poſterior part paſſes underneath the *ſacrotibialis externus*, to which this muſcle is contiguous in paſſing to the external curved proceſs of the thigh.

The *glutæus externus* is ſo ſmall in quadrupeds, that a doubt might ariſe whether this was not a part of the *faſcia lata*, and the muſcle beneath it the correſponding one to the *glutæus maximus* of the human anatomy. From a farther inveſtigation of this ſubject, we believe that not to be the caſe, and that it is the real repreſentative of the *glutæus maximus*.

The ſingular diminution of this muſcle in the quadruped may be, perhaps, explained on the following principles of the difference of ſtructure neceſſary to the two animals. In the man, the legs have to perform a greater variety of motions, as abduction, adduction, rotation, &c. which the horſe, whoſe motions are principally confined to going ſtraight forwards in a line, does not require, ſo we ſee this great abductor of the human anatomy becoming a very ſmall one in this animal, while the muſcles of the rectilinear progreſſion are vaſtly increaſed in bulk, as we may ſee by looking on the *glutæus medius*, which is the *maximus* of the horſe in point of ſize, and from its attachments, is evidently a direct extenſor of the thigh. Others might ſay it was diminiſhed on account of the increaſe of the purchaſe obtained by its inſertion into the extended point of the curved proceſs of the thigh being taken farther from the centre of motion, which would compenſate for its want of power; for it ſeems pretty nearly the ſame thing whether we make a muſcle very large, or give it a powerful inſertion; ſometimes bulk, ſometimes power only is neceſſary, but the conſideration of the circumſtance in which power ſhould be obtained by accumulated muſcular fibres, or by favourable inſertion, would lead us beyond our preſent purpoſe.

This point once admitted, *viz.* that it is the *glutæus maximus* of the human body, the others follow naturally, and admit of a nearer compariſon. The anatomy of the thigh of the dog, which has no curved proceſs, ſeems to confirm this opinion.

Its uſe. The direction of this muſcle ſeems to point it out as an abductor; the beſt way, however, of conſidering it is to regard it in this animal as a *tenſor aponeuroſis* of the buttock, aſſiſting the muſcles of this part, by its gentle compreſſion and elaſtic ſpringing and reaction, in their motions.

In the ox it exiſts with pretty much the ſame characters.

In the dog it is much larger than in the horſe, cæt. par. and more fleſhy, having a ſtrong attachment to the ſacrum underneath the muſcles of the tail, and terminating in the back of the thigh by a long tendon.

In the cat the ſame as in the dog; but here it might well be denominated the glutæus poſticus.

Synonyma. Stubbs Anat. Horſe, p. 23. *Tab.* II. *m, n, o, o, p.* Glutæus externus. Lafoſſe, Cours D'Hippiatrique, p. 118. Le moyen feſſier. Lafoſſe, Dictionnaire, p. 456. Bourgelat Elemens D'Hippiatrique, p. 278. Le petit feſſier extenſeur de la Cuiſſe. Vitet. tom. i. p. 181. Le feſſier externe. Winſlow, Expoſition Anatomique, p. 135. Le grand feſſier. Glutæus magnus ſeu maximus omnium auctorum humanæ anatomiæ.

2. *Glutæus medius.* This vaſt muſcle lies immediately under the preceding, occupying great part of the upper ſurface of the ilium; it takes its riſe by a point on the lumbar muſcles, growing more fleſhy as it reaches the ilium; it takes a ſtrong adherence, by fleſhy fibres, to the external angle of the inferior *ramus*; after paſſing the ilium it becomes ſmaller, and dividing itſelf into two bodies, one terminates on the ſuperior poſterior trocanter, the other by a very ſtrong tendon on the inferior external trocanter, which is covered by the tendon of the external glutæus. This muſcle may be divided into two diſtinct parts, one of which might be conſidered by ſome as the maximus of the human; however, the nature of its attachments ſeems fully to prove its agreement with the *medius*.

Its uſe. To draw back the thigh, or (the leg being made a fixed point on the ground) to advance the body upon it.

In the ox. This muſcle is more diſtinctly divided into two bodies, nor does it paſs ſo far over the muſcles of the loins. There is alſo a ſmall almoſt linear muſcle not found in the horſe.

In the dog. It is not at all attached to the muſcles of the loins, but fills up the ilium entirely, and terminates on the poſterior trocanter; and in the cat the ſame.

Synonyma. Stubbs Anat. Horſe, p. 18. tab. 3. *a, a, a, b, b, b, c, d.* Glutæus Medius. Lafoſſe, Cours D'Hippiatrique, p. 18. Dictionaire, 457. Vitet, Medecine Veterinaire I. Le grand et le moyen feſſier. Bourgelat, Elemens D'Hippiatrique, p. 278. Le grand feſſier. Monſ. Sainbel, firſt profeſſor of the Veterinary College of London, in his lectures, principally adhered to the names and arrangement given by Bourgelat. Douglas, Myographia comparata, p. 130. Glutæus medius. Winſlow, Expoſition Anatomique, p. 329. Le moyen feſſier. Glutæus medius omnium auctorum hum. anat.

3. *Glutæus parvus.* This is a ſhort, ſtrong, (and though ſmall, compared with the former) not inconſiderable muſcle, lying immediately over the joint; it takes attachment round the poſterior ramus of the ilium; paſſing over the head of the femur it fills the anterior concavity formed by the ſuperior trocanter of the thigh.

Its uſe. It operates in the combined effect of extending the thigh; its poſition is that of an abductor.

In the ox, nearly the ſame. Le petit feſſier, Vitet. p. 185.

In the dog, it is of a different ſhape, being more pyramidal, and attached at the anterior ſuperior part of the thigh.

In the felis, it is attached to the inferior and poſterior ramus of the ilium, and terminates at the anterior part of the thigh in a nick or excavation. Stubbs Anat. Horſe, tab. 4. *b, i, k, k, l, l, l.* Vitet. Med. vet. p. 181. Le petit feſſier. Lafoſſe, Cours d'Hippiatrique, p. 118. Dictionaire, p. 457. Le petit feſſier. Bourgelat. il n'a rien dit la deſſus. Douglas, Myologia comp. p. 131. Glutæus internus. Winſlow, Expoſ. Anatomique. Le petit feſſier. Glutæus minor, Albinus. minimus, Innes.

4. *Pſoas magnus.* On removing the inteſtines from the abdomen and the peritoneum, this beautiful muſcle preſents itſelf; it is attached to the inſide of the two laſt ribs, and to the tranſverſe apophyſes of the lumbar vertebræ, paſſing to the edge of the pelvis it joins the iliacus, and is with it inſerted into the little trocanter, running between the iliacus major and minor: this muſcle can never be miſtaken for any other in any animal; it is rather depreſſed at its origin, but becomes cylindrical and pointed going to its termination; this muſcle, near its inſertion, is confined by a ligament which binds it and the iliac muſcles in their ſituation.

The *pſoas parvus* we conſider as a flexor of the loins, by bending the pelvis (to which it is always attached) on the lumbar vertebræ.

Veterinary writers have moſtly deſcribed this muſcle as belonging to the thigh; it, however, generally terminates where the ſartorius begins, forming together a digaſtric muſcle of great length.

Ox nearly the ſame. Le grand Pſoas. Vitet. p. 188.

Dog. It is attached to the four laſt lumbar vertebræ, is vaſtly larger, and more fleſhy in proportion to the animal; it terminates in the ſame place: but the iliacus parvus, we may obſerve, does not in this animal terminate where the ſartorius begins, for this muſcle riſes from the anterior angle of the ilium.

In the cat there are three very diſtinct muſcles of this deſcription.

Vitet. Med. Vet. Le grand Pſoas I. 179. Lafoſſe, Cours D'Hippiatrique. Le grand Pſoas, p. 117. Dict. 455. Bourgelat, Elemens D'Hipp. Le Pſoas, 281. Stubbs, p. 18. tab. 9. *a*, *a*, *b*, p. 34. Pſoas magnus omnium auctorum hum. anat.

5. *Iliacus major.* This muſcle takes attachment to the whole inferior *ramus* of the ilium growing cylindrical, and tapering it is joined to the *pſoas magnus*, paſſing with it through Poupart's ligament to the little trocanter of the thigh.

In the ox it is more intimately blended with the iliacus parvus.

In the dog it is remarkable this muſcle is entirely wanting. The ilium is elevated ſo far above the lumbar vertebræ, that the muſcles of the back occupy its place: it is ſingular, that this circumſtance ſhould have eſcaped the notice of Douglas, who has expreſsly treated of the anatomy of this animal.

In the felis the ſame as in the dog.

Stubbs Anat. Horſe. p. 18. tab. 3. tab. 9. p. 34. Lafoſſe, Cours D'Hippiatrique. p. 117. Dict. Hipp. 455. Bourgelat, Elem. D'Hipp. L'Iliaque. Iliacus internus auctorum hum. anat.

6. *Iliacus minor.* This muſcle, which, in general, is quite ſeparate from the iliacus major, takes its riſe from the inſide of the firſt ſacral apophyſes all the length of the poſterior ramus of the ilium, paſſing over the head of the femur it terminates with the pſoas and iliacus on the little trocanter; it permits the pſoas to paſs between it and the iliacus major, and might be conſidered as a portion of the latter; it is connected by aponeuroſis with the muſcles which line the pelvis.

Theſe three laſt muſcles have all the power of bending the femur; the two laſt on the pelvis, the pſoas on the loins, bending both femur and pelvis.

Ox. Not a diſtinct muſcle.

Dog. Is altogether wanting, but appears to be compenſated for by having three pſoas muſcles.

Cat. The ſame as in the dog.

Lafoſſe, Cours D'Hippiatrique. Planche 22. Dict. 456.

7. *Adductor teres* is a cylindrical muſcle, which makes its appearance on the inſide of the thigh; the integuments being removed, it takes its riſe on the os pubis, near the ſymphyſis, attached to the ſame ligament with the rectus abdominis; it terminates along with the adductor magnus, about half way down the inſide of the thigh, or rather on the back part of this bone.

Stubbs, Anat. Horſe. tab. 5. *s. s.* Le pectineus. Lafoſſe, Cours d'Hippiatrique. p. 118. Le pectineus. Vitet. Med. Vet. p. 180. Le petit pictiné. Bourgelat, Elem. Hipp. Le pectineus. Douglas Pectineus. p. 153.

Compariſon of this muſcle with the human pectineus. We ſee by its attachments that it is by no means the ſame muſcle; it is much more nearly allied to the triceps adductor primus, which it alſo differs from; it riſes too near the ſymphyſis inſtead of the brim of the pelvis to be the pectineus, and terminates by inſertion along with the large adductor low down the thigh; it is alſo a more external muſcle than the pectineus; but as there is no real pectineus, nature ſeems to have united in this one muſcle the properties of the pectineus and adductor longus, ſo that we have choſen to call it by a different name from either, *viz. adductor teres.*

The ox has a much flatter muſcle, and it ſends off a ſlip to the ligaments of the knee.

Dog. This muſcle is rounded, and much reſembles the human long head of the triceps.

The cat. There are four adductors, one of which reſembles more nearly the human pectineus.

8. *Adductor magnus.* There are three diſtinct muſcles of this deſcription in the horſe; this portion of it is ſeen very diſtinctly by removing the adductor planus of the leg, taking attachment to the ſymphyſis pubis, and extends down to the poſterior and inner part of the thigh, and ſending off another portion which is attached to the tibia, or rather to the joint of the femur and tibia by a flat tendon. This muſcle may be divided into two portions; one has been called by veterinary writers, *la portion moyenne, et la portion anterieure*; but this we conſider as unneceſſary and unnatural; for after ſuch diviſion it does not correſpond to the three portions of the triceps muſcle in the human.

Stubbs, Anat. Horſe. p. 18, 15. 36. 36. 36, &c. tab. 3. p. 46. tab. 14. *p. p. q. r. s. t.* Lafoſſe, Cours D'Hippiatrique, le gros et le moyen extenſeur. p. 117. Dict. 454. Bourgelat, Elem. Hipp. p. 282. triceps. Vitet. Med. Vet. La Portion anterieure et moyen du triceps crural. p. 182.

Compariſon with the human. On actually comparing this muſcle with thoſe of the human thigh, it is difficult to decide whether it moſt reſembles the ſhort or great head of the triceps, but it certainly is not much like either of them; therefore, to prevent confuſion, we have given it a different name, and left out the term triceps altogether; this muſcle, and the *ſacro-iſchio tibialis internus* both agree in ſome points with the great head of the triceps, and differ in others. Stubbs conſiders it one, and the French writers the other; in this confuſion I think it beſt, for diſtinctneſs, to avoid the compariſon, and give it a name that will not interfere with either.

Dog. This muſcle lies underneath the long head of the triceps, and is the largeſt of the extremity.

Cat. In this animal the artery perforates the tendon of the *adductor magnus*, as it does in the human body, to paſs to the gaſtrochemius, which ſerves to identify the muſcle in this animal.

Ox. No ſuch portion appears.

9. *Adductor brevis ſeu quadratus.* This muſcle lies immediately underneath the former, and is of a linear figure, being throughout of nearly equal ſize, riſing on the *os iſchium* near the edge of the *foramen ovale*; it takes an oblique direction, and terminates on the poſterior flat part of the thigh, on the back of the poſterior trocanter.

Ox. It exiſts of the ſame figure. Vitet. L'Iſchio-crural, p. 186.

The dog poſſeſſes it, and alſo a muſcle which exactly correſponds to the ſhort head of the triceps in the human.

Stubbs, Anat. Horſe, tab. 15, p. 47. Vitet. Le rond. p. 183. Lafoſſe, Cours D'Hippiatrique, p. 117. Le petit extenſeur. Dict. 454.

10. *Tenſorius*, or *M. faſciæ latæ.* This is conſidered by ſome a muſcle of the leg, others of the thigh; in this animal, however, it is common to both, and might be very well placed with the common muſcles before mentioned. This muſcle often varies in figure, but is generally of a triangular

ſhape, formed of two or three fleſhy bodies, the ſuperior point of the triangle is affixed to the *os ilium* on the external angle of its inferior ramus, its poſterior point is affixed to the *proceſſus recurvatus femoris* with the *gluteus externus*, with which it forms an intimate union, its inferior part terminates by *aponeuroſis* which covers all the muſcles of the inſide the thigh, and its anterior part, extending alſo over the patella and tibia.

Ox. This muſcle not ſo completely divided into two portions.

Dog. Beſides this muſcle there is another ſtrong muſcle above it, and which has been noticed by Douglas.

Cat. The ſame as in the dog.

Stubbs, Anat. Horſe, tab. 2. faſcia lata.

Lafoſſe, Cours d'Hippiatrique, p. 120. Le faſcia lata abducteur de la jambe.

Vitet, Med. Vet. p. 180, Lileo-crural.

Bourgelat, Elem. d'Hipp. abducteur de la cuiſſe.

Tenſor vaginæ femoris, Innes et aliis.

Douglas, Myolog. comp. 164.

Although the utmoſt brevity has been obſerved in the foregoing deſcriptions and remarks, and nothing introduced which was not of importance in eſtabliſhing this ſcience on a rational baſis, yet have we already paſſed the limits we had propoſed in treating of this article; if the remaining muſcles were conſidered as the ſubject at preſent demands, it would extend beyond the proper bounds for a communication of this ſort, we ſhall, therefore, confine ourſelves for the remainder of this extremity, to give only the names as we find them in our MSS. and conclude this article by a deſcription of a few of the moſt intereſting viſcera of the horſe.

11. *Obturator externus.*

12. *Obturator internus.*

13. *Pyramidalis.*

14. *Articularis.*

15. *Gemelli.*

16. *Vaſtus externus.*

17. *Vaſtus internus*, *Plate* III. 7, 8, 9.

18. *Vaſtus anterior*, *Pl.* III. 1, 1, 1, 2, 2, 3, 4, 5, 6.

19. *Adductor planus tibiæ*, *Pl.* II. *e*, *e*, *f*. Gracilis, Stubbs.

20. *Adductor longus*, *Pl.* II. *c*, *d*. Sartorius, Stubbs.

21. *Poplitalis*, *Pl.* III. *h*, *h*, *i*.

22. *Sacrotibialis externus*, tab. 2. *i*, *k*, *l*, *u*, *u*, *w*, *w*, *x*, *y*, *z*. Biceps Cruris.

23. *Sacrotibialis poſticus*. Bourgelat and Vitet conſider this as the biceps cruris, and Stubbs the ſemitendinoſus, *Pl.* II. 16, 17, 17, 18, 19.

24. *Sacrotibialis internus*. We inſert the ſynonyma of this muſcle, to ſhew the confuſion that is likely to ariſe from purſuing too cloſe a parallel with the human anatomy.

Lafoſſe, Cours D'Hippiatrique, le gros adducteur de la jambe, p. 119.

Bourgelat, Le Demimembraneux.

Sainbel, Semimembranoſus.

Vitet, Med. Vet. p. 182. La Portion poſterieure du triceps.

Stubbs, Anat. Horſe, adductor magnus femoris. We have here an equal diviſion of opinions, whether it ſhould be conſidered as part of the triceps, or the ſemimembranoſus. Stubbs has alſo given a muſcle which he calls ſemimembranoſus. The writer of this article is at a loſs to underſtand what is there intended, but is diſpoſed from the figure to believe that the ſhort portion of the ſacrotibialis has been divided and taken for that purpoſe.

Theſe three immenſe muſcles evidently co-operate to one effect, and are better denoted and underſtood by conſidering them in this way, and by the above names than by the human names, even ſuppoſing their correſponding muſcles in the human body could be clearly aſcertained, as thoſe names would only ſerve to convey the confuſed and erroneous idea of a detached office to each of thoſe muſcles, and as though they were in no way connected; it was the conſideration of the three muſcles laſt mentioned that firſt gave us the idea of the real effect of abductor and adductor muſcles, in promoting animal locomotion. That ſuch vaſt maſſes of muſcle as theſe ſhould be carried about by the animal to perform ſuch trivial offices as abduction or adduction it would be highly abſurd to imagine; for it may be laid down as an axiom that the bulk of the muſcle always bears ſome proportion to the importance of its office, and purſuing this reaſoning a ſtep farther, we may conclude that even abduction and adduction itſelf are often performed by the co-operation of what are termed extenſor and flexor muſcles.

25. *Tibialis anticus*, *Pl.* II. tab. 1. *Pl.* III. 10, 11, 12, 13, 15, 16.

26. *Tibialis internus*, a muſcle not always diſtinct.

27. *Gaſtrocnemius*, *Pl.* II. *m. m. m.*

28. *Linearis*, ſeu *tibialis externus*.

29. *Extenſor brevis pedis*.

30. *Extenſor longus pedis*, *Pl.* II. 36, 36.

31. *Peroneus*, *Pl.* II. 37, 37.

32. *Perforatus*, Pl. III. *k*, *l*, *l*, *m*, *n*, *o*, *p*.

33. *Perforans*, *Pl.* III. 23, 24, 25, 26, &c.

34. *Perforans minor*.

Of the lungs of the horſe. This viſcus in the horſe conſiſts of three lobes, two large ones which occupy the ſides of the cheſt, having at their anterior preſentation two elongated auriform appendages which cloſely envelope the heart; the third or central lobe is much ſmaller, lying between the other two, and preſents itſelf to the ſternum. It is not unfrequent in the lungs of horſes that ſmall red patches are obſervable that will not inflate like the other parts of the lungs, and are therefore, not improbably, obliterated cells from colds, inflammation, &c. the ſettling of the blood will alſo give an appearance of this kind, but this does not prevent the lungs from inflating.

The trachea of the horſe, where it paſſes into the cheſt, and previous to its entering the lungs, has a ſingular duplicature of the cartilaginous rings which is more flexile than the reſt of this tube, ſo as to admit by very ſlight preſſure, the ſides of the tube to be brought in contact, and the total obliteration of its cavity: this ſtructure may perhaps adapt the diameter of the trachea to any quantity of air that is paſſing through it to the lungs.

Of the liver. This viſcus in the horſe is large, deeply cleft into lobes, and poſſeſſing no gall bladder. The ductus venoſus of the human fœtal circulation is alſo wanting in the equine fœtus.

Of the ſtomach. The ſtomach of the horſe conſiſts of a pouch or bag of the uſual obcordate or reniform figure without, within, it is lined with membranes, which more reſemble the coats of the different ſtomachs of ruminating animals than the inſide of the generality of ſtomachs of this external figure.

There is diſtinguiſhable on the inſide a white rugoſe coat, (ſee *Plate* IV.) not vaſcular, which appears to be a continuation of the elaſtic inſenſible white tiſſue, which lines the œſophagus; this ſpreads over the upper part and broad end of the ſtomach, till it abruptly terminates about its middle; this part of the ſtomach correſponds very much to the paunch, or firſt ſtomach of ruminating animals.

The ſecond diviſion occupying the lower part or great arch of the ſtomach, extending high up the ſides, towards

the ſmall arch, and reaching nearly to the cardiac orifice is lined with a ſmooth red membrane, and is highly vaſcular, reſembling more the ſtomach of carnivorous quadrupeds; the reſt of the ſtomach extending from the termination of the former to the entrance into the duodenum conſiſts of a pale red membrane, extremely looſe, and thrown into longitudinal folds or duplicatures, intermixing with the former by almoſt imperceptible gradations of colour; this coat is thickly covered with a ſlimy mucus, not obſervable on the other coats; this part of the ſtomach has a ſtrong reſemblance to the fourth, or laſt ſtomach of ruminating quadrupeds.

The exact purpoſe of theſe three conſtructions of membrane in the ſame ſtomach is not eaſily aſſigned; whether they all unite in one common purpoſe, as though the ſtomach conſiſted of one common membrane for its lining, or whether the food is changed by the ſucceſſive operation of each of theſe membranes, we know not: we may obſerve on opening the ſtomach that the food makes pretty much the ſame appearance againſt whatever part of the ſtomach it may lie, that one ſhould be hardly led to conclude they have in the horſe diſtinct functions, but combine in one common effect, and are in reality the rudiments only of the ſtructure of the ſtomach, peculiar to the generality of graminivorous quadrupeds, without producing any preciſe effect here; for it ſeems difficult to imagine how the different operations ſhould take place in the ſame ſack without diſturbing each other. Nature ſeems to obſerve a connected ſyſtem, not only in the entire animal, but alſo in each particular organ, forming an inſulated ſyſtem of ſtructure and operations.

It is generally imagined there is ſome valvular apparatus to this viſcus, which prevents the horſe from vomiting, and much has been written on this ſubject; we never could diſcover any thing of the kind, and are diſpoſed at preſent to believe, that as the form of the horſe would render vomiting inconvenient, the power of receiving the impreſſion which excites this operation is withdrawn from the animal, as it would be idle to ſuppoſe a power given to vomit with a ſtructure of parts not admitting of it; it would be as inconſiſtent as placing the head of the lion on the ſhoulders of the hare, or giving the diſpoſition of the hare to the lion's form, by which the very purpoſes of nature would be defeated. It was, however, an opinion entertained with ſome confidence, at the Veterinary College of Copenhagen, that the root of the white hellebore (veratrum album) would occaſion a horſe to vomit, being placed under the ſkin!

In an aſs's ſtomach I have ſeen a valvular apparatus at the cardiac orifice, and the inſenſible white membrane extended into the inſide of the ſtomach, about one inch, forming a looſe fold, which ſerved to mark the diviſions of the ſtomach more ſtrongly, but could not in the ſmalleſt degree operate as a valve; this luſus is, however, not very frequent. The ſtomach of the hog alſo partakes of this ſort of ſtructure, though not ſo diſtinctly marked as in the horſe.

Of the chyle duct of the horſe. This duct in the horſe is not very difficult to find, both from its magnitude and ſituation, lying on the aorta, at the loins, very much expoſed as it paſſes forward towards the thorax, it dips lower beneath the ſurface paſſing nearly under the aorta, it is much ſmaller in the middle and enlarging to each end; about the 4, 5, 6 ribs, it is as large as a man's thumb, it becomes narrower again as it paſſes into the axilla, but enlarges again at its termination, where it enters the vena cava, or rather the veſſel formed by the union of the two jugular veins, and anterior to the ſubclavian, it there forms a large round head or cyſt, and is provided with a valvular apparatus to prevent the return of the chyle or the blood from entering the duct. Toward the loins it has a ſtrong adherence to the coats of the aorta, and lower down is ſtrongly embraced by the tendon of the diaphragm; it then enlarges, and paſſing upon and by the ſide of the lumbar veins, diſcharges itſelf by ſeveral openings into them, which openings are alſo provided with valves.

The openings of this duct into the lumbar veins which have never been before remarked, ſeem to point out a double circulation in this veſſel, *viz.* from the middle to each end as the ſmallneſs of it in the middle would alſo ſeem to indicate; we have, however, in ſome ſubjects found a valve opening anteriorly, or towards the jugular veins, within ſix inches of its poſterior termination; this duct, however, is ſubject to very great variation.

In another ſubject we found this duct terminate about the ſecond lumbar vertebra, where it divided one branch forming a ſharp curvature, circumſcribing a portion of the inſertion of the diaphragm, the other ſeemed to be loſt about the fourth or fifth lumbar vertebra in ſmaller ramifications. In another ſubject which we injected, the duct was diſcovered on the left ſide, about the ſituation of the laſt dorſal vertebra, it croſſed the aorta, and paſſed to the right ſide, immediately before and reſting againſt the ſuperior meſenteric artery; it then divides into ſeveral ſmall canals, which appeared to be paſſing to their termination in the lumbar veins.

Parts of generation. No animal whatſoever is more richly provided with the various apparatus belonging to theſe parts than the horſe, for nature here ſeems to have laviſhed with profuſion whatever can tend to perfect the generative act; there is no part of the human conſtruction of theſe parts but is found in the horſe; the moſt eſſential difference appears to us to conſiſt in the male, of the penis being ſuſpended from the integuments of the abdomen, and not immediately from the pubis as in the human; hence the acuteneſs of the angle where it paſſes the pubis, is ſuch as to render the paſſage of the catheter almoſt impracticable.

We have remarked that the penis of the horſe poſſeſſes a voluntary power of erection, not known to the human, or perhaps moſt other animals; this power is exerted on making water, and though the erection is not very conſiderable, it is yet ſufficient to bring the penis from its ſheath, which is effected apparently by its increaſed gravity from blood accumulating in the cavernous cells of this part. After ſtaleing this ſemi-erection of the penis ſubſides, and it again is retracted within the ſheath: this operation, though occurring daily to the ſight of every one, has not, it is apprehended, been noticed by any veterinary writer.

The urethra of the horſe is muſcular from one extremity to the other, being formed on the outſide of ſtrong tranverſe fleſhy fibres and ſupported by a ſtrong ligament.

Naturaliſts were long at a loſs to diſcover the *mammæ*, or teats of this animal; in the male they were at length detected by Buffon, on the ſheath of the penis. Mr. John Hunter alſo made the ſame remark without knowing that Buffon had previouſly noticed it; theſe teats are largeſt in the fœtus and young foal.

In the glans of the penis, immediately over the opening of the urethra externally, there is a large cell or cavity, ſmooth on the inſide, and lined with a membrane, which ſecretes a brown unctuous ſubſtance for the lubrication of the penis, and defending it from the corroſive effects of the urine; another cell of a ſimilar deſcription with the former is obſervable, on the ſide of the urethra, and nearly ſurrounding it, it is ſeparated from the former by a membranous partition.

The apparently unctuous ſecretion above deſcribed is miſcible with water; it burns, however, in the fire like an oily

oily ſubſtance, and is not ſoluble in ſpirits of wine or nitrous acid, nor does it dry on expoſure to the air during ſeveral weeks.

There is nothing reſembling a frænum to the penis of the horſe.

The cavernous body of the penis has no longitudinal ſeptum; its cells are divided by tranſverſe fibres, which are probably muſcular; it terminates in a point near the extremity of the glans, where it is ſurrounded on every ſide by the venous body, termed in the human corpus ſpongioſum.

Another ſingularity in the genital parts of this animal is, that there is an immenſe congeries of veins, lying on the back of the penis, which are filled during copulation, forming an elevation nearly as large as the penis itſelf; theſe veins communicate with both the cavernous and ſpongious bodies.

The *veſiculæ ſeminales*, and the bladders attached to them, are very large in the horſe, having integuments of conſiderable thickneſs.

There is a great peculiarity in the ſtructure of the *vas deferens* of the horſe, which in paſſing over the bladder, enlarges to the ſize of the human thumb; this amplification extends from its entrance into the urethra to the diſtance of five or ſix inches from this point, where it again becomes of its ordinary diameter.

The inſide of this enlargement is compoſed of cells, and ſomewhat reſembles in conſtruction the cells of the *corpus cavernoſum penis*, paſſing in a tranſverſe direction acroſs the tube. In the centre of this enlargement paſſes the ſmall canal of the *vas deferens*, each cell communicates by one, two, or more ſmall pores with the canal of the vas deferens, theſe cells diminiſh as they approach the neck of the bladder till they are loſt in a ſmooth paſſage entering the urethra.

What the purpoſe of this ſtructure is does not appear; it muſt retard the paſſage of the *ſemen*, and probably adds ſome fluid to it, ſecreted from the cells themſelves.

On a firſt view of the pudenda of the mare the poſition of the clitoris appears to be inverted, compared with the poſition of the ſame part in the human, being found on the lower part of the vagina; this apparent difference is removed when both are conſidered in the ſame poſition.

That the preſent article may not be too far extended we refer the conſideration of the other viſcera and parts of the horſe to be introduced under their proper heads.

ANATOMY is alſo uſed for an artificial repreſentation of the ſtructure and parts of the human body in metal, plaſter, wax, or the like. In this ſenſe we ſay, the wax-work *anatomy*. R. Dickenſon, ſtatuary, finiſhed an human *anatomy* in plaſter of Paris, repreſenting a man ſtanding upright with his ſkin flayed off.

There is likewiſe a wax-work *anatomy*, ſaid to have been invented by Gaetano Giulio Zumba, a Sicilian of Syracuſe. Yet M. des Noues, who learnt it of him, and probably made ſome improvements in it, bringing it to Paris, arrogated the chief honour of it to himſelf. Some prefer, above all the reſt, for public lectures and courſes, the uſe of real parts of dead bodies prepared by injection. Anatomical injections are either of mercury, or mixtures of equal parts of biſmuth, lead, and tin. Neumann. The inconveniencies that attend the diſſecting of dead carcaſes, have occaſioned the invention of another cleanlier and more durable kind of ſubjects. Reiſelius contrived a human ſtatue, wherein the circulation of the blood was repreſented to the ſight, and ſome thing of the like kind was ſhewn by M. Chovet; and more lately ſtill by Madame Bacheron, who has brought this art to great perfection. See her obſervations on the artificial anatomy, in the Memoirs of the Acad. des Scienc. an. 1759. Hiſt. 94.

ANATOMY is ſometimes uſed to denote the ſubject to be anatomized. Thus (by 39 Hen. VIII. cap. 42.) the company of barbers and ſurgeons may have and take yearly four perſons condemned, adjudged, and put to death for felony, for *anatomies*; and to make inciſion of the ſame dead bodies.

And by 25 Geo. II. cap. 37. the bodies of felons convicted of murder, in the county of Middleſex, or city of London, are, after execution, to be delivered to the hall of the ſurgeons company, to be diſſected and anatomized; and in caſe ſuch conviction and execution ſhall happen to be in any other county, or place, in Great Britain, then the body of ſuch murderer ſhall be delivered by the ſheriff, &c. to ſuch ſurgeon as the judge ſhall direct.

ANATOMY is alſo uſed, in an improper ſenſe, for the ANALYSIS of mixt bodies.

In this ſenſe the chemiſts ſometimes call their art *ſpagyrical anatomy*, *anatomia ſpagyrica*.

In which ſenſe we ſometimes ſay the *anatomy* of vitriol, the *anatomy* of ſulphur, the *anatomy* of Rheniſh wine, &c.

ANATOMY is alſo uſed in a leſs proper ſenſe, to denote the art of reſolving compound bodies into ſimple ones.

In this ſenſe any kind of compound body may be conſidered as the object of anatomy; that is, any body wherein there are divers parts joined together; even the taking aſunder an artificial, political, or moral being, may, in this ſenſe, come under anatomy.

ANATOMY is alſo uſed, *figuratively*, for an exact ſearch or examination of the parts of a diſcourſe, buſineſs, or the like: in which ſenſe, we ſay the *anatomy* of a book, a doctrine, or the like.

ANATORIA, in *Geography*, a ſmall town of Greece, anciently TANAGRA.

ANATRIPSIS, from ανα and τριβω, *I wear*, in the *Ancient Medicine*, denotes friction.

The word is ſometimes alſo written ſimply TRIPSIS.

ANATRON, or NATRON. See NATRON.

ANATRON is alſo uſed for GLASS *Gall.*

ANATROPE, ανατροπη, from ανατρεπω, *to ſubvert*; a ſubverſion literally, or relaxation of the ſtomach, attended with the loſs of appetite, vomiting and naufea.

ANATTOM, in *Geography*, an iſland in the ſouthern Pacific Ocean, and the moſt ſouthern of thoſe called New Hebrides. S. lat. 20° 3′. E. long. 170° 4′.

ANATZARTHON, in *Ancient Geography*, an archiepiſcopal ſee of Aſia, under the patriarchate of Antioch.

ANAUA, or ANAVA, a city placed by Herodotus in Phrygia, between the rivers Marſyas and Meander, but nearer their ſources than their confluences. To the ſouth-weſt of this city, and near it was a lake, from which they obtained ſalt.

ANAUDIA, among *Naturaliſts*, denotes dumbneſs, or a want of the uſe of ſpeech.

Anaudia is, by ſome, made to differ from *aphonia*, as the former is owing to a defect of the nerves of the tongue, the latter to that of the nerves of the larynx.

Infants and mutes are *anaudi*, αναυδοι, not *aphoni*, αφωνοι.

ANAUDOMA, or ANADOMA, in *Ancient Geography*, a town of Ethiopia, near Egypt.

ANAVINGA, in *Botany*, a genus of plants, with incomplete flowers, comprehending ſome trees of the Eaſt Indies, which are not much known to botaniſts. The generic characters, according to La Marck, are, that the flower has a calyx of five oval, concave leaves, opening in a roſe, and permanent; it has no corolla, but at the baſe of each foliola of the calyx are ſeen two pedicles ſhorter than the folioles of the calyx, and ſomewhat hairy; the ſtamina are ten, of the length

length of the calyx, and have their filaments inserted alternate, between the pedicles, upon the base of the folioles of the calyx; the anthers are small, ovate, and divided into two [illegible] or furrow; the ovary is superior, globular, or oval, [illegible] about style, and terminated by a stigma, with a spherical head. The fruit is an oval or globular berry, marked by five slight channels, and containing ovate and reddish seeds in a pulp. There are two species; 1. A. *lanceolata*, with alternate leaves, lanceolated, slightly serrated, subpubescent beneath, with oval berries longer than the peduncle. 2. A. *ovata*, with alternate leaves, ovate, acuminated, and serrulate, and globose berries equal to the peduncle. This is also called *talana* and *arabba*. The anavinga is a tree of middle size, that grows in the sandy soil of Malabar, in the East Indies, especially about Cochin. It is an evergreen, and its fruits or berries are ripe in August. Its leaves, bark, and fruit have a bitter taste.

The juice of the berries drank excites sweat, cures malignant distempers, and keeps the body soluble. A decoction of the leaves in water makes a fit bath for such as are afflicted with pains in the joints.

ANAUMACHION, from α, ναυς, *ship*, and μαχομαι, *I fight*, in *Antiquity*, the crime of refusing to serve in the fleet. The punishment assigned for this offence was infamy.

ANAURUS, in *Ancient Geography*, a river of Greece, in Thessaly: also a river of Syria; and a river of the Troas, near mount Ida.

ANAX, in *Ancient Writers*, denotes a hero or god. The word seems formed of the Hebrew *anacim*, or *enacim*, which signifies the same. Some will have it originally to import giants, called also γηγενεις, *earth-born*. Cicero assures us, that the three eldest sons of Jupiter, called Διοσκοροι, were also denominated *anaces*.

ANAXAGORAS, in *Biography*, one of the most illustrious philosophers of antiquity, was born at Clazomene, in Ionia, in the first year of the 70th Olympiad, or the 500th year before Christ. In the ardent pursuit of knowledge he left his native country, where he possessed a patrimony sufficient for securing him distinction and independence, and went to reside at Athens. Having surrendered his lands to his relations, "he devoted himself wholly," as Cicero says, (Tusc. Qu. lib. v.) "to the divine pleasure of learning and inquiry." At Athens he diligently applied himself to the study of eloquence and poetry, and was particularly conversant with the works of Homer, whom he admired as the best preceptor, not only in writing but in morals. From Athens he removed to Miletus, that he might attend upon the public instruction of Anaximenes. At the age of 20 years he left Miletus, and entered upon the study and profession of philosophy at Athens, where, according to Diogenes Laertius, he remained 30 years. As a teacher of philosophy he acquired high reputation, and his pupils were some of the illustrious men of the age in which he lived; such were Euripides the tragedian, Pericles the orator and statesman, to whom some add Socrates and Themistocles; but the date of the birth of the latter is several years prior to that of this philosopher. In process of time his reputation excited jealousy and envy, and exposed him to severe persecution. Cleo accused him with impiety for teaching that the sun was a burning mass of stone, and thus robbing it of its divinity; and Thucydides charged him with treasonable practices. But the chief offence of Anaxagoras was, probably, the propagation of new opinions concerning the gods. There can be no doubt that he contradicted and opposed the vulgar opinions and superstitions; accordingly, it is related, that he ridiculed the Athenian priests for predicting an unfortunate event from the unusual appearance of a ram which had but one horn; and, in order to convince the people that there was nothing preternatural in the phenomenon, he opened the head of the animal, and shewed them that it was so constructed, as necessarily to prevent the growth of the other horn. Anaxagoras, however, was thrown into prison, and condemned to death; and it was with difficulty that Pericles obtained from his judges the milder sentence of fine and banishment. Upon receiving his sentence of condemnation, he consoled himself by saying, "Nature long ago pronounced the same sentence against me;" and to one of his friends, who expressed regret on account of his banishment, he said, with a mixture of fortitude and vanity, "It is not I who have lost the Athenians, but the Athenians who have lost me." When news of the death of one of his sons was brought to him, as he was delivering a lecture of philosophy, he calmly said, "I knew that I begat him mortal."

After his banishment he passed the remainder of his days at Lampsacus, where he employed himself in instructing youth, and obtained great respect and influence among the magistrates and citizens. At length the infirmities of age terminated his labours in the year before Christ 428. Through his whole life he appears to have supported the character of a true philosopher. Superior to motives of avarice and ambition, he devoted himself to the pursuits of science; and, in the midst of the vicissitudes of fortune, preserved an equal mind. Being asked, just before his death, whether he wished to be carried for interment to Clazomene, his native city, he said, "It is unnecessary; the way to the regions below is every where alike open." In reply to a message sent him, at that time, by the senate of Lampsacus, requesting to be informed in what manner they might honour his memory after his decease, he said, "By ordaining that the day of my death be annually kept as a holiday in all the schools of Lampsacus." His request was complied with, and the custom remained in Lampsacus in the time of Diogenes Laertius. The festival Anaxagoria was instituted on this occasion. The inhabitants expressed their veneration for his memory, by erecting a tomb, and inscribing upon it the following epitaph:

"Ενθάδε, πλειστον αληθειας επι τερμα περησας,
Ουρανιε κοσμου κεῖται Ἀναξαγόρας.

"This tomb great Anaxagoras confines,
Whose mind explor'd the paths of heav'nly truth."

It is also said, that two altars were raised in honour of his memory, one dedicated to "Truth," and the other to "Mind," an appellation which was given him on account of the doctrine which he taught concerning the origin and formation of the world.

With the credible records of Anaxagoras many fabulous relations are intermixed; nevertheless, it is sufficiently attested, that this philosopher possessed a very extensive and accurate knowledge of nature, considering the age in which he lived, and allowing for the strange and erroneous conceptions which are blended with his more rational opinions. Of the heavens he seems to have had no other idea than that of a solid vault in which luminous bodies are fixed; and these bodies he conceived to be stones, raised from the earth by the rapid motion of the ambient æther, set on fire by its heat, and kept in their places by the swift circular motion of the heavens. On the other hand he is said to have taught, that wind was produced by the rarefaction of the air; that the rainbow is the effect of the reflection of the solar rays from a dense cloud placed opposite to it like a mirror; that the moon is an opaque body enlightened by the sun, and an habitable

habitable region, divided into hills, vales, and waters; that the comets are wandering ſtars; and that the fixed ſtars are in a region exterior to thoſe of the ſun and moon.

Of the opinion of Anaxagoras concerning the origin of the material world, the information tranſmitted to us is more correct. Having learned in the Ionic ſchool that bodies are compoſed of minute parts, and having obſerved in different bodies different and often contrary forms and qualities, he concluded, that the primary particles of which bodies conſiſt, are of different kinds; and that the peculiar form and properties of each body depend upon the nature of that claſs of particles, of which it is chiefly compoſed. A bone, for inſtance, he conceived to be compoſed of a great number of bony particles, a piece of gold of golden particles; and thus he ſuppoſed bodies of every kind to be generated from ſimilar particles, ὁμοιομερείαι, and to aſſume the character of thoſe particles. This ſyſtem is thus exhibited by Lucretius, lib. i. v. 380, &c.

"— Principium rerum quam dicit homœomeriam,
Oſſa videlicet è pauxillis atque minutis
Oſſibus: ſic et de pauxillis atque minutis
Viſceribus viſcus gigni; ſanguenque creari
Sanguinis inter ſe multis cöeuntibus guttis;
Ex aurique putat micis conſiſtere poſſe
Aurum; et de terris terram concreſcere parvis;
Ignibus ex ignem; humorem ex humoribus eſſe,
Cætera conſimili fingit ratione, putatque."

"With Anaxagoras, great Nature's law
Is ſimilarity; and every compound form
Conſiſts of parts minute, each like the whole;
And bone is made of bone, and fleſh of fleſh;
And blood, and fire, and earth, and maſſy gold,
Are, in their ſmalleſt portions, ſtill the ſame."

The abſurdity of this notion is evident; it admits of no ſimple, uncompounded principles; it makes no proviſion for production or diſſolution, the formation of any new body being, according to this doctrine, nothing more than the collecting together of a number of ſmall ſimilar bodies; and it gives no explanation of the original formation of the ſmall compound bodies of which the larger conſiſt. The invention of the ſyſtem, however, evinced the ingenuity of the author, who had recourſe to the notion of ſimilar particles, with a view of obviating the objections which lay againſt the doctrine of atoms, as he had received it from Anaximenes. But the moſt important improvement which Anaxagoras made upon the doctrine of his predeceſſors, was that of ſeparating, in his ſyſtem, the active principle in nature from the material maſs upon which it acts, and thus introducing a diſtinct intelligent cauſe of all things. The ſimilar particles of matter which he ſuppoſed to be the baſis of nature, being without life or motion, he concluded that there muſt have been, from eternity, an intelligent principle, or infinite mind, exiſting ſeparately from matter, which, having a power of motion within itſelf, firſt communicated motion to the material maſs, and, by uniting homogeneal particles, produced the various forms of nature. That Anaxagoras maintained an infinite mind to be the author of all motion and life, is atteſted by many ancient authorities. Plato (Phæd. Hippias major) expreſsly aſſerts, "that this philoſopher taught the exiſtence of a diſpoſing mind, the cauſe of all things." Ariſtotle ſays, (Metaph. lib. i. c. 3.) that Anaxagoras taught, that mind was "the cauſe of the world, and of all order," and that "while all things elſe are compounded, this alone is pure and unmixed; and that "he aſcribes to this principle two powers, to know and to move, ſaying, that mind put the univerſe into motion." Cicero (De Natura Deor. lib. i. c. 10, 11. tom. ii. p. 511. Tuſcul. Quæſt. lib. iii. c. 24. tom. ii. p. 404. De Orator. lib. iii. c. 34. tom. i. p. 351. ed. Olivet.) alſo aſſerts, though not without ſome inconſiſtency, with what he had before ſaid of Thales, that Anaxagoras was the *firſt* who taught that the arrangement and order of all things was contrived and accompliſhed by the underſtanding and power of an infinite mind. Plutarch (in Pericl. Oper. tom. i. p. 154. ed. Xylandri) confirms this account of the doctrine of Anaxagoras. "The Ionic philoſophers," ſays he, "who appeared before Anaxagoras, made fortune, or blind neceſſity, that is, the fortuitous or neceſſary motion of the particles of matter, the firſt principle in nature; but Anaxagoras affirmed, that a pure mind, perfectly free from all material concretions, governs the univerſe." To the ſame purpoſe Diogenes Laertius (lib. ii. n. 6. tom. i. p. 82.) repreſents Anaxagoras as teaching, that "the univerſe conſiſts of ſmall bodies compoſed of ſimilar parts, and that mind is the beginning of motion." "He was the firſt," ſays the ſame writer, "who ſuperadded mind to matter, opening his work in this pleaſing and ſublime language," "All things were confuſed, then came mind, and diſpoſed them in order." Dr. Davies in his note on the paſſage, in which Cicero ſeems to be charged with inconſiſtency, obſerves, that Thales ſuppoſed God to be the ſoul of the world, mixed and united with matter; whereas, Anaxagoras held him to be a pure mind, free from all material union and mixture. From theſe and other concurrent teſtimonies, it ſufficiently appears that Anaxagoras was the firſt among the Greeks who conceived mind as detached from matter, and as acting upon it with intelligence and deſign in the formation of the univerſe. The infinite mind or deity which his predeceſſors had confounded with matter, making them one univerſe, Anaxagoras ſuppoſed to have a ſeparate and independent exiſtence, and to be ſimple, pure intelligence, capable of forming the eternal maſs of matter according to his pleaſure. Thus he aſſigned an adequate cauſe for the exiſtence of the viſible world. Diogenes Laertius, lib. ii. in Anaxagor. Plutarch in Pericle, *ubi ſupra.* Suidas, Gen. Dict. Brucker's Hiſt. of Philoſ. by Enfield, vol. i. p. 148—153.

ANAXAGORIA, in *Antiquity*, a feſtival obſerved in honour of Anaxagoras.

ANAXANDRIDES, in *Biography*, a comic poet, was a native either of Rhodes or Colophon, and flouriſhed during the reign of Philip of Macedon, B. C. 370—80. Suidas ſays he was the firſt who introduced on the ſtage love-adventures, turning upon the miſhaps of young damſels. He was a perſonable man, and affected great magnificence in his dreſs and equipage, and he is ſaid to have once recited a piece at Athens on horſeback. His temper was moroſe and ſplenetic; and he was much chagrined at the ill ſucceſs of his performances, which were often incorrect, and which he would not take pains to amend and poliſh. Of 65 plays which he compoſed, ten only were crowned. The Athenians condemned him to die of a famine for a line in which their government was cenſured. An "Odyſſey" of this poet is mentioned by Athenæus. Caſaubon ſuggeſts, that Anaxandrides was the Alexandrides of other writers. Gen. Dict.

ANAXARCHUS, a Grecian philoſopher, was a native of Abdera, and belonged to the Eleatic ſect. He flouriſhed about the 110th Olympiad, or 340 years before Chriſt, and enjoyed the confidence of Alexander, whom he treated with the freedom of a friend in ſome inſtances, but with the ſervility of a ſycophant in others. On one occaſion, when Alexander aſpired at the honours of divinity, this philoſopher checked his vanity by pointing to his finger when it bled, ſaying,

ſaying, "See the blood of a mortal, not of a God;" and on another occaſion he recited a verſe from Euripides at a banquet, in order to admoniſh him of his mortality. For an inſtance of his miſapplied and unſeaſonable adulation, ſee ALEXANDER. Anaxarchus was addicted to pleaſure; and on this account, not from the apathy and tranquillity of his life, he obtained the appellation of Εὐδαιμονικός, "The Fortunate." Diogenes Laertius, lib. ix. tom. 1. p. 579. Brucker's Hiſt. Phil. by Enfield, vol. i. p. 436.

ANAXILAUS, a native of Lariſſa, lived in the time of Auguſtus, and profeſſed himſelf a follower of Pythagoras. That his pretenſions to an intimate acquaintance with the myſteries of nature, and to the exerciſe of magical powers might obtain credit, Pliny (Nat. Hiſt. lib. xix. c. 1. lib. xxviii. c. 11. lib. xxxv. c. 15.) relates ſeveral curious arts by which he aſtoniſhed and alarmed the ignorant multitude; and of theſe one was that of giving a livid and ghaſtly hue to the countenance by means of ſulphureous flame. He was baniſhed from Italy in the 28th year before Chriſt, by order of Auguſtus, for the crime of magic. Brucker's Hiſt. Phil. vol. ii. p. 40.

ANAXIMANDER, a famous Greek philoſopher, was the diſciple and friend of Thales, and was, probably, born at Miletus, in the 3d year of the 42d Olympiad, or in the 610th year before Chriſt. An anecdote is related concerning him, from which it has been inferred, that he was employed in the inſtruction of youth. Being laughed at for ſinging or reciting his verſes ill, he ſaid, "We muſt endeavour to ſing better for the ſake of the boys." He was the firſt among the Greeks who taught philoſophy in a public ſchool; and is often ſpoken of as the founder of the Ionic ſchool, though this honour really belongs to Thales. The mathematical and aſtronomical ſciences are, without doubt, much indebted to Anaximander. He framed a connected ſeries of geometrical truths, and wrote a ſummary of his doctrine. He is ſaid to have been the firſt who delineated the ſurface of the earth, and marked the diviſions of land and water upon an artificial globe. The invention of the ſundial has been aſcribed to him; but Herodotus (lib. ii. c. 32.) with greater probability, aſcribes the origin of this inſtrument to the Babylonians. He might poſſibly have uſed a gnomon, in order to aſcertain more correctly than Thales had done, the meridian line, and the points of the ſolſtices. Pliny (lib. ii. c. 1.) refers to this philoſopher the diſcovery of the obliquity of the ecliptic; but if Thales was acquainted with the method of predicting eclipſes, he could not be ignorant of this obliquity. It is related of him that he predicted an earthquake; but we need not ſay, that, as this is impoſſible, the relation muſt be fabulous. Among the phyſical notions imputed to Anaximander are theſe: That the ſtars are globular collections of air and fire, borne about in the ſpheres in which they are placed; that they are gods, that is, inhabited and animated by portions of the divinity; that the ſun has the higheſt place in the heavens, the moon the next, and the planets and fixed ſtars the loweſt; that the earth is a globe, placed in the middle of the univerſe, and remains in its place; and that the ſun is 28 times larger than the earth.

The doctrine of this philoſopher concerning the firſt principles of things, and the origin of nature, is ſo obſcurely and variouſly related, that it cannot be well aſcertained. His general ſyſtem ſeems to have been, that infinity, τὸ ἄπειρον, is the firſt principle of all things; that the univerſe, though variable in its parts, is immutable as a whole; and that all things are produced from infinity, and terminate in it. What Anaximander meant by infinity, and whether he underſtood by it the material ſubject, or the efficient cauſe of nature, are ſubjects of controverſy. Plutarch aſſerts, (Plu. Phil. lib. i. c. 3. Oper. vol. ii. p. 875.) that the infinity of Anaximander was matter; and Ariſtotle (Nat. Auſc. lib. i. c. 5. lib. iii. c. 4. Oper. tom. i. p. 319—331.) explains it in the ſame manner; and ſeveral modern writers adopt the ſame idea. Others ſuppoſe that he uſed the term infinity to denote the humid maſs of Thales, together with the divine principle by which he ſuppoſed it to be animated. This opinion is ſupported by the authority of Hermias, who aſſerts (Irris. Gen. § 10. apud Tatian.) that Anaximander ſuppoſed an eternal mover or firſt cauſe of motion, prior to the humid maſs, or Τὸ ὑγρὸν of Thales. And Ariſtotle himſelf ſpeaks of the infinity of Anaximander, as comprehending and directing all things. Anaximander is ſaid to have been the firſt who laid aſide the defective method of oral tradition, and committed the principles of natural ſcience to writing. Anaximander lived 64 years. Diog. Laert. lib. ii. Strabo, lib. i. Pliny, lib. vii. c. 56. Suidas. Euſeb. Prap. Ev. lib. x. c. ult. Brucker, by Enfield, vol. i. p. 145—147.

ANAXIMANDRIANS, a name given by ſome writers to the followers of Anaximander. Theſe are otherwiſe denominated *hylopathii*; and ſtand oppoſed to the *atomiſts*. The *Anaximandrians* make the moſt ancient ſect of *philoſophical atheiſts*; they allow of nothing in nature but bodies. Theſe bodies, they aſſert, admit of qualities which produce and deſtroy each other, in a circle without beginning or end. See ANAXIMANDER.

ANAXIMENES, a philoſopher of Miletus, was born about the 56th Olympiad, or 556 years before Chriſt, and was a diſciple and companion of Anaximander. On his inquiring into the nature and origin of things, he traced the footſteps of his maſter, and endeavoured to throw new light upon his ſyſtem. According to him the firſt principle of all things is air, which is infinite or immenſe, and perpetually active. This air is a ſubtle æther, animated with a divine principle, whence it becomes the origin of all things, and is God. His doctrine, therefore, was a continuation of that of Thales and Anaximander, with this difference, that he ſuppoſed the divine energy to reſide in air or æther. He alſo taught, that all minds are air; that fire, water, and earth proceed from it by rareſaction or condenſation; that the ſun and moon are fiery bodies of a circular form; that the ſtars, which are fiery ſubſtances, are fixed in the heavens, like ſtuds in a cryſtal plane; and that the earth is a plane tablet reſting upon the air. Plut. Plac. Phil. lib. i. c. 36. lib. ii. c. 11. lib. iii. c. 10. Oper. tom. ii. p. 876—888—894. Cicer. de Nat. Deor. lib. i. c. 10. Oper. tom. ii. p. 511. Academ. lib. ii. c. 37. tom. ii. p. 64. Suidas. Diog. Laert. lib. ii. Brucker, by Enfield, vol. i. p. 147.

ANAXIMENES, a Greek rhetorician and hiſtorian, was the ſon of Ariſtocles, of Lampſacus, and the diſciple of Diogenes the Cynic, and of Zoilus of Amphipolis, who railed againſt Homer. He was born about 580 years before Chriſt; and employed by Philip of Macedon to inſtruct his ſon Alexander in the art of rhetoric. Some have aſcribed the treatiſe on rhetoric, which bears Ariſtotle's name, to Anaximenes. This learned man, with many others, accompanied Alexander in his expedition againſt the Perſians; and he contrived by a ſmart and ſeaſonable retort, mentioned under ALEXANDER, to preſerve the city of Lampſacus. On another occaſion having conceived a grudge againſt the hiſtorian Theopompus, he revenged himſelf by writing a ſevere ſatire againſt the Spartans and Thebans, exactly in the ſtyle of Theopompus, and addreſſing it, under his name, to the Athenians. By this deception, though not of the moſt honourable kind, he gratified his reſentment, and expoſed his adverſary to reproach and ill-will throughout almoſt all

Greece. Anaximenes wrote a hiſtory of the life and actions of Philip, and another of thoſe of Alexander; and he alſo wrote 12 books on the early hiſtory of Greece, beginning with the theogony, or fabulous hiſtory, and ending with the battle of Mantinea, which was fatal to Epaminondas. But none of theſe works are extant. Suidas. Pauſan. Eliac. lib. ii. c. 19. p. 495. ed. Kuhnii. Gen. Dict.

ANAZARBUM, in *Ancient Geography*, a city of Aſia, in Cilicia Proper, or Cilicia Campeſtris. It was ſituated on the river Pyramus, at ſome diſtance from the ſea. Suidas informs us that it was firſt called Cyinda, and afterwards Anazarbum, from its founder Anazarbus, who was ſent by the emperor Nerva to rebuild it, after it had been quite ruined by an earthquake; but he is certainly miſtaken, ſince Pliny, who died long before the reign of Nerva, calls the inhabitants of this city *Anazarbeni*. The etymology of Stephanus Byz. is therefore more probable, who derives its name from mount Anazarbus, at a ſmall diſtance from the place where this city ſtood. The territory adjacent to Anazarbum was very fertile, and produced abundance of grain and fruit. The ſymbols of this fertility were expreſſed on the coins of the city; ſuch as the cornu-copia, ears of corn, branches loaded with fruit, &c. This city is diſtinguiſhed by an æra, marked on its medals, called the æra of Anazarbum. The Abbè Belley, (Mem. de Lit. tom. xxx. p. 714.) proves that this æra ought to commence with the year of Rome 735, 19 years before the Chriſtian æra. By a decree of the ſenate it had permiſſion to aſſume the name of Cæſarea, in acknowledgment of the privileges conferred upon it by Auguſtus. It alſo took the name of Juſtinopolis and Juſtinianopolis, in honour of the emperors Juſtin and Juſtinian. When this city was nearly demoliſhed by an earthquake, it was repaired by Nerva; and after a ſimilar cataſtrophe, it was raiſed from its ruins under the reign of Juſtin or Juſtinian. The citizens of Anazarbum were divided into three claſſes or orders, comprehending the people, the council, and the ſenate. At the commencement of the fifth century Cilicia was divided into two provinces; and Anazarbum was the metropolis of the ſecond province. This diviſion contained nine cities, and Anazarbum exerciſed the juriſdiction of a metropolis, and its biſhops had the rank and juriſdiction of metropolitans. It poſſeſſed the diſtinguiſhing privilege of autonomia, *i. e.* of chuſing its own magiſtrates, and of being governed by its own laws. When the provinces of Aſia were divided under the emperors of Conſtantinople, after the reign of Heraclius, into *themes*, or military departments, Anazarbum was compriſed with Cilicia in the theme of Seleucia. When this city embraced the Chriſtian religion, it became dependant on the patriarch of Antioch; and it is ſaid to be ſtill the ſee of a Jacobite biſhop. The Turks call it *Ain-Zerbeh*. This city was the birth place of Dioſcorides, and of the poet Oppian.

ANAZEIA, in *Geography*, a town of Aſia, in Greater Armenia, near Mount Taurus. It is in the government of Van, not far from a lake which bears this name.

ANAZZO. See GNATIA.

ANBAR, in *Geography*, a town of the province of Chaldæa, or Irac-arabi, on the Euphrates, called alſo Anſchemiah.

ANBERTKEND, in the *Eaſtern Language*, a celebrated book of the Brachmans, containing the Indian philoſophy and religion. The word in its literal ſenſe denotes the ciſtern, wherein is the water of life. The ambertkend is divided into fifty beths, or diſcourſes, each of which conſiſts of ten chapters. It has been tranſlated from the original Indian into Arabic, under the title of *Morat al Muani*, q. d. "the marrow of intelligence."

ANBORD, in *Geography*, a town of Perſia, in the province of Khoraſan, 50 leagues north-eaſt of Meſhid.

ANBURY, in *Agriculture*, is a diſeaſe in the roots of turnips, which is deſcribed by Mr. Marſhall, in his Rural Economy of Norfolk, in the following manner: "It is a large excreſcence, which forms itſelf below the apple. It grows to the ſize of both the hands, and, as ſoon as the hard weather ſets in, or it is by its own nature brought to maturity, becomes putrid, and ſmells very offenſively. At preſent (ſays he) the ſtate of three ſpecimens which have been taken up and examined attentively, is this: the apples of the turnips are juſt forming (about the ſize of walnuts in the huſk), while the anberries are already as big as the egg of a gooſe. They are irregular and uncouth in their form, with inferior excreſcences (reſembling the races of ginger) hanging to them. On cutting them, their general appearance is that of a hard turnip; but on examining them through a magnifier, there are veins, or ſtring-like veſſels, diſperſed among the pulp. The ſmell and taſte ſomewhat reſemble thoſe of turnips, but without their mildneſs, having an auſtere and ſomewhat diſagreeable flavour, reſembling that of an old ſtringy turnip. The tops of thoſe which are much affected turn yellow, and flag with the heat of the ſun: ſo that in the day time they are obviouſly diſtinguiſhed from thoſe which are healthy. It ſeems to be an idea among farmers, that the cauſe of the anbury is the ſoil's being tired of turnips; owing to their having been too often ſown on the ſame land. This, however (he contends), is poſitively erroneous; for the piece from which theſe ſpecimens were drawn was an old orchard, and never before bore turnips in the memory of man."

The nature and cauſe of this *vegetable diſeaſe* do not appear to be yet fully explained; but it is probable that drought has much effect in producing it, as it is found to be the moſt prevalent in ſuch ſeaſons. The author juſt mentioned, however, ſeems to ſuſpect that it may be induced by ſome ſort of grub or other, wounding the veſſels of the tap-root, and thus diverting the courſe of the ſap-juice, by which means excreſcences of this kind are formed, inſtead of the apple of the turnip. Whatever may be the cauſes of the diſeaſe, experience has ſhewn, that the moſt effectual remedy is that of frequent hoeing, or ſtirring the ground about the plants, in order to admit air and moiſture more freely.

ANCA, in *Middle Age Writers*, denotes the thigh, or hind-leg.

In which ſenſe the word is alſo written ANCUS.

ANCÆUS, in *Entomology*, a ſpecies of PAPILIO found in India. The wings are entire, black, with a blue bar on the anterior pair, and a ferruginous one on the poſterior pair. Underſide green. Gmelin. This is the PAPILIO OBRINUS of Fabricius. Spec. Inſ.

ANCALE, or ACALE, in *Ancient Geography*, a town of Arabia Felix, according to Ptolemy.

ANCALITES, inhabitants of Britain, were ſeated near the Attrebatii, and were probably a clan of that nation. Mr. Baxter (Gloſſ. p. 14.) thinks they were the ceangi, or herdſmen and ſhepherds of the Attrebatii, and poſſeſſed thoſe parts of Oxfordſhire and Buckinghamſhire which were moſt proper for paſturage. After they were ſubdued by the Romans, the government of them, with that of ſome of their neighbouring ſtates, was beſtowed upon Cogidunus, the Britiſh king of the Dobuni, as a reward for his early ſubmiſſion, and great fidelity to the Romans.

ANCAMARES, or ANTAMARES, in *Geography*, a people of South America, who live near the banks of the river Madera, which diſcharges itſelf into the river of the Amazons.

ANCANICUM, in *Ancient Geography*, a diſtrict of Spain in Betica.

ANCAON, *Serra de*, in *Geography*, a chain of mountains in Beira, a province of Portugal, which joins to another called Serra d'Eſtrella.

ANCARA, in *Ancient Geography*, a town of Italy, mentioned by Stephanus Byz.

ANCARANO, Peter De, in *Biography*, a celebrated civilian of Bologna, flourished in the 15th century. He rivalled Baldus, his master, in the knowledge of the civil and canon law. In 1409 he defended the council of Pisa against the ambassadors of Robert duke of Bavaria, and evinced its right to proceed against Gregory XII. and Benedict XIII. in order to terminate the schism. He died at Bologna in 1417, and left behind him in Latin, "Commentaries on the Decretals and Clementines," printed at Lyons, Venice, Bologna, &c. On his tomb was inscribed an epitaph, in which he is called "the mirror of the canon law, and the anchor of the civil."

ANCARANO, in *Geography*, a town of Italy, in the marquisate of Ancona, situate on the Tronto, six miles east of Ascoli. N. lat. 42° 48'. E. long. 14° 54'.

ANCASTER, a village of England, in the county of Lincoln, was formerly a Roman station, of which many vestiges are now visible: 116 miles from London.

ANCENIS, a town of France, and principal place of a district, in the department of the Lower Loire. It is situated on the Loire, in a very agreeable and fertile country. It is the ancient *Ancanisium*, the capital of the Anmites, a people who lived about the mouth of the Loire. The place contains 2,923, and the canton 11,109 inhabitants. The territory includes 200 kiliometres and 7 communes. N. lat. 47° 22'. W. long. 1° 15'.

ANCEPS, in *Botany*, denotes two-edged.

Anceps, in *Conchology*, a species of Patella. It is solid, glossy, and rather pointed, outside pale chesnut, within white tinged with flesh-colour. Gmelin.

ANCERVILLE, in *Geography*, a town of France, in the department of the Meuse, and chief place of a canton in the district of Bar-le-duc; one league east of St. Dizier, and three leagues south-south-west of Bar-le-duc. The place contains 2,200, and the canton 9,699 inhabitants. The territory comprehends 220 kiliometres and 18 communes.

Ancerville is also a town of France, in the department of the Moselle, and chief place of a canton, in the district of Morhange, three leagues and a half west-north-west of Morhange, and three east-south-east of Metz.

ANCESTORS, *progenitors*, are those from whom a person is descended, exclusively of his immediate parents.

The word is derived from the Latin *ancessor*, written, by contraction, for *anteccessor*, q. d. *goer before*.

Most nations have paid honour to their ancestors. It was properly the departed souls of their fore-fathers that the Romans worshipped under the denomination of *lares*, *lemures*, and household gods. Hence the ancient tombs were a kind of temples, or rather altars, wherein oblations were made by the kindred of the deceased. The Russians have still their anniversary feasts in memory of their ancestors, which they call *roditoli sabot*, q. d. *kinsfolk's sabbath*, wherein they make formal visits to the dead in their graves, and carry them provisions, eatables, and presents of divers other kinds. They interrogate them with loud lamentable cries, What they are doing? how they spend their time? what it is they want? and the like.

The Quojas, a people of Africa, offer sacrifices of rice and wine to their ancestors, before they ever undertake any considerable action. The anniversaries of their deaths are always kept by their families with great solemnity. The king invokes the soul of his father and mother to make trade flourish, and the chace succeed.

The Chinese seem to have distinguished themselves above all other nations in the veneration they bear their ancestors. By the laws of Confucius, part of the duty which children owe their parents consists in worshipping them when dead. The service, which makes a considerable part of the national religion of the Chinese, is said to have been instituted by the emperor Kun, the fifth in order from the foundation of that ancient empire.

The Chinese have both a solemn and ordinary worship which they pay their ancestors. The former is held regularly twice a year, *viz.* in Spring and Autumn, with much pomp. A person who was present at it gives the following account of the ceremonies on that occasion.

The sacrifices were made in a chapel well adorned, where there were six altars furnished with censers, tapers, and flowers. There were three ministers, and behind them two young acolites; he that officiated was an aged man, and a new Christian. The three former went with a profound silence, and frequent genuflexions towards the five altars, pouring out wine; afterwards they drew near to the sixth, and when they came to the foot of the altar, half-bowed down, they said their prayers with a low voice. That being finished, the three ministers went to the altar, the priest took up a vessel full of wine, and drank; then he lifted up the head of a deer or goat; after which taking fire from the altar, they lighted a bit of paper; and the minister of the ceremonies turning towards the people, said, with a high voice, that he gave them thanks in the name of their ancestors for having so well honoured them; and in recompence he promised them, on their part, a plentiful harvest, a fruitful issue, good health and long life, and all those advantages that are most pleasing to men.

All the Chinese, Pagans as well as Christians, give their ancestors another simpler and more private worship. To this end they have in their houses a niche or hollow place, where they put the names of their deceased fathers, and make prayers and offerings of perfumes and spices to them at certain times, with bowing, &c. They do the like at their tombs.

It has been a question warmly agitated of late years, whether the worship which the Chinese pay their ancestors be religious, or only of a civil nature. The Jesuits, who not only allow their neophytes, or new converts, to join in it, but even assist in it themselves, are necessitated to maintain the latter, to screen themselves from the charge of idolatry; the Dominicans and other missionaries maintain the former, and prohibit the service as absolutely unlawful.

The Jesuits argue, that with relation to the first institution, those honours might be given to our ancestors, since at first they appear to have been only civil; even though they should since, through the superstitious disposition of the people, have degenerated into idolatry. But it is answered, that, by this argument, the most gross worship of idols might be authorised, because all idolatry appears at first only to have been civil worship, as is maintained in the book of Wisdom, chap. xiv. ver. 15.

The Jews settled in China are said to worship their ancestors like the heathens, and with the same ceremonies, except that they offer not swine's flesh. Near their synagogue they have a hall, or court of ancestors, wherein are niches for Abraham, Isaac, &c. The Jesuits also conformed, and were permitted by their general to conform to this, and many other superstitious customs of the Chinese. See the proof of this in Pascal's Provincial Letters, *passim*.

There is one peculiarity of another kind, wherein the Chinese shew their regard for their ancestors; in proportion as any of their descendants are preferred to a higher degree or dignity, their dead ancestors are at the same time preferred and ennobled with them. The kings Ven, Van, Veu, Van, Cheu, and Cum, who were descended from vassal kings, when they mounted the imperial throne, raised their ancestors from the

vaſſal or depending ſtate wherein theſe had lived, to the dignity of emperors; ſo that the ſame honours were for the future rendered them as if they had been emperors of China. The ſame example was followed by the ſubſequent kings, and now obtains among the grandees and literati: all now worſhip their anceſtors, according to the rank which they themſelves hold in the world. If the ſon be a mandarin, and the father only a doctor, the latter is buried as a doctor, but ſacrificed to as a mandarin. The like holds in degradations, where the condition of the fathers is that of their ſons.

The law diſtinguiſhes between *anceſtor* and *predeceſſor*; the former being applied to a natural perſon, as ſuch an one, and his *anceſtor*; and the latter to a body politic or corporate, as a biſhop, and his *predeceſſors*.

ANCESTOR, *diſability by the act of.* See DISABILITY.

ANCESTREL, in *Law*, ſomething relating to a man's anceſtors.—Thus,

ANCESTREL, *homage*, ſignifies homage that has been done or performed by one's anceſtors.

ANCESTREL, *action.* See ACTION.

ANCHA, in *Geography*, a town of Aſia, in Mingrelia, 120 miles north-eaſt of Trebiſond.

ANCHA is alſo a town of Aſia, in the country of Georgia, and province of Satabago, 68 miles ſouth weſt of Akelzika.

ANCHEDIA, an iſland near the weſtern coaſt of India.

ANCHESMUS, in *Ancient Geography*, *Aghios Georgeos*, or *Mount St. Georges*, a mountain of Attica, upon which was placed a ſtatue of Jupiter Anchemius. Pauſanias, in Attic. lib. i. c. 32. p. 78.

ANCHIALE, a town of Aſia, in Cilicia Campeſtris, ſituated near the ſea, to the ſouth-weſt of Tarſus. Some authors ſay, that it was built by Sardanapalus. Athenodorus pretends, that it was founded by Anchiale, the daughter of Japhet.

ANCHIALE was alſo a town of Illyria, built by the Parians.

ANCHIALEUS, a river of Cilicia, which watered the town of Anchiale.

ANCHIALOS, or ANCHIALUS, called by Pliny *Anchialum*, a town of Europe, in Thrace, ſituate upon the Euxine ſea, ſouth-weſt of Meſembria. It was an epiſcopal ſee, dependent upon the patriarchate of Conſtantinople.

ANCHIALOS was alſo a place in Greece, towards the Pelaſgic gulf, according to the Argonautics of Orpheus.

ANCHIALOS was alſo a town of Epirus, the inhabitants of which pretended that Anchiſes died in their town. Others refer it to Illyria.

ANCHILOPS, or ANCHYLOPS, in *Surgery*, from ἀγχι, *near*, and ὠψ, the *eye*; a tumor in the lacrymal ſac, near the inner angle of the eye, forming an incipient FISTULA LACRYMALIS. See that article, and ÆGILOPS. Theſe ſwellings are of different kinds. The moſt common kind is a tumor, ſituated in the cellular texture immediately ſurrounding the lacrymal ſac, and combined with redneſs, heat, and pain, which raiſes the external ſkin, and bears a conſiderable reſemblance to an inflamed fiſtula lacrymalis. This reſemblance frequently becomes more marked by the cutaneous inflammation acting upon the lacrymal duct in ſuch a manner, as to obſtruct the paſſage of the tears through it; the conſequence of which is a flow of tears from the eye, and a ſwelling of the lacrymal ſac.

The inflammatory tumor ſoon goes on to ſuppuration; an event which, provided we can do it early enough, we ſhould endeavour to prevent by the external application of a ſaturnine waſh, and other remedies that promote reſolution of the inflammation, as well as by cooling evacuants. When ſuppuration has already taken place, and produced an abſceſs at the inner canthus of the eye, we are ſtill more liable to be led into error, as we may eaſily miſtake the fluctuation of the pus for the motion of ſome fluid contained in the lacrymal ſac. This error, which might poſſibly induce us to make an inciſion into the ſound lacrymal ſac, may, however, be eaſily avoided, by recollecting that the lacrymal paſſage was not previouſly diſeaſed, that the tumor was at firſt hard, and that the lacrymation and fluctuation only ſupervened afterwards. Moreover, in this diſeaſe, the matter cannot be ſqueezed with the finger out of the tumor, through the puncta lacrymalia, or the noſe, (as it may when the lacrymal ſac is filled with matter) unleſs the matter has already corroded the lacrymal duct, ſo as to produce a communication between it and the abſceſs. We may alſo diſtinctly obſerve, that both the inflamed and the ſubſequent ſuppurating tumor lies flat under the ſkin, and that at firſt the collection of matter is ſurrounded with inflammatory hardneſs; whilſt, on the contrary, the lacrymal ſac, when filled with matter, is ſoft, and affords the ſenſe of fluctuation throughout its whole extent, from the very commencement of the diſorder. This complaint, however, may at times produce a real inflammation of the lacrymal ducts, and conſequently alſo a true fiſtula lacrymalis.

When, in an inflammatory tumor of the angle of the eye, ſymptoms of incipient ſuppuration make their appearance, the ſurgeon may apply, during the night, the Empl. Litharg. vel diachyl. comp. and, in the day time, emollient and ſomewhat ſtimulant poultices, in order to invite the matter towards the ſurface. Theſe muſt be applied warm and frequently; in doing which, care ſhould be taken that they do not come into contact with the eye, which, on that account, ſhould previouſly be covered with compreſſes dipped in roſe-water. As ſoon as there is the leaſt reaſon to ſuppoſe that pus has been formed, the tumor muſt be cut open; for, in theſe caſes, it is of great conſequence that the pus ſhould be diſcharged as ſoon as poſſible, as otherwiſe it eaſily makes its way downwards, by which not only the lacrymal ſac may be laid bare and corroded, but alſo the neighbouring bones, &c.

The inciſion is made with a lancet, but as remote as poſſible from the inner canthus of the eye, and proportionate to the magnitude of the tumor. The lancet muſt not be introduced in a perpendicular direction, but obliquely, for fear of injuring the lacrymal ſac. When the matter and blood have been diſcharged, we ſhould introduce ſome looſe lint into the orifice, and cover it with a ſimple plaſter. Over this we may lay a compreſs, dipped in roſe-water. The ulcer is afterwards to be cleanſed with mild digeſtive ointment, and ſuffered to heal up.

When the ſurgeon is not called in till the abſceſs has already been completely formed, he ſhould immediately lay it open, and examine the ſtate of the bone. When the bone is bare, ſome tincture of myrrh or aloes may be uſed, and dry dreſſings applied, in order that we may not increaſe the ulceration, which is generally already conſiderable. When the exfoliation of the bone, and the cleanſing of the ulcer have been completed, the healing of the ſore ſhould be promoted by the proper applications.

The anchilops may at times conſiſt in a hard tubercle or knot, from which a cancer may be produced. This diſeaſe is to be treated like other ſcirrhous tumors. See SCIRRHUS.

Sometimes the tumor is of the encyſted kind, moſt generally of the ſpecies of ATHEROMA. In this diſeaſe no pain is felt, the tumor is of an uniform colour, circumſcribed, ſmooth, and moveable. Such a tumor alſo, like every other

anchilops, may by its mere preſſure impede the functions of the lacrymal ducts, and occaſion an EPIPHORA, or watery eye. It may generally be ſoftened by means of Empl. diach. comp. and brought to ſuppuration; otherwiſe it is to be diſſected out with the knife.

This tumor may alſo ariſe from an accumulation of ſerous fluid between the lacrymal ſac and the external ſkin. Such a ſerous, uninflamed tumor ſeldom opens itſelf ſpontaneouſly outwards; it more commonly happens, that it is connected with one of the two PUNCTA LACRYMALIA, or lacrymal ducts, generally the lower; in which caſe the fluid may indeed be preſſed out through one of the puncta lacrymalia; but it may, nevertheleſs, be eaſily diſtinguiſhed from a ſwelling of the lacrymal ſac, by the circumſtance that the latter generally yields to the ſlighteſt preſſure, whilſt the former cannot be made to collapſe, unleſs by preſſing it from below upwards, and its tenſion cannot be diminiſhed except in a gradual manner. When the ſerous anchilops is not yet in communication with the lacrymal ducts, (as generally is the caſe,) it may readily be diſtinguiſhed from the diſtenſion of the lacrymal ſac, by the ſingle circumſtance of it; not being by any means practicable to ſqueeze out the fluid.

There are certain circumſtances under which the lacrymal tumor does not yield to preſſure; namely, when the lacrymal ducts are contracted or inflamed, ſo as to prevent the receſſion of the fluid contained in the lacrymal ſac. But when theſe paſſages are in a ſound condition, and when the tumor of the larger canthus does not yield to preſſure, there can be no doubt that the diſeaſe is ſituated without the lacrymal ſac.

When the reſolution of ſuch a ſerous tumor, which we may at firſt attempt to bring about, does not ſoon take place, the ſafeſt and moſt expeditious method is to open it, and diſcharge the matter by means of a lancet, which muſt here alſo be introduced in an oblique direction. The wound ſhould be filled up with dry lint, which, in the ſubſequent dreſſings, ought to be dipped in ſome detergent and drying ſolution, ſuch, for example, as a very weak ſolution of lapis infernalis, and ſecured by means of a plaſter.

Finally, in the venereal diſeaſe there is ſometimes produced, in the region of the larger canthus of the eye, an exoſtoſis from the os unguis coronale, or maxillare; by which a tumor is formed in this part that may eaſily be diſtinguiſhed from other kinds of anchilops, by its being hard, immoveable, and generally of an uneven ſurface. It occaſions a compreſſion of the lacrymal paſſages, which gives riſe to a conſtant EPIPHORA. We may, in ſuch caſes, employ internally mercurial remedies, and a decoction of Coſt. Mezerei, and, at the ſame time, rub mercurial ointment upon the tumor, apply mercurial plaſters, &c. by which a ſpeedy cure is frequently produced: but, for the treatment of venereal diſorders, ſee SYPHILIS and LUES VENEREA.

ANCHIROMACUS, in *Middle Age Writers*, denotes a kind of veſſel, which, on account of its nimble ſailing, was uſed for the conveyance of anchors, and other neceſſary utenſils of ſhips.

In this ſenſe, the word is alſo written *ancyromagus*, *anchiromachus*, *ancyromacus*, *angromagus*, *anquiromagus*, and *anguiromagus*.

ANCHISÆ PORTUS, a name given by the ancient Romans to the port of Onchesmus, in Epirus, to the eaſt of Corcyra.

ANCHISES, in *Entomology*, a ſpecies of PAPILIO (Eq. Tr.) that inhabits America; it is black both above and beneath, with ſeven ovate ſcarlet ſpots on each of the poſterior wings. Linnæus. The larva from which this butterfly is produced, is ſaid to be gregarious, ſpinous, brown with white rings, and yellow tentacula; the pupa brown, with four teeth at the anterior part. Vide. Fab. Gmel. Merian, &c.

ANCHISES, in *Fabulous Hiſtory*, a Trojan prince, deſcended from Dardanus, and the ſon of Capys. Venus appeared to him in the form of a beautiful nymph, and made love to him. Their intercourſe produced Æneas, the hero of Virgil's Æneid. It is ſaid that he lived to the age of 80, and was buried on Mount Ida, where ſhepherds paid honours to his monument. According to Virgil, Æneas took his father on his ſhoulders, and made his eſcape with him the night on which Troy was taken. See ÆNEAS. Some ſay, that Anchiſes lived till his ſon's arrival in Italy, that land of promiſe, which the deſtinies had ordered him to go in ſearch of, through a thouſand dangers. Cato, Dionyſius Halicarnaſſenſis, and Strabo, adopt this opinion. Gen. Dict.

ANCHISIUS, in *Ancient Geography*, a mountain of Peloponneſus, in Arcadia, to the north of Mantinæa.

ANCHITÆ, a people placed by Ptolemy in Arabia Felix, near mount Climax.

ANCHOA, a town of Greece, in Bœotia, placed by Pliny at the mouth of the Cephiſſus. Strabo mentions alſo a lake of the ſame name.

ANCHOR, ANCHORA, from the Latin *ancora*, or *anchora*, of the Greek ἄγκυρα, which comes from ἀγκύλος, *incurvus*, *crooked*, a large, ſtrong, and heavy piece of iron, compoſed of a long ſhank, having at one end a ring to which the cable is faſtened, and at the other two arms or flukes, with barbs or edges on each ſide, and uſed for fixing and retaining a veſſel in a harbour, road, or river.

The anchor is an inſtrument of very ancient uſe. Pliny (lib. viii. c. ult.) aſcribes the invention of it to the Tuſcans; and Pauſanias (Attic, lib. i. c. 4. p. 12.) refers it to Midas, the ſon of Gordius, who built the city Ancyra. The moſt ancient anchors were of ſtone, and ſometimes of wood, to which a quantity of lead was attached; in ſome places they uſed baſkets full of ſtones, and ſacks filled with ſand. Theſe were ſuſpended by cords, and their weight regulated the courſe of the ſhip. Afterwards anchors were conſtructed of iron, and furniſhed with teeth or flukes, which faſtening to the bottom of the ſea, kept the ſhip immoveable; hence ὀδόντες, teeth, are uſed for anchors. The firſt anchors had only a tooth or fluke, on one ſide; and on this account they were denominated ἑτεροστόμοι; the contrivance was completed, according to Pliny, (*ubi ſupra*,) by Eupalamus, who made them fluked both ways, or according to Strabo (lib. vii. ex Ephor, tom. p. 464.) the ſecond tooth or fluke was added by Anacharſis, the Scythian. The anchors with two teeth were called ἀμφίβολοι, or ἀμφίστομοι. Every ſhip had ſeveral anchors, the largeſt of which was called ἱερά, ſacred, and was never uſed but in extreme danger; whence the phraſe "ſacram anchoram ſolvere," is proverbially applied to ſuch as are reduced to their laſt refuge.

All anchors have now two arms; not but they might ſtill be uſed with only one arm, which ſtructure would have this advantage, that they would be lighter, and yet in fine weather would hold equally firm with the double kind. The reaſon of having two arms is, that the anchor may always take, in order to which it is neceſſary that it be very heavy; beſides, that anchors with a ſingle arm would require more preparation for ſervice.

Travellers tell us of people who make uſe of wooden anchors in their navigation. The inhabitants of the iſland of Ceylon, in lieu of anchors, uſe large round ſtones, and

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in other places, their anchors are a kind of wooden machines, loaded with ſtones. Sometimes bags of ſand have been made uſe of, but theſe chiefly obtained in rocky places, where anchors would not take hold. In England, France, and Holland, anchors are made of forged iron; but in Spain, they are ſometimes made of copper, and likewiſe in ſeveral parts of the South ſea.

The anchors now made are ſo contrived as to ſink into the ground as ſoon as they reach it, and to hold a great ſtrain before they can be looſened or diſlodged from their ſtation. The parts of which an anchor is compoſed are the ring, into which the cable is faſtened, the beam, or ſhank, which is the longeſt part of the anchor, the two arms, at the end of which are the two hooks or flukes, by ſome called the palms, which with their barbs faſten into the ground, and the ſtock, which is a long piece of wood, faſtened acroſs the beam, near the ring, and ſerving to guide the flukes in a direction perpendicular to the ſurface of the ground; ſo that one of them ſinks into it by its own weight, as ſoon as it falls, and is ſtill preſerved ſteadily in that poſition by the ſtock, which, together with the ſhank, lies flat on the bottom. In this ſituation it muſt neceſſarily ſuſtain a great effort before it can be dragged through the earth horizontally. This, indeed, can only be effected by the wind or tide, or by both of them; the effect of which is ſometimes increaſed by the turbulency of the ſea, and acts upon the ſhip ſo as to ſtretch the cable to its utmoſt tenſion, and may thus diſlodge the anchor from its bed, eſpecially if the ground be ſoft, and oozy, or rocky. When the anchor is thus diſplaced, it is ſaid, in the ſea-phraſe, "to come home"

The ſeveral parts of the anchor, above enumerated, bear the following proportions. The length of the arm, from the inſide of the throat to the bill, is the diſtance marked on the ſhank for the trend, taken from the inſide of the throat; and three times that is the length of the ſhank from the tip of the crown; and the ſhank, from the tip of the crown to the centre of the ring, is the length of the iron ſtock; when made, the two arms, from the inſide of the throat to the extremity of the bill, ſhould form an arc of a circle, containing 120 degrees. See *Plate* XI. *Ships*.

Of anchors there are the ſheet, beſt bower, ſmall bower, and ſpare anchor. Theſe do not vary in form or weight from each other, in the navy. Stream and kedge anchors are ſmaller, and grapnels are only for boats. Ships of 110, 100, 98, and 90 guns, have ſeven anchors; from 80 to 20 guns incluſive, ſix anchors; ſhips of 300 tons, and ſloops have five; and brigs and cutters three anchors.

ANCHORS, *method of making*. The goodneſs of the anchor is a point of great importance; the ſafety and conſervation of the veſſel depending principally upon it. The ſhank, arms, and flukes, are firſt forged ſeparately; then the hole is made at one end of the ſhank for the ring, which being alſo previouſly forged, is put into the hole of the ſhank, and the two ends ſhut together. After which the arms are ſhut to the ſhank, one after the other, and the anchor is finiſhed.

The ſhank is made of many long bars of the beſt tough iron, well wrought together; and great care ſhould be taken, that the iron be neither too ſoft nor too brittle; the latter rendering it liable to break, and the former to ſtraiten. The number of bars ſufficient to make the ſhank of the intended ſize muſt be regulated by experience. Several parts of the anchor are governed by the ſize of the trend, which is marked on the ſhank at the ſame diſtance from the inſide of the throat as the arm meaſures from the inſide of the throat to the extremity of the bill. The ſhank is rounded to the ſquare of the upper part, and is there called the ſmall round, being the ſmalleſt part. The two ſides in the direction of the arms are flatted ſurfaces, about an inch leſs than the trend, in large anchors, and ſomething leſs in ſmaller ones. The ſquared part is of the ſame ſize as at the trend each way, and hanches into the ſmall round, one-ſixth of the length of the ſhank. The hole, or eye, for the ring, is punched through the ſquare part, or the flatted ſide, once and a half the thickneſs of the ring, from the upper extremity of the ſhank, which has its corners flatted or diamonded, on the ſame ſides nearly, in the middle. Between the hole for the ring and lower part of the ſquare are two ſmall prominences, raiſed acroſs from the ſolid, called nuts, for ſecuring the ſtock in its place. At the lower part of the ſhank is left a ſcarf, or flatted ſurface, with a ſhoulder on each ſide, for ſhutting on the arms.

In making every part of an anchor the niceſt attention ſhould be obſerved, as to its being ſmooth, fair, and even; and that the edges and angles are preſerved ſtraight in their direction, as well-made anchors ſhould poſſeſs beauty as well as ſtrength. The ring, being previouſly forged, is put through the fore-mentioned hole in the ſhank, and the two ends are well ſhut together. The arms are made of ſhorter bars than the ſhank, but as good in quality, and as well put together; they are rounded and flatted on the different ſides, to reſemble the ſhank, and are of the ſame ſize as the ſhank, at the throat and ſmall round. The rounding part is continued to the palm, which is nearly in the middle of the arm; from thence it is made with a ſquare tapering to the bill on the flatted ſide; and, on the inner rounded ſide, is made a ſquare ſeat for ſhutting on the palm, that the palm, when ſhut on, ſhould project its thickneſs at the baſe or inner part, the outer part making a ſtraight ſurface with the peek or bill. The back or outer ſide of the arm is made ſtraight from the rounded part, or hanch, to the ſnape, and there kept to half the ſubſtance of the inner part. The ſnape reſembles the bill of a duck, and is one-third the breadth of the palm in length. The thickneſs of the ring is to be half the diameter of the ſmall round. The diameter of the ring, including the thickneſs, reaches from the hole in the upper part of the ſhank to the hanch of the ſmall round. The inner part of the arm is moſtly made ſtraight, from the bill to the throat; and it is thought ſtronger for having a ſmall angle in its length, inclining to the ſhank. Shanks taper in their length, one and one-half inch in ſmall anchors to three inches in large, keeping their proper ſize at the trend; and three-fourths of an inch to two inches in the flatted way. The arm in its length inclines to the ſhank, and forms a ſmall angle, the touch or point thereof being in the middle. The throat-end of the arm is ſcarfed, or flatted, to anſwer the ſcarf in the ſhank, to which the two arms are united (after the palms are ſhut on) in the firmeſt manner poſſible; and it is elevated above the horizontal plane, or inclined to the ſhank, that each arm may ſpread at the peek or bill. The length of the arm, from the inſide of the throat to the extremity of its bill, is then taken, and that length from the inſide of the throat is ſet upon the ſhank, and called the trend: from the trend to the bill is formed an angle of about 60 degrees. The palms, or flukes, are two thick plates of iron, made of various pieces, well wrought together, in the form of an iſoſceles triangle; one and one-half inch to one and one-fourth inch longer than the breadth of the baſe, and curve about as much in their ſides. The baſe or lower part, is to be ſtraight; the inner flat ſurface curves a little in the breadth, but is ſtraight lengthways;

lengthways; the palms, being finiſhed thus far, are, laſtly ſhut firmly into the inner ſide of the arm, in the ſeat before mentioned, the baſe inclining inwards.

The ſtock is compoſed of two long beams of oak, ſtrongly bolted and tree-nailed together, and ſecured with four ſtrong iron hoops, two on each ſide of the middle, and one near each end. It is fixed on the upper end of the ſhank, tranſverſely with the flukes or palms; and the nuts are let into the middle of the ſtock. The length of the ſtock is the length of the ſhank and half the diameter of the ring; the depth and thickneſs in the middle are as many inches as the ſtock is feet in length. The ends are to be kept ſquare, half the depth or thickneſs in the middle. The upper ſide next the ring is always kept ſtraight, as is the lower ſide half the depth on each ſide the middle; and thence it tapers to each end in the above proportion. It is neceſſary to leave an opening in the middle of one and one-half inch, between the two pieces, that the hoops may be driven nearer the middle, in caſe the ſtock ſhould ſhrink. The making of anchors is a very laborious buſineſs, and has been much facilitated by the invention of two machines, called the HERCULES and the MONKEY.

Proof is made of anchors, by raiſing them to a great height, and then letting them fall again on a kind of iron block placed acroſs for the purpoſe. To try whether the flukes will turn to the bottom, and take hold of the ground, they place the anchor on an even ſurface, with the end of one of the flukes, and one of the ends of the ſtock reſting on the ſurface; in caſe the anchor turns, and the point of the fluke riſes upwards, the anchor is good.

For the proportions of anchors according to Manwaring, the ſhank is to be thrice the length of one of the flukes, and half the length of the beam. According to Aubin, the length of the anchor is to be four-tenths of the greateſt breadth of the ſhip; ſo that the ſhank, *e. gr.* of an anchor in a veſſel thirty feet wide, is to be twelve feet long. When the ſhank is, for inſtance, eight feet long, the two arms are to be ſeven feet long, meaſuring them according to their curvity. As to the degree of curvity given the arms, there is no rule for it; the workmen are here left to their own diſcretion.

Aubin, in his Marine Dictionary, gives a table from a Flemiſh writer, wherein the lengths of the ſhanks of anchors for veſſels of all widths, is computed, as well as the weights of the anchors, from a veſſel eight feet wide within, which requires an anchor three and one-half feet long, weighing thirty-three pounds, to a veſſel forty-five feet wide, which demands an anchor eighteen feet long, and weighing 5832 pounds. He likewiſe obſerves, that the anchor of a large heavy veſſel is ſmaller, in proportion, than that of a leſſer and lighter one. The reaſon he gives is, that though the ſea employs an equal force againſt a ſmall veſſel as againſt a great one, ſuppoſing the extent of wood upon which the water acts to be equal in both, yet the little veſſel, by reaſon of its ſuperior lightneſs, does not make ſo much reſiſtance as the greater; the defect whereof muſt be ſupplied by the weight of the anchor.

From theſe and other hydroſtatic principles, the following table has been formed; wherein is ſhewn, by means of the ſhip's breadth within, how many feet the beam or ſhank ought to be long, giving it $\frac{4}{10}$ or $\frac{2}{5}$ of the ſhip's breadth within; by which proportion may be regulated the length of the other parts of the anchor. In this table is repreſented likewiſe the weight an anchor ought to be for a ſhip from eight feet broad to 45, increaſing by one foot's breadth; ſuppoſing that all anchors are ſimilar, or that their weights are as the cubes of the lengths of the ſhanks.

Breadth of the Veſſel	Length of the Anchor	Weight
Feet	Feet.	Pounds.
8	$3\frac{1}{5}$	33
9	$3\frac{3}{5}$	47
10	4	64
11	$4\frac{2}{5}$	84
12	$4\frac{4}{5}$	110
13	$5\frac{1}{5}$	140
14	$5\frac{3}{5}$	175
15	6	216
16	$6\frac{2}{5}$	262
17	$6\frac{4}{5}$	314
18	$7\frac{1}{5}$	373
19	$7\frac{3}{5}$	439
20	8	512
21	$8\frac{2}{5}$	592
22	$8\frac{4}{5}$	681
23	$9\frac{1}{5}$	778
24	$9\frac{3}{5}$	884
25	10	1000
26	$10\frac{2}{5}$	1124
27	$10\frac{4}{5}$	1259
28	$11\frac{1}{5}$	1405
29	$11\frac{3}{5}$	1562
30	12	1728
31	$12\frac{2}{5}$	1906
32	$12\frac{4}{5}$	2097
33	$13\frac{1}{5}$	2300
34	$13\frac{3}{5}$	2515
35	14	2742
36	$14\frac{2}{5}$	2986
37	$14\frac{4}{5}$	3242
38	$15\frac{1}{5}$	3512
39	$15\frac{3}{5}$	3796
40	16	4096
41	$16\frac{2}{5}$	4426
42	$16\frac{4}{5}$	4742
43	$17\frac{1}{5}$	5088
44	$17\frac{3}{5}$	5451
45	18	5832

M. Bouguer directs to take the length of the ſhank in inches, and to divide the cube of it by 1160 for the weight. The reaſon is obvious; becauſe the quotient of the cube of 201 inches, which is the length of an anchor weighing 7000lb. divided by the weight is 1160, and therefore by the rule of three, this will be a common diviſor for the cube of any length, and a ſingle operation will ſuffice. The ſame author, in his Traite de Navire, gives the following dimenſions of the ſeveral parts of an anchor. The two arms generally form the arch of a circle, whoſe centre is three eighths of the ſhank from the vertex, or point where it is fixed, to the ſhank; and each arm is equal to the ſame length or the radius; ſo that the two arms together make an arch of 120 degrees: the flukes are half the length of the arms, and their breadths two-fifths of the ſaid length. With reſpect to the thickneſs, the circumference at the throat, or vertex of the ſhank, is generally made about the fifth part of its length, and the ſmall end two thirds of the throat, the ſmall end of the arms of the flukes, three fourths of the circumference of the ſhank at the throat. Theſe dimenſions ſhould be bigger, when the iron is of a bad quality, eſpecially if caſt iron is uſed inſtead of forged iron.

THE MOST APPROVED DIMENSIONS AND WEIGHT OF ANCHORS.

Weight	Length of the Shank.	Length of the Arms.	Breadth of the Palms.	Thickneſs of the Palms.	Size of the Trend.	Size of the ſmall Round.	Outer Diamet. of the Ring.	Thickneſs of the Ring.	Weight.	Length of the Shank.	Length of the Arms.	Breadth of the Palms.	Thickneſs of the Palms.	Size of the Trend.	Size of the ſmall Round.	Outer Diamet. of the Ring.	Thickneſs of the Ring.
Ct.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ct.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
1	5 8	1 10	0 9	0 0 1/2	0 2 1/2	0 2	0 9	0 1	42	16 1	5 4 3/4	2 4 1/2	0 2 1/2	0 7 3/4	0 7	2 4 1/2	0 3 1/2
2	6 6	2 2	0 11	0 0 5/8	0 2 3/4	0 2 1/4	0 11	0 1 1/8	43	16 2	5 4 7/8	2 5	0 2 5/8	0 7 7/8	0 7	2 5	0 3 1/16
3	7 0	2 4	1 0	0 0 3/4	0 3	0 2 1/2	1 0	0 1 1/4	44	16 3	5 5	2 5 1/4	0 2 11/16	0 7 7/8	0 7 1/8	2 5 1/4	0 3 1/16
4	7 6	2 6	1 1	0 0 7/8	0 3 1/4	0 2 3/4	1 1	0 1 3/8	45	16 4	5 5 1/4	2 5 1/2	0 2 3/4	0 8	0 7 1/4	2 5 1/2	0 3 5/16
5	8 0	2 8	1 2	0 1	0 3 1/2	0 3	1 2	0 1 1/2	46	16 5	5 5 1/2	2 5 3/4	0 2 13/16	0 8	0 7 1/4	2 5 3/4	0 3 3/8
6	8 6	2 10	1 3	0 1	0 3 3/4	0 3 1/4	1 3	0 1 5/8	47	16 6	5 6	2 6	0 2 7/8	0 8 1/8	0 7 3/8	2 6	0 3 11/16
7	9 0	3 0	1 4	0 1	0 4	0 3 1/2	1 4	0 1 3/4	48	16 7	5 6 1/4	2 6 1/4	0 2 15/16	0 8 1/8	0 7 3/8	2 6 1/4	0 3 11/16
8	9 6	3 2	1 5	0 1 1/16	0 4 1/4	0 3 3/4	1 5	0 1 7/8	49	16 8	5 6 1/2	2 6 1/2	0 2 15/16	0 8 1/4	0 7 3/8	2 6 1/2	0 3 11/16
9	10 0	3 4	1 6	0 1 1/16	0 4 1/2	0 3 3/4	1 6	0 1 15/16	50	16 9	5 6 3/4	2 7	0 2 15/16	0 8 1/4	0 7 1/2	2 7	0 3 3/4
10	10 4	3 5	1 7	0 1 1/16	0 4 1/2	0 4	1 7	0 2	51	16 10	5 7	2 7 1/4	0 2 15/16	0 8 1/4	0 7 1/2	2 7 1/2	0 3 3/4
11	10 8	3 7	1 8	0 1 1/16	0 4 1/2	0 4 1/16	1 8	0 2 1/16	52	16 11	5 7 1/2	2 8	0 2 15/16	0 8 1/4	0 7 1/2	2 8	0 3 3/4
12	11 0	3 8	1 8 1/4	0 1 1/16	0 4 1/2	0 4 1/16	1 8 1/4	0 2 1/16	53	17 0	5 7 5/8	2 8 1/4	0 2 15/16	0 8 3/8	0 7 5/8	2 8 1/4	0 3 13/16
13	11 4	3 10	1 8 1/2	0 1 1/16	0 4 1/2	0 4 1/16	1 8 1/2	0 2 1/8	54	17 1	5 7 3/4	2 8 1/2	0 2 15/16	0 8 3/8	0 7 5/8	2 8 1/2	0 3 13/16
14	11 8	3 11	1 8 3/4	0 1 1/16	0 4 1/2	0 4 1/16	1 8 3/4	0 2 3/16	55	17 2	5 7 7/8	2 9	0 2 15/16	0 8 1/2	0 7 3/4	2 9	0 3 7/8
15	12 0	4 0	1 9	0 1 1/8	0 5	0 4 1/16	1 9	0 2 1/4	56	17 3	5 9	2 9 1/4	0 2 3/4	0 8 1/2	0 7 3/4	2 9 1/4	0 3 7/8
16	12 3	4 1	1 9 1/8	0 1 3/16	0 5 1/16	0 4 5/16	1 9 1/8	0 2 5/16	57	17 4	5 9 1/4	2 9 1/2	0 2 13/16	0 8 1/2	0 7 3/4	2 9 1/2	0 3 7/8
17	12 6	4 2	1 9 1/4	0 1 3/16	0 5 1/4	0 4 5/16	1 9 1/4	0 2 3/8	58	17 5	5 9 3/8	2 10	0 2 13/16	0 8 5/8	0 7 7/8	2 10	0 3 15/16
18	12 8	4 3	1 9 1/2	0 1 3/16	0 5 1/8	0 4 5/16	1 9 1/2	0 2 5/16	59	17 6	5 10	2 10 1/4	0 2 13/16	0 8 5/8	0 7 7/8	2 10 1/4	0 3 15/16
19	12 10	4 4	1 9 5/8	0 1 3/16	0 5 1/16	0 5	1 9 5/8	0 2 1/2	60	17 7	5 10 1/4	2 10 1/2	0 2 13/16	0 8 3/4	0 7 7/8	2 10 1/2	0 3 15/16
20	13 0	4 4 1/2	1 9 3/4	0 1 3/16	0 5 1/8	0 5 1/16	1 9 3/4	0 2 9/16	61	17 8	5 10 1/2	2 11	0 3	0 8 3/4	0 8	2 11	0 4
21	13 2	4 5	1 9 3/4	0 1 1/4	0 5 1/16	0 5 1/16	1 9 3/4	0 2 9/16	62	17 9	5 11	2 11 1/4	0 3	0 8 3/4	0 8	2 11 1/2	0 4
22	13 4	4 5 3/8	1 10	0 1 5/16	0 6 1/16	0 5 1/16	1 10	0 2 11/16	63	17 10	5 11 1/4	2 11 3/4	0 3	0 8 3/4	0 8	2 11 3/4	0 4
23	13 6	4 6	1 10 1/16	0 1 5/16	0 6 1/4	0 5 1/16	1 10 1/4	0 2 3/4	64	17 11	5 11 3/4	3 0	0 3	0 8 3/4	0 8	3 0	0 4
24	13 8	4 6 1/2	1 10 1/16	0 1 5/16	0 6 3/8	0 5 3/16	1 10 1/2	0 2 13/16	65	18 0	6 0	3 0	0 3 1/16	0 9	0 8	3 0	0 4
25	13 10	4 7	1 11	0 1 5/16	0 6 1/2	0 5 1/4	1 11	0 2 7/8	66	18 1	6 0 1/4	3 0	0 3 1/16	0 9	0 8	3 0	0 4
26	14 0	4 8	1 11 1/2	0 1 5/16	0 6 5/8	0 5 5/16	1 11 1/2	0 2 15/16	67	18 2	6 0 1/2	3 1	0 3 1/8	0 9	0 8	3 1	0 4
27	14 2	4 8 1/2	1 11 3/4	0 1 5/16	0 6 3/4	0 5 5/16	1 11 3/4	0 2 15/16	68	18 3	6 1	3 1	0 3 1/8	0 9 1/8	0 8	3 1	0 4
28	14 4	4 9	1 11 3/4	0 1 5/16	0 6 3/4	0 5 5/16	1 11 3/4	0 2 15/16	69	18 3 1/2	6 1 1/8	3 1	0 3 1/8	0 9 1/8	0 8	3 1	0 4
29	14 6	4 10	2 0	0 1 3/4	0 6 3/4	0 5 7/16	2 0	0 2 15/16	70	18 4	6 1 1/4	3 1	0 3 1/4	0 9 1/4	0 8 1/8	3 1	0 4 1/16
30	14 7 1/2	4 10 1/2	2 0 1/2	0 1 3/4	0 6 3/4	0 6	2 0 1/2	0 3	71	18 5	6 1 1/2	3 1 1/2	0 3 1/4	0 9 1/4	0 8 1/8	3 1 1/2	0 4 1/16
31	14 9	4 11	2 1	0 1 7/8	0 6 3/4	0 6	2 1	0 3	72	18 6	6 2	3 1 1/2	0 3 1/4	0 9 3/4	0 8 1/8	3 1 1/2	0 4 1/16
32	14 10	4 11 1/2	2 1 1/2	0 1 7/8	0 6 7/8	0 6 1/16	2 1 1/16	0 3 1/16	73	18 8	6 2 1/2	3 1 1/2	0 3 5/16	0 9 3/8	0 8 1/8	3 1 1/2	0 4 1/16
33	15 0	5 0	2 1 3/4	0 1 7/8	0 7	0 6 1/4	2 1 3/4	0 3 1/8	74	18 9 1/2	6 3	3 1 1/2	0 3 3/8	0 9 3/8	0 8 1/8	3 1 1/2	0 4 1/16
34	15 1	5 0 1/4	2 2	0 2	0 7 1/16	0 6 1/16	2 2	0 3 1/4	75	18 11	6 3 1/2	3 1 1/2	0 3 3/8	0 9 3/8	0 8 1/8	3 1 1/2	0 4 1/16
35	15 2	5 0 3/8	2 2 1/2	0 2	0 7 1/8	0 6 1/16	2 2 1/2	0 3 5/16	76	19 0 3/8	6 4 1/8	3 2	0 3 3/8	0 9 3/8	0 8 1/8	3 2	0 4 1/16
36	15 4	5 1 1/4	2 2 3/4	0 2	0 7 1/16	0 6 3/16	2 2 3/4	0 3 3/16	77	19 1 3/4	6 4 5/8	3 2	0 3 7/16	0 9 1/16	0 8 1/16	3 2	0 4 1/8
37	15 6	5 2	2 3	0 2	0 7 1/16	0 6 1/8	2 3	0 3 3/8	78	19 3 3/8	6 5	3 2	0 3 7/16	0 9 1/16	0 8 1/16	3 2	0 4 1/8
38	15 7	5 2 1/4	2 3 1/2	0 2 1/8	0 7 1/8	0 6 1/8	2 3 1/2	0 3 7/16	79	19 4 1/2	6 5 1/2	3 2	0 3 7/16	0 9 3/16	0 8 1/16	3 2	0 4 1/8
39	15 9	5 3	2 3 3/4	0 2 1/8	0 7 1/8	0 6 1/8	2 3 3/4	0 3 7/16	80	19 6	6 6	3 2	0 3 7/16	0 9 3/16	0 8 1/16	3 2	0 4 1/8
40	15 10	5 3 1/2	2 4	0 2 1/8	0 7 3/16	0 7	2 4	0 3 1/2	81	19 8	6 6 5/8	3 2 1/2	0 3 1/2	0 10	0 8 1/16	3 2 1/2	0 4 1/8
41	16 0	5 4	2 4 3/4	0 2 1/16	0 7 3/16	0 7	2 4 1/4	0 3 1/2									

The

The Number of Anchors allowed each Ship in the Royal Navy, with their Weight and Value.

S. ſtands for Stream, K. for Kedge.

No.	100 & 110 Guns.		Value.		No.	90 and 98 Guns.		Value.		No.	80 and 74 Guns.		Value.		No.	Smaller 74 Guns.		Value.		No.	64 Guns.		Value.	
	Cwt.	Qr	l.	s		Cwt.	Qr	l.	s		Cwt.	Qr	l.	s		Cwt.	Qr	l.	s		Cwt.	Qr	l.	s
5	81	0	1215	0	5	73	0	1003	15	4	71	0	781	0	4	67	0	670	0	4	57	0	502	2
S. 1	21	0	32	11	S. 1	18	0	27	0	S. 1	17	2	26	0	S. 1	16	0	24	0	S. 1	15	0	22	10
K. 1	10	2	15	15	K. 1	9	0	13	10	K. 1	8	2	12	10	K. 1	8	0	12	0	K. 1	7	2	11	0

No.	60 Guns.		Value		No.	50 Guns.		Value.		No.	44 and 36 Guns.		Value		No.	36 Guns.		Value.		No.	32 Guns.		Value.	
4	53	0	437	17	4	49	0	382	4	4	40	0	272	0	4	39	0	240	16	4	33	0	210	4
S. 1	12	0	18	0	S. 1	11	0	16	10	S. 1	10	0	15	0	S. 1	9	0	13	10	S. 1	8	1	12	5
K. 1	6	0	9	0	K. 1	5	2	8	0	K. 1	5	0	7	10	K. 1	4	2	6	10	K. 1	4	0	6	0

No.	28 Guns.		Value.		No.	24 and 20 Guns.		Value.		No.	14 Guns 300 Tons.		Value.		No.	Sloops, 200 Tons		Value.		No.	Brigs, 200 Tons		Value.	
4	31	0	198	8	4	29 / 25	3 / 0	180 / 155	11 6 / 0 0	3	20	0	93	0	3	15	0	67	10	3	12	0	54	0
S. 1	8	0	12	0	S. 1	7	2	11	0	S. 1	7	0	10	10	S. 1	6	0	9	0		Cutter			
K. 1	4	0	6	0	K. 1	3	2	5	0	K. 1	3	2	5	0	K. 1	3	0	4	10	3	10	0	45	0

See Murray's Treatiſe on Ship-building, &c. Elements and Practice of Rigging and Seamanſhip, 4to. 1794, p. 77—82.

The diſtinctions of anchors are taken from their uſe, and the proportions they bear in the ſhip, where they are employed; for that which in one ſhip would be called but a *kedger*, or *kedge*-ANCHOR, in a leſſer would be a *ſheet*-ANCHOR.

ANCHOR, *kedge*, is the ſmalleſt, which, by reaſon of its lightneſs, is firſt to ſtop the ſhip in *kedging* a river.

This is what the Dutch ſailors call *werp*-ANCHOR, the French *ancre a touer*. It ought to weigh 450 pounds.

The *grapnel* is an anchor for a ſmall ſhip or boat. See KEDGE and GRAPNEL.

ANCHOR, *ſtream*, is a ſmall anchor faſtened to a ſtream-cable, wherewith to ride in rivers, and gentle ſtreams, and to ſtop a tide withal in fair weather.

ANCHOR *ſheat*, or *ſheet*, is the biggeſt and ſtrongeſt, being that which the ſeamen call their laſt hope; never to be uſed but in great extremity.

This is what the Romans call *anchora ſacra*; the Dutch *plegt-anker*, and *ſtop-anker*; the French *maitreſſe-ancre*, or *grand ancre*.

The other anchors are called by the name of the firſt, ſecond, and third anchor; by any of which the ſhip may ride in any ſeaſonable weather, ſea-gate, or tide.—Theſe are ſomething bigger one than another, and uſually when they ſail in any freights, or are near a port, they carry two of theſe at their bow; in which reſpect they are alſo called by the name of firſt and ſecond bowers.

ANCHOR, *ſecond*, called by the Dutch *borg-anker*, or *daugelyks-anker*, is that ordinarily made uſe of.

ANCHOR, *croſs*, called by the Dutch *tuy-anker*, or *vertuy-anker*, and by the French *ancre d'affourche*, is a middling anchor thrown acroſs or oppoſite to another.—This ought to weigh 1500 pounds, or nearly as much as the ſecond anchor.

ANCHOR, *floating*, is a ſimple machine, which is made to dive beneath the ſwell of the ſea, and retain the veſſel where there may be no other anchorage. It conſiſts of two flat bars of iron, each in length half the breadth of the midſhip beam of the veſſel for which it is uſed, and rivetted together in the middle by an iron ſaucer-headed bolt, clenched at its point, that they may be ſwung parallel to each other for eaſy ſtowage. At each end of the bars is a hole for a rope, or ſwifter to paſs through, which muſt be hove tight to extend the bars at right angles. To this ſwifter is marled a double or four-fold canvas cloth, ſo as to be on that ſide of the iron bars neareſt the veſſel when uſed. In each bar are two holes, at equal diſtances from the centre, and to theſe holes the ends of two pieces of rope are faſtened; the ropes are ſeized together in the middle ſo as to form a crow-foot, having an eye in the centre, which is well ſewed with ſpun-yarn, and to this is bent, when the anchor is uſed, a cable or hawſer, by which it is made to ſink and incline in the water. See *Plate* XI. *Ships*. In the end of one of the bars is fitted an iron ring to which a buoy is made faſt, by a rope about 12 fathoms long, to prevent the anchor from ſinking to the bottom. When it is thrown over-board, the cable and a rope made faſt to the head of a buoy, are carried away ſufficiently to ride the veſſel. To get it on board, haul upon the buoy-top, which will bring it to the water's ſurface ſo as to be eaſily drawn to the veſſel. Have the mizen ſtay-ſail ready to hoiſt, ſo as to keep the veſſel to the wind, till the anchor is hauled on board.

A *floating* or *ſwimming anchor* will ſerve to prevent a ſhip, in a ſtorm, from driving to leeward in deep water. Dr. Franklin ſuggeſts that an anchor, effectual for this purpoſe, ought to have the following properties. It ſhould have a ſurface ſo large as being at the end of a hauſer in the water, and placed perpendicularly, ſhould hold ſo much of it, as to bring the ſhip's head to the wind, in which ſituation the wind has leaſt power to drive her. It ſhould be able by its reſiſtance to prevent the ſhip's receiving way. It ſhould be capable of being ſituated below the heave of the ſea, but not below the undertow. It ſhould not take up too much room in the ſhip. It ſhould be eaſily thrown out, and put into its proper ſituation. And laſtly, it ſhould be eaſy to take in again, and ſtow away. Many contrivances have been ſuggeſted

ſuggeſted for this purpoſe. One for a large ſhip might have a ſtem of wood 25 feet long and four inches ſquare, with four boards, 18, 16, 14, and 12 feet in length, and one foot wide, with a hole in the middle of each, about four inches ſquare, ſo that it might be occaſionally ſlipt upon the ſtem at right angles with it; and when theſe boards are fixed at the diſtance of four feet from each other, the anchor would have the appearance of the old mathematical inſtrument called the foreſtaff. This thrown into the ſea, and held by a hawſer veered out to ſome length, would bring a veſſel up and prevent her driving, and when taken in it might be ſtowed away by ſeparating the boards from the ſtem. Such a ſwimming anchor would have ſome good effect, but as it lies on the ſurface of the ſea, it is liable to be hove forward by every wave, and then only give ſo much leave for the ſhip to drive. Dr. Franklin has propoſed two machines for this purpoſe, which he conceives, would be more effectual and more manageable. The firſt of theſe is to be formed, and uſed in the water on almoſt the ſame principles, with thoſe of a paper kite in the air; only that as the paper kite riſes in the air, this is to deſcend in the water; and its dimenſions muſt be different for ſhips of different ſizes. The other machine is to be made more in the form of an umbrella. See a particular deſcription of both theſe machines, with figures, in the Tranſactions of the American Philoſophical Society, vol. ii. p. 311—314.

ANCHOR, *to back an*, in *Sea-language*, is to let go a ſmall anchor a-head of a large one, to which it is faſtened, that it may partake of the ſtrain, and ſerve as a check upon it, ſhould it come home. The backing anchor is carried out in a long boat, to the buoy of that which is already down, whoſe buoy-rope is caſt off and bent to the cable or hawſer of the backing anchor; when that is done, the boat is rowed further a-head, till the buoy-rope and cable of the backing anchor become tight, when it is let go, the buoy that was taken from the large one being previouſly bent to it. In this ſituation, ſhould the large anchor come home, the ſcope of cable from it to the anchor a-head, participating of the ſtrain communicated to the innermoſt one, checks its progreſs, and enſures to the veſſel a greater ſecurity. Where there is more room to drive without danger, and it blows ſo hard, that the ſea runs too high for boats to work, an anchor is backed by clenching round that part of the cable next the hawſe-hole, the end of a cable bent to another anchor on board; this being done, the ſecond anchor is let go under foot; the ſhip is then ſuffered to drive, and the cable thus becomes tight from the ring of the anchor laſt down to its own anchor, which alſo, by the driving, is now become a cable's length a-head of the former anchor.

ANCHOR, *riding at*, the ſtate of a veſſel moored and fixed by her anchors at ſome proper ſtation.

Where a great number of veſſels are moored in the ſame port, care is to be taken by the pilots, or thoſe who have the command, that each ſhip be at a due diſtance from the reſt, to prevent their running foul of each other; alſo that they be neither too near, nor too far from land. The proper ſpace betwixt veſſels is, from two to three cables' length. See MOORING.

ANCHOR, *dropping, or let fall the*, otherwiſe called caſting anchor, imports the letting it down into the ſea.

In ſome caſes it is neceſſary to drop two anchors oppoſite to each other, one of them to keep the ſhip firm againſt the tide, or flow, the other againſt the ebb.

On approaching an anchorage, the anchor and buoy are got clear, and a range of cable, ſtretched along the deck, ſuitable to the depth of water. Care ſhould be taken that nothing is in the way to check the cable, or ſtop its running out; then, at a proper diſtance, a turn is taken round the bits with the cable, thus: firſt paſs the cable from the anchor underneath the croſs-piece, then take up a bight of the cable abaft the bits, and throw it over the bit-head. The end of the cable is clenched round the orlop beams in the royal navy, and round the main-maſt in the merchant ſervice. It is neceſſary to have water near the bits to prevent its firing by the friction. STOPPERS and RING-ROPES of all kinds ſhould be ready for uſe. The ſtock-laſhing being caſt off, and nothing but the anchor-ſtopper and ſhank-pointer retaining the anchor, men are ſtationed to ſtand by them, and let go at the moment when the order is given.

A ſhip ſhould generally be brought to anchor under an eaſy ſail, ſuch as the three top-ſails, jib, or fore topmaſt ſtayſail, and ſometimes the mizen, according as the veſſel has more or leſs inclination to fall off or come to the wind. An anchor ſhould never be dropped to leeward of the place you mean to bring up in; becauſe that would often render it neceſſary to caſt two anchors at once, for fear of dropping ſtill more to leeward. When the wind is ſo violent as to bring the anchor home, and make the veſſel drive, the cable is veered away; and in veering away, the turns of the ſtopper laniards are ſlackened, and a portion of the cable ſuffered to go out of the hawſe, to let the veſſel further a-ſtern of her anchor; in which ſituation ſhe bears leſs ſtrain on the flukes, and is leſs liable to drag the anchor; for, the more cable is out, the flukes become deeper buried, and the ſhip rides in greater ſafety. In letting go an anchor, care ſhould be taken that the water be not ſo ſhoal as to endanger the ſhip hurting herſelf upon it, and that the anchor be not fouled by the cables getting about the fluke or ſtock. Nor ſhould the water be too deep, becauſe the cable, when out, ſhould approach as nearly as poſſible to an horizontal direction. This principle is ſo true, that three cables ſpliced together on end of each other, are kept bent to the beſt bower anchor, to be uſed in caſes of neceſſity; and it is found, that one good anchor, with a long range of cable, is a ſafer anchorage than two anchors with ſhort cables. However, when the ſhip has not room to drive, and in a dark night, let fall a ſecond anchor under foot, with a range of cable above the deck. At all events, the deep-ſea lead ſhould be thrown over the gun-wale, and the line frequently handled, to be certain that the ſhip does not drive. In hard and rocky bottoms, where anchors cannot have much hold, cables are chafed and cut to pieces. When neceſſity requires anchoring in ſuch places, a chain ſhould be run up the cable from the ring of the anchor to a certain diſtance, in order to ſecure it from danger. When a chain is not to be had, empty caſks, well bunged, are good ſubſtitutes, ſlung and faſtened to the cable at equal diſtances, to ſupport and keep it from the bottom. When ground is ſoft and oozy, and anchors will not hold ſecurely, but come home with little wind, it is common to cover the flukes with a broad triangular piece of plank, much larger than the fluke. Sometimes the anchor is backed, or retained, by carrying out the ſtream, or kedge, a-head of the anchor by which the ſhip uſually rides. In this ſituation, the bower anchor is confined by the ſtream, or kedge, in the ſame manner as the ſhip is reſtrained by the bower anchor. In preparing to come to anchor, when the wind is not violent, the top-ſails ought always to be clued up at the maſt-heads; that is, let go the ſheets, and haul the clue-lines and bunt-lines cloſe up; lower away the top-ſails, and take in the ſlack of the braces as the yards come down. In this manner you run leſs riſk of ſplitting and tearing the ſails than by any other method. For the various methods of anchoring in different circumſtances, ſee Elements of Rigging, &c. vol. ii. p. 292—296.

ANCHOR, *weighing*, imports the act of withdrawing, or recovering the anchor into the veſſel, in order for ſailing. The anchor is ordinarily weighed, or recovered by means of a capſtan or windlaſs.

In large ſhips which have a main and jeer capſtan, and the ſtrain is thought too great for the meſſenger alone, the viol is uſed thus: three or four turns are taken round the jeer capſtan with one end, ſo as to leave that ſide clear on which the cable is coming in; and paſs the other end through the viol-block, which is laſhed round the mainmaſt on the lower deck. It is then carried forward, and paſſed round the rollers in the manger near the hawſe-holes; then brought aft, and ſpliced to the other end with a ſhort ſplice; and the ends marled down tight. That ſide of the viol on which the cable is coming in is faſtened to the cable by nippers; and thus the continued efforts of the capſtan are conveyed to the cable, until it is hove in. The nippers are clapt on in the manger, from one to two fathoms aſunder; and the viol is applied to the midſhip, or inſide of the cable. Nippers are clapt on by taking three or four turns round the viol, four turns round the cable and viol, and then three or four turns round the cable. This method is very ſuitable to quick heaving; but when the ſtrain is great, and the cable muddy, the nippers clapt on after this method will not nip ſufficiently; in which caſe recourſe is had to the following method: throw ſand or aſhes upon the cable, and take a long dry nipper, which middle, and paſs one half aft, racking it in and out round the cable and viol; then worm its end round the viol only. After this paſs the other half in the ſame manner forward, but worm its end round the cable only, and let each end of the nipper be held on. The advantages of this method are, that, as the ſtrain of the cable lies forward, and that of the viol aft, the nipper will be drawn ſo tight as effectually to hold the cable till ſomething give way. Beſides, they can never jamb, for both ends are clear for taking off.

Ships without a jeer capſtan heave in their cables by the meſſenger, which has an eye ſpliced in each end; one of which ends is paſſed with three or four turns round the capſtan on the upper deck, and the other end is paſſed forward round the rollers, at the forepart of the manger; then brought aft to the other end, and laſhed thus: ſeveral turns are paſſed through the eyes, croſſing each other in the middle, then a half hitch is taken round the parts, and the ends ſtopped with ſpun-yarn. What remains of the operation is performed as by the viol, excepting that the meſſenger is applied to the outſide of the cable, and when the nippers are inſufficient, the meſſenger may be hitched by faſtening its bight round the cable at the manger with a rolling hitch, and fiſhing the bight round the cable before the hitch.

When the ſtarboard anchor has been gotten up, and the cable of the ſecond anchor enters the larboard hawſe-hole, the operation of getting up this anchor is the ſame, obſerving only, that the meſſenger muſt be ſhifted, and the turns on the capſtan reverſed; and the men, who before held on the larboard ſide in the firſt operation, will hold on the ſtarboard ſide now; the motion of the capſtan is performed the contrary way, and the cable on the larboard ſide is fixed and hove in.

Moſt merchant ſhips and ſmall veſſels heave up their anchors by a windlaſs, round which are taken three turns of the cable, and held on by hand, or by a jigger, thus: the end of the rope which has the ſheave is paſſed round the cable, with a round turn, cloſe to the windlaſs, the leading part of the rope coming over the ſheave, and ſtretched aft, by means of the fall paſſing through the jigger block; the ſtanding part of the fall is made faſt round a ſtantion, at the fore part of the quarter-deck, and the leading part is bowſed upon, which jambs the turns taken round the cable; when the jigger arrives a-breaſt of the hitchway, it conſtantly removes forward, and the cable is jambed by a hand-ſpeck at the windlaſs, until the jigger is reſixed.

The anchor is weighed with the long boat, by taking the boat to the buoy of the anchor, and putting the buoy rope over the davit of the long boat, and a tackle on the buoy rope; by which, with the aſſiſtance of men on the fall, the anchor is weighed out of the ground. When this is done, the cable is hove in on-board; the buoy rope and tackle being ſecured in the boat, they approach the ſhip as the cable is hove in, and the anchor catted and ſtowed. Small anchors and grapnels are got up by the davit, hauling upon the cable or grapnel rope by hand.

An anchor is weighed by under-running, when the cable is placed over the davit-head, and it is under-run, till it is nearly a-peek, when it is tripped by means of tackles, as in the former caſe by the buoy rope. This method is troubleſome, and is only adopted when the buoy is gone, and a ſhip cannot get near her anchor for want of water. See Elements of Rigging, &c. vol. ii. p. 306, &c.

ANCHOR, *dragging*, is when the anchor gives way, or loſes its hold in the ground by the force of the wind, or ſea, and the veſſel drives from the place.

ANCHOR, *to cat the*, is to hook the cat-block to the ring of the anchor, and haul it up cloſe to the cat-head. See *Stowing of* ANCHORS.

ANCHOR, *clearing the*, ſignifies the getting of the cable off the fluke.

Generally alſo, when they let fall the anchor, they uſe this term, to ſee that neither the buoy rope, nor any other ropes, hang about it.

ANCHOR, *fetching*, or *bringing home the*, denotes the weighing it in the boat, and bringing it aboard the ſhip.

The anchor is ſaid to come home, when the ſhip drives away with the tide or ſea.—This may happen, either becauſe the anchor is too ſmall for the burden of the ſhip, or becauſe the ground is ſoft, and oozy; in ſuch places ſhoeing is uſed.

When a ſhip is compelled to anchor on a lee-ſhore, or in a narrow road where there is deep water, with an apprehenſion that the ground is either too hard or too light for good holding ground, drop the common riding bower, firſt keeping 25 or 30 fathoms of cable on board, and throw over the lead. If by this means, or by the land, it appears that the anchor drags, let fall the beſt bower, and at the ſame time veer out the reſt of the common bower cable, till the beſt bower gives her a check; after which bend a ſufficient rope or hawſer to the common bower, without the hawſe-hole, and paſs it through another hawſe-hole to the windlaſs, making it faſt. Then caſt off the common bower, and paſs the cable end through the hawſe-hole, and take a running clinch with it round the beſt bower cable, and let it go. As ſoon as you think the veſſel has dragged her beſt bower cable far enough to ſtraiten the common cable on the ground, veer out as much of the beſt bower as may be agreeable; when, however violent the weather, the veſſel will never drag them home. A ſmall veſſel, which rides hard in a head ſea, will be powerfully aſſiſted by faſtening an empty butt to the cable, about 10 fathoms from the veſſel; for that will firſt receive the motion of the ſea, and check it before it comes to the veſſel, ſo as to cauſe its riſing up to the ſwell, and effectually aiding it to reſiſt the violence.

Anchor, *to fiſh the*, is to draw up the flukes of it towards the top of the bow, in order to ſtow it, after having been catted.

Anchor, *gimbleting the*. See Gimbleting.

Anchor, *ſhoeing*, denotes putting boards on the flukes, in the form of flukes themſelves, to make it broader than before, uſed when they are obliged to anchor in bad ground to prevent the ſhip from driving. This is what the French mariners call *breder l'ancre*, and the Dutch *t'anker bekleeden*.

In ſome caſes they have been known to tallow the anchors, where the ground being ſoft, the ordinary would not hinder them from coming home. Manwaring ſaw an inſtance of tallowing the anchor in Porto Tareen by Tunis. The reaſon of the advantage is hard to aſſign; he ſuppoſes it to be that the tallow ſinks deeper into the ooze, and finds ſome harder ground at the bottom than the other.

Anchor, *to trip the*, is to looſen it from the ground, either by deſign or accident. See A-trip.

Anchor, *to ſweep an*, is to ſeek at the bottom for one loſt, by means of a rope called a ſweep. This rope has its two ends made faſt to two boats, abreaſt of each other, at a ſmall diſtance aſunder. On the bight of the ſweep is fixed a weight of ſhot, ballaſt, &c. to keep it at the bottom. The two boats row on toward the place where the anchor is ſuppoſed to be, and conſequently draw along the ſweep; which taking the bottom, hooks or entangles itſelf with the object of their ſearch. The boats then row acroſs each other twice, ſo as to take a round turn with the ſweep, which being a hawſer, both parts are brought into the hawſe-hole, and to the capſtan, or if ſmall, to the long boat; and hove in upon as before.

Other terms and words of command relating to the anchors are, the "anchor is a-peek," that is, when heaving up the anchor, the cable is drawn ſo tight as to bring the ſhip directly over it; "the anchor is cock-bill," when the anchor hangs right down from the cat-head, by the ſhip's ſide, ready to be ſunk at a moment's warning; this word is given by the maſters, when they are ready to bring the ſhip to an anchor; "the anchor is foul," that is, when the cable, by the turning of the ſhip, is hitched, or got about the fluke: which will not only cut the cable aſunder, but hinder the anchor from holding. On this account, when they come to an anchor where there is a tide, they lay out two anchors, by which means on the turning of the tide the ſhip winds up clear of either.

Anchors, *ſtowing of*. In fitting out ſhips, the anchors are brought in craft near the bows, being moſt convenient to the hawſe-holes, through which the cables paſs to be clenched. The bower anchors are firſt catted, which is performed by hooking the hook of the cat-block into the ring of the anchor, and bowſing upon the fall that leads in through a ſnatch-block on the fore caſtle; the cat-falls being previouſly reeved through the ſheaves of the cat-head and cat-block, keeping the hook of the cat-block downwards, and its point inwards. They are then fiſhed, by means of the half-davit, pendant, and tackle, thus: the davit is firſt ſtopped in the channel on the ſide wanted, and ſupported by guys; the maſt-head guy goes over the end of the davit, with an eye; the other end faſtens round the fore-maſt head, with a round turn and two half hitches. The fore-maſt guy goes over the end of the davit, the other end faſtens round the cat-head, with two half hitches, and ſecurely ſtopt. The after guy goes over the end of the davit, and makes faſt with two half-hitches through an eye-bolt in the after part of the fore channel. At the outer end of the davit is hung, by its ſtrap, a large ſingle block, through which is reeved the pendent, with a large iron hook ſpliced in the lower end, to hook the anchor within the flukes; then to the inner end of the pendent is made faſt a tackle, by thruſting a toggle through an eye in the block-ſtrap; after that has paſſed through an eye in the pendent, the other block of the tackle is hooked in an eye-bolt in the fore part of the quarter-deck; the effect of the tackle is communicated to the hook, by means of the pendent, by men's bowſing on the tackle fall. Thus, the flukes of the anchor are raiſed and placed on the gun-wale, where it is made faſt by the ſhank-painter chain. That the flukes may lie level, the ſtock is bowſed upon by the anchor-ſtock tackle, the double block of which is hooked to a ſelvage, faſtened round the ſtock of the anchor under the firſt hoop, and connected by its fall to a ſingle block, hooked to a ſelvage faſtened round the laniard of the main ſtay: the fall leads in upon the forecaſtle. The beſt bower is then placed forward near the bows on the ſtarboard ſide; the ſmall bower near the bows on the larboard ſide, a little abaft their reſpective cat-heads; and are ſecured by their ſtoppers, from the cat-heads and ſhank-painters. The ſtopper has one end clinched round the cat-head; the other end paſſes through the ring of the anchor, returns upwards, and leads over a large thumb cleat bolted to the cat-head, and is made faſt with ſeveral turns, and the end hitched round the head-rail and timber head, on the fore-ſide of the cat-head. The ſhank-painter hangs the ſhank and fluke of the anchor to the ſhip's ſide out-board; and when ſtowed, the ſhank-painter is paſſed under the inner fluke round the ſhank of the anchor, and made faſt with two or three turns, and the end ſtopt round timber-heads on the forecaſtle. With theſe two bower anchors ſhips are generally moored, when lying in a tide's way, or in a fleet.

The ſheet and ſpare anchors are hoiſted by runners and tackles, main-ſtay, and yard tackles, and are ſtowed ſecurely with ſtock and bill laſhings at the after part of the fore-ſhrouds, before the cheſs-trees on each ſide of the ſhip, with one of the arms reſting on a chock, bolted to the gun-wale; the ſtock being bowſed-to by the anchor-ſtock tackle. The ſheet-anchor is ſtowed on the larboard ſide, and is the firſt reſource in a gale of wind, after parting with either of the bowers; for which reaſon, when in port, the ſheet cable is kept bent, and the anchor is over the ſide, ſuſpended by the ſtopper and ſhank-painter, ready for cutting away in caſe of neceſſity. The ſpare anchor is ſtowed on the ſtarboard ſide, and is ſeldom uſed, but when one of the others is loſt.

The ſtream anchor is ſtowed on the ſpare anchor; and, when uſed, it is ſent in the long boat, or launch, with its cable bent, and let go at any particular ſpot, either for ſteadying the ſhip, when riding by only one bower, or to aſſiſt a ſhip when in-ſhore, or to warp her, &c.

The kedge is ſtowed on the ſtream and ſpare anchors, and is frequently uſed to ſtop a ſhip for a tide, in little winds; but, if the wind be too powerful for the kedge, the ſtream anchor is ſubſtituted. The kedge is ſometimes uſed in moderate weather to warp the ſhip, ſo as to ſhift her birth. Elem. of Rigging, &c. p. 287, &c.

Anchor, in *Architecture* and *Sculpture*, denotes an ornament in form of an anchor, or arrow's head; frequently carved on the ovolo of the capital, in the Tuſcan and Ionic orders, as well as in the bed-moulding of Ionic and Corinthian corniches.

The anchors are uſually intermixed with repreſentations of eggs; whence the *echinus* or ovolo itſelf is popularly called *eggs* and *anchors*.

Anchor, *anchora*, in *Literary Matters*, the figure of an

anchor, repreſented in ancient books; which is of two kinds, *ſuperior* and *inferior*. The *ſuperior*, &c. is where the crooked part is uppermoſt, uſed to denote a thing or paſſage ſtrongly expreſſed. The *inferior* is where the crooked part is at the bottom, to denote a thing poorly or meanly ſet forth.

ANCHOR is alſo uſed, in a leſs proper ſenſe, for any thing that holds another thing faſt, to prevent its driving.

In this ſenſe ſea-muſcles are ſaid to *ride at anchor*, by a ſort of threads the thickneſs of a large hair, which they emit out of their body, to the number ſometimes of a hundred and fifty, which faſtening to the ſtones and other adjacent bodies, keep them firm in their place. The ſame is done by the PINNA *marina*.

ANCHOR, in *Heraldry*, is the emblem of Hope; and is taken for ſuch in a *ſpiritual*, as well as in a *temporal* ſenſe.

ANCHOR, a meaſure. See ANKER.

ANCHOR *Iſland*, in *Geography*, an iſland in Duſky Bay, in New Zealand, viſited by Captain Cook in 1773, and by Captain Vancouver in 1791. The harbour was particularly ſurveyed by the latter navigator, who obſerves, that it appeared to be perfectly ſecure, and may be found convenient, when accidents prevent veſſels from getting into Facile harbour. It has two entrances; that to the north of the Petrel Iſlands is a fair, clear, and very deep channel; its general ſoundings were from 33 to 38 fathoms; in the narroweſt part it is about a cable's length wide, and free from danger; as the ſhores are ſteep, without any ſunken rocks or ſhoals, excepting within the paſſage cloſe under the ſouth ſide of large Petrel Iſland, where they are diſcoverable by the weeds growing upon them, and are quite out of the way of its navigation. The other paſſage is to the ſouthward of the Petrel Iſlands; and if a ſtrong northerly wind compels any perſon to make choice of this in preference to Facile harbour, the ſouth-weſt point of large Petrel Iſland ſhould be kept cloſe on board, in order to weather the rock that appears above water in the middle of the harbour, and to avoid a ſunken one, which does not appear, and over which there is no greater depth than 12 feet at low water. Anchor Iſland harbour, though a very ſecure port, is not very convenient to get to ſea from, on account of its narrow limits, great depth of water, and the above mentioned ſunken rock in its weſtern entrance. The mountains of Anchor Iſland, and others round the bay, which, on Vancouver's arrival in November, were perfectly free from ſnow, were, after a ſtorm which they experienced, covered with it. In a few days the greater part of it diſappeared; and it is probable that ſuch falls of ſnow are not frequent, as they do not check the luxuriance of vegetation. S. lat. 45° 45′ 36″. E. long. 166° 16′. E. variation, 15°. Vancouver's Voyage, vol. i. p. 68.

ANCHORA, in *Entomology*, a ſpecies of CIMEX, diſcovered by Profeſſor Thunberg in Japan. It is of a roundiſh form with ſix black ſpots on the thorax and wing-caſes, and a white anchor-ſhaped mark on the ſcutellum. Gmelin.

ANCHORA, in *Ancient Geography*, a ſmall iſland of Peloponneſus, which the ancients called Aſine, and ſometimes Fanaromini. It was ſituated near the gulf of Modon, or of Coron. It is mentioned both by Strabo and Ptolemy.

ANCHORAGE, in *Sea Language*, ground fit to hold a ſhip's anchor, ſo that ſhe may ride ſafely. The beſt ground for a ſhip to anchor in is ſtiff clay, or hard ſand; and the beſt riding at anchor is when a ſhip is land-locked, and out of the tide.

ANCHORAGE, in *Law*, denotes a duty taken of ſhips for the uſe of the haven where they caſt anchor. The ground in all ports and havens being the king's, no man can let an anchor fall in any port without paying for it to the king's officers.

ANCHORAGO, in *Entomology*, a ſpecies of the Fabrician genus BRENTUS, found in India. It is linear, wing-caſes ſtriated with yellow, and thorax elongated. Fabricius. This inſect is deſcribed by Linnæus as a ſpecies of CURCULIO, under the ſame ſpecific name as Fabricius has adopted: his deſcription is, beak long, thighs dentated, wing caſes ſtriated with yellow, and thorax elongated. Gmelin has removed this ſpecies from the CURCULIO to the BRENTUS genus in the laſt edition of the Syſtema Naturæ.

ANCHORAGO is likewiſe a ſpecies of CIMEX that inhabits North America; the general colour is blue, apex and baſe of the ſcutellum yelloviſh, margin of the abdomen yellow with black ſpots. Fabricius and Gmelin.

ANCHORED, ANKERED, in *Heraldry*. See ANCRÉE.

ANCHOVY, in *Ichthyology*, a little ſea-fiſh much uſed by way of ſauce or ſeaſoning; it is the Clupea maxilla ſuperiore longiore of Artedi, and CLUPEA ENCRASICOLUS of Linnæus. See ENCRASICOLUS.

The word anchovy is derived from the Spaniſh *anchova*, or rather from the Italian *anchioe*, which ſignifies the ſame.

The anchovy is caught in the months of May, June, and July, on the coaſts of Catalonia, Provence, &c. at which ſeaſon it conſtantly repairs up the ſtraits of Gibraltar into the Mediterranean, where they are taken in large quantities. The great fiſhery is at Gorgona, a ſmall iſle weſt of Leghorn. Collins ſays, they are alſo found in plenty on the weſtern coaſts of England and Wales. Near a century ago the anchovy was found at the mouth of the river Dee, by Mr. Ray; but ſince that time it has been found very rarely and only by Mr. Pennant, in 1769, on our coaſts.

The fiſhing for them is chiefly in the night-time; when a light being put on the ſtern of their little fiſhing-veſſels, the anchovies flock round, and are caught in the nets. But then it is aſſerted to have been found by experience, that anchovies taken thus by fire, are neither ſo good, ſo firm, nor ſo proper for keeping, as thoſe which are taken without fire.

When the fiſhery is over, they cut off the heads, take out their gall and guts, and then lay them in barrels, and ſalt them. The common way of eating anchovies is with oil, vinegar, &c. in order to which they are firſt boned, and the tails, fins, &c. ſlipped off. Being put on the fire, they diſſolve almoſt in any liquor; or they are made into ſauce by mincing them with pepper, &c.

Some alſo pickle anchovies in ſmall delf, or earthen pots, made on purpoſe, of two or three pounds weight, more or leſs, which they cover with plaſter, to keep them the better. Anchovies ſhould be choſen ſmall, freſh pickled, white on the outſide, and red within. They muſt have a round back; for thoſe which are flat or large are often nothing but ſardines. Beſides theſe qualities, the pickle, on opening the pots or barrels, muſt be of a good taſte, and not have loſt its flavour.

ANCHOVY *pear*, in *Botany*. See GRIAS.

ANCHUSA, "Αγχουσα, παρὰ τὸ ἄγχειν, *from its ſuppoſed conſtringent quality, or, as others ſay, becauſe it ſtrangles ſerpents*, in *Botany*, bugloſſum of Tournefort and Gærtner, a genus of the *pentandria monogynia* claſs and order; of the natural order of *aſperifoliæ*, and *borragineæ* of Juſſieu: its characters are, that the *calyx* is a perianthium five-parted, oblong, round, acute, and permanent; the *corolla* is monopetalous and funnel ſhaped, tube cylindrical, of the length of the calyx, limb ſemiquinquefid, from erect expanding and obtuſe; throat cloſed with five ſmall ſcales; convex, prominent, oblong, and converging; the ſtamina have very ſhort filaments, in the throat of the corolla, anthers oblong, incumbent,

incumbent, and covered; the *piſtillum* has four germs, ſtyle filiform, of the length of the ſtamina, ſtigma obtuſe and emarginate; no *pericarpium*, but the calyx, enlarged and erect, contains the ſeeds in its boſom; the *ſeeds* are four, oblongiſh, obtuſe, and gibboſe. Martyn enumerates ten, and Gmelin ſixteen ſpecies. 1. A. *officinalis*, bugloſa, bugloſſa italica, b. longifolia, b. vulgaris, echium italicum ſpinoſum, officinal, or common alkanet or bugloſs, with leaves lanceolate, ſecond ſpikes imbricate, and ovate bractes. This ſpecies is a perennial, and flowers in June and July. The ſtem is about two feet in height, erect angular, folioſe, ſomewhat branched and panicled, the root is fuſiform, and externally black; the herb is hairy and rough; the leaves are lanceolate, acute, and ſlightly decurrent; the upper ones, ſubovate at the baſe; the racemes are moſtly double, and revolute; the bractes ovate, and not as in the A. anguſtifolia, linear-lanceolate; the flowers purple and funnel-ſhaped. It grows wild in Italy, Spain, France, Germany, Sweden, Denmark and Siberia, by road ſides and in corn fields. It is found alſo with us amidſt rubbiſh or in marſhes; as on the links near Hartley Pans, in Northumberland. Miller cultivated it in 1748. When it is tender in the Spring, it is boiled and eaten in Upland. The tube of the corolla is melliferous, and the bees are very fond of it. This is not the anchuſa, but the bugloſs of officinal writers; but it does not appear that our bugloſs poſſeſſes the ſame properties with that of the ancients; for it has no claim to the title of euphroſynum given to theirs (ſee Pliny. Hiſt. Med. lib. 25. c. 8.), as it has no exhilarating quality, although its flowers have been long referred to the claſs of the four cordials. This plant, ſays Dr. Lewis (Mat. Med. p. 167.) appears to be nearly ſimilar to borage, in its medicinal qualities as well as in its external form. The principal difference ſeems to conſiſt in the leaves being ſomewhat leſs juicy, and the roots more mucilaginous. The roots, leaves, and flowers are ranked among the articles of the materia medica, but they are very ſeldom uſed. In China this plant is ſaid to be much eſteemed for gently promoting the eruption in the ſmall pox. 2. A. *anguſtifolia*, borago of Zan. hiſt. bugloſſum anguſtifolium of Allion. and Mor. bugloſſum foliis linguiformibus aſperis, &c. of Haller, echii facies bugloſſum of Lob.; narrow-leaved alkanet, with racemes almoſt naked in pairs. Haller thinks that this is not a diſtinct ſpecies from the firſt. In gardens it grows to the height of two feet, but in its wild ſtate does not attain more than a foot. The leaves are narrow, and not ſo hairy as the firſt; the ſpikes of flowers are double, and have no leaves; the flowers are ſmall, and of a red colour; the roots will continue three or four years in poor land. It is found wild in Italy, Germany, and Swiſſerland: flowers in July and Auguſt by way ſides, and in the borders of ploughed lands; cultivated here by Miller in 1759. Boerhaave recommended the juice in the pleuriſy and maniacal caſes. 3. A. *italica*, bugloſſum of Haller, Ray, and Bauhin, Italian alkanet, with leaves lucid and ſtrigoſe, racemes two-parted, two-leaved, flowers ſomewhat unequal, bearded at the throat. This differs from the firſt ſpecies in ſize, in that the flowers are equal and funnel-ſhaped; whereas in this they are ſalver-ſhaped; they are much more imbricate in that, the ſegments of the calyx being broader and ſhorter; thoſe of the corolla ovate; with the ſcales of the throat only ſlightly tomentoſe. 4. A. *undulata*, waved A. ſtrigoſe, leaves linear toothed, pedicels leſs than the bracte, fruit-bearing calyxes inflated. This plant is three feet high, with many ſtrong lateral branches, produced from the main ſtem near the ground; the leaves are ſtiff, rough, ſix or ſeven inches long, and about half an inch round at the top, cloſely embracing the branches at the baſe, and two inches broad, indented and waved on their edges, the upper ſurface beſet with hairs, and rough to the touch: ſpikes of flowers axillary, a foot or more in length, reflex: corollas fine blue; the root decays after the ſeeds are perfected, though ſometimes, in gravel, or the joints of ſtone walls, it will live three or four years; but ſuch plants are ſeldom more than a foot high, and have ſmall narrow leaves, ſo that they appear like a different ſpecies. It is a native of Spain and Portugal, and Gmelin found it in Siberia; cultivated in 1739 by Mr. Miller. 5. A. *tinctoria*, bugloſſum tinctorium of Allion. Dyer's A. downy, leaves lanceolate, obtuſe, and ſtamens ſhorter than the corollas. This ſpecies is perennial, and reſembles the firſt in its leaves and branches, only that they are more woolly; the root is red. It much reſembles the ſeventh ſpecies, and is entirely covered with a white down. It grows about Montpellier in France, in Sileſia, Spain, and Italy; and was cultivated here in 1683 by Mr. James Sutherland. The roots of this plant, when in perfection, are externally of a deep purpliſh red colour. The red cortical part, ſeparated from the whitiſh woody pith, imparts a fine deep red to oils, wax, and all unctuous ſubſtances and alſo to rectified ſpirit of wine; but to water it gives only a dull browniſh hue. The ſpirituous tincture, when inſpiſſated to the conſiſtence of an extract, changes its fine red to a dark brown. The root has little or no ſmell, and ſcarcely any taſte; extracts made from it, by water and by ſpirit, are bitteriſh and roughiſh, but in too low a degree to be regarded as medicines, though they were formerly in repute as aperient, for diſſolving coagulated blood, reſtraining diarrhœas, and drying inveterate ulcers. Its chief uſe at preſent is for colouring oils, plaſters, lip-ſalves, &c. which receive a fine deep red from one-fortieth their weight of the root. For this purpoſe the conſiſtent unctuous materials are to be liquefied in the heat of a water-bath, the powdered anchuſa added, the mixture ſtirred now and then till ſufficiently coloured, and then ſtrained through a linen cloth. The roots of bugloſs boiled in a decoction of Braſil wood are ſometimes ſubſtituted for thoſe of alkanet; but theſe will not dye oils red. Lewis and Murray. 6. A. *virginica*, lithoſpermum virginianum of Morriſon and Ray, virginian A. with flowers ſcattered, and ſtem ſmooth. This is perennial, and a native of North America, where it grows in the woods, covering the earth with bright yellow flowers, and known by the name of *puccoon*. 7. C. *lanata*, woolly A. with villoſe leaves, ſhaggy calyxes, and ſtamens longer than the corollas. This ſpecies was found by Brander near Algiers, and is very like the fifth. 8. A. *ſempervirens*, bugloſſum latifolium ſempervirens of Dillon in Ray's Synop. borago ſempervirens of Gerard, evergreen A. with ovate leaves, and axillary two-leaved and capitated peduncles. The root is thick, and externally black; the herb ſtem evergreen and hiſpid; the ſtems angulate round, and folioſe; the leaves alternate and ovate; the peduncles axillary, ſolitary, capitated, and two-leaved at the apex; the limb of the corolla blue, rather ſalver-ſhaped than funnel-ſhaped, ſegments rounded, tube at the baſe four-cornered; the germs imbedded in a hollow glandular receptacle; ſeeds one or two, generally abortive, rough, and very hard. In habit and character this plant approaches to myoſotis. It is found wild in Spain and Italy. With us it has been found by road-ſides, among rubbiſh, and in the joints of old walls, in ſeveral places about Norwich, at Haddiſcoe in Suffolk, near Birmingham, Worceſter, and Sidmouth, near Rocheſter and London, and in the ruins of Maes Glas monaſtery in Flintſhire. It is perennial, and flowers in May and June. Withering's Bot. Arr. vol. ii. p. 227. Smith's Flor. Brit. vol. i. p. 215. 9. A. *barrelieri*, bugloſſum barrelium of Allion.

bugloſſum ſylveſtre minus, &c. of Barr. with leaves ovate, lanceolate, erect ſtem, racemed peduncles, pointing one way. This ſpecies was found in Piedmont by Bellardi. 10. A. *paniculata*, panicled A. or bugloſs, with leaves lanceolate, ſtrigoſe, quite entire, panicle dichotomous and divaricate, flowers peduncled, calyxes five-parted, with ſubulate ſegments. It is biennial; flowers in May and June; a native of Madeira, where it was found by Mr. F. Maſſon, and introduced into Kew Garden in 1777. 11. A. *tuberculata* of Forſkahl, referred to this genus by Gmelin, with tuberculated nuts. This, ſays Mr. Dryander (Linn. Tranſ. vol. ii. p. 222.) is LITHOSPERMUM *orientale* of Gmelin. 12. A. *echinocarpos* of Forſk. with muricated nuts, and ſingle anther covered at the top. 13. A. *flava*, of Forſk. with rugoſe nuts, procumbent ſtems, and axillary, decurrent peduncles. This, ſays Mr. Dryander (*ubi ſupra*), is the ASPERUGO *Ægyptiaca* of Gmelin's Linnæus. 14. A. *hiſpida* of Forſk. with ſmooth nuts, ſhort axillary peduncles, ſtem hiſpid, and the lower leaves petiolate. 15. A. *ſaxatilis*, with leaves oblong, linear, on both ſides hairy, the floral leaves lanceolate, with flowers ſcattered, axillary and ſubſeſſile. 16. A. *amæna*, with undulated leaves and triquetrous nuts.

Culture. All the ten preceding ſpecies of anchuſa, enumerated by Martyn, may be eaſily propagated by ſeeds, ſown in the Autumn, upon a bed of light ſandy earth; and in the Spring, when the plants are ſtrong enough to be removed, they ſhould be planted in beds, at the diſtance of two feet, and, in a dry ſeaſon, watered till they have taken root; and afterwards they will only need to be kept clear from weeds. If the ſeeds of the common ſorts be allowed to ſcatter, the plants will riſe in plenty. Gmelin's Linnæus. Martyn's Miller.

ANCHUSA. See BARLERIA, BORAGO, LITHOSPERMUM, MYOSOTIS, ONOSMA, and PULMONARIA.

ANCHYLE, or ANCYLE, in *Surgery*. See ANCHYLOSIS.

ANCHYLOBLEPHARON. See ANCYLOBLEPHARON.

ANCHYLOPS. See ANCHILOPS.

ANCHYLOSIS, in *Surgery*, (from αγκυλοω, *curvo*) *Anchyle*, *Ancyle*, *Ankyloſe*, *Acineſia*, immobility of the joints. This term is uſed when any joint of the body becomes, whether from external or internal cauſes, ſtiff and inflexible. It is divided into the *true* and the *ſpurious* anchyloſis. By the true ancholyſis is underſtood that diſeaſe, in which the bones of the joints form ſuch a ſynoſtoſis with each other, that they appear to conſiſt of a ſingle piece. In the ſpurious anchyloſis, the motion between two bones at the joint is in ſome degree, though not entirely, loſt.

The mobility of a joint may be more or leſs interrupted by various cauſes, amongſt which are different diſeaſes of the bones, particularly a tumefaction of their extremities, caries, fracture, near to or within the joint, diſlocation, twiſting, and cruſhing of the bone; as well as ſeveral kinds of tumors, ſuch as fleſhy excreſcences, aneuriſms, hydropical accumulations, &c. The muſcles may alſo give riſe to the ſtiffneſs of a joint, when the flexors contract ſo ſtrongly that the extenſor muſcles loſe their force, in which caſe a CONTRACTION, as it is termed, is produced. This generally ariſes from internal cauſes; ſometimes, however, from external, or diſeaſes that have attacked the joints, in which caſes the ligaments and other ſurrounding parts of the joints are likewiſe affected. To the internal cauſes belong the ſwelling of the bones, the rickets, a metaſtatical depoſition of corrupted fluids in the joint, a deficiency of the ſynovia or mucus which lubricates the joints, a continued pain, under which the patient finds relief from a certain poſition of the limb, in which he conſequently keeps it for a long time, the colica ſaturnina, gout, chronic rheumatiſm, and paralyſis. Some indeed have aſſigned, as cauſes of impeded motion in joints, the inſpiſſation and accumulation of the mucus which lubricates their cavities; but even though we ſhould admit that this ſynovial mucus might become preternaturally thick by the limb being left too long without motion, it cannot, however, be proved that its inſpiſſation may increaſe to ſuch a degree, as entirely to prevent the motion of the joint, as even the thickeſt mucus is ſtill able to lubricate ſmooth ſurfaces, and facilitate their motion upon each other. On the contrary, a too long continued and violent exertion and motion of the body, as well as long continued repoſe, may deprive the fibres of their natural flexibility, as in both caſes more earthy particles are depoſited, and the fibres themſelves rendered more denſe, in conſequence of which the ligaments alſo reſiſt the extenſion and flexion of the joint.

The true anchyloſis may eaſily be known by the impoſſibility of moving the bones in their joints, by the inſurmountable difficulty which oppoſes their flexion or extenſion; but we may alſo with equal eaſe diſcover the falſe anchyloſis by both ſeeing and feeling that the part ſtill retains ſome power of motion at the joint. The prognoſis depends upon the knowledge of the true cauſe of the diſeaſe, according to which the cure is either perfect or imperfect. By the imperfect cure we can only alleviate the inconveniences of the true anchyl. namely, the incurable ſynoſtoſis of the bones; ſo that the perfect cure can only be ſucceſsfully accompliſhed in the ſpurious anchyloſis.

In general the method of cure is to be determined according to the different cauſes which have given riſe to the incurvation and impeded motion of the joint. When the proximate cauſe conſiſts in a contraction, we muſt endeavour to diſcover and remove the cauſe by which the contraction has been produced, and afterwards aſſiſt the cure by means of external applications; for frequently, even though the internal cauſes may have been removed, the contraction of the muſcles ſtill remains. The contraction may be diſcovered by the tendons of the muſcles, which keep the limb bent or extended, being very much ſtretched. Moreover, all that has been ſaid concerning the internal cauſes and diſeaſes, with a view to the cure of the immobility of the joints, applies alſo to the external cauſes and diſeaſes; ſuch as white ſwellings, ſuppuration of the joint, preternatural excreſcences in the joints, caries, dryneſs of the joints, burns, cicatrization, &c.

When now the internal or external cauſes have been removed, the ſurgeon muſt apply the proper remedies for reſtoring the motion of the joint itſelf. Theſe remedies conſiſt in endeavouring to ſoften the muſcles, tendons, adipoſe membrane and ligaments, afterwards ſlowly and gradually to extend them, and progreſſive efforts to move them to reſtore them by degrees to their former condition; for which, however, a long ſpace of time is generally required.

In an anchyloſis ariſing from a fracture of the bones of the joint, beſides preſcribing a light diet, we ſhould rub the diſeaſed parts about the joint with flannel, in order to attenuate the fluids, and increaſe the effect of the remedies peculiarly adapted for the cure of the diſeaſe. For, in order to reſtore the mobility, it is particularly neceſſary that the muſcles, ligaments, ſkin, and cellular texture ſhould be ſoftened and relaxed by emollient remedies, which ought to be employed very liberally, and perſiſted in for a great length of time. Contracted muſcles ſhould be rubbed, throughout their whole extent, with emollient applications, for the ſpace of half an hour or more at a time, and three times every day.

The limb itſelf ſhould conſtantly be kept moiſtened with the ſame applications, by wrapping it, every time after it has been rubbed, in flannel dipped in the emollient fluid.

Whilſt we are applying the frictions, we ſhould endeavour to extend the limb as much as the patient can bear, ſlowly, but with perſeverance.

When the contraction is ſituated in the knee-joint, we may make uſe of a machine, with the view of preventing the ſhortening of the muſcles. The extenſion ſhould by no means be performed too quickly, as pain and inflammation might eaſily be the conſequence. Mr. B. Bell, in his Syſtem of Surgery, has recommended a uſeful machine for this purpoſe; Mr. Koehler (Anleitungzum Verband, &c. Leipzig, 1796, 8. p. 168.) recommends a bench; and Mr. Trampel (Arnemaun's Magazin fuer die Wundarzneiwiſſonschaft. B. i. St. 1. p. 23. fig. 1.) a machine ſimilar to that of Mr. Koehler.

Amongſt the emollient remedies adapted for the cure of this diſeaſe are particularly to be enumerated all ſorts of animal oils, ſuch as the fat of ducks, geeſe, and hogs; the ſteam of warm water, warm baths; freſh expreſſed oils, the Ungt. althæ. Some recommend alſo an ointment made of the dripping of hares, turpentine, and oleum ovi; alſo baths and embrocations mixed with brandy; and finally, the vapour bath. When the ſubſtance of the fibres has become too denſe, repeated embrocations, with a warm ſolution of ſal ammoniac in water, are particularly uſeful. When theſe remedies are not found adequate to the removal of the ſtiffneſs, we may employ more powerful ones, ſuch as embrocations with the brine of herrings with vinegar, vitriol, and alum; alſo with a ſolution of the balſam. vitæ extern. the empl. de galbano & de ammoniaco; eſpecially the gumm. ammoniac. boiled in wine vinegar to the conſiſtence of a plaſter, ſpread thick upon leather, and applied to the diſeaſed part.

Previouſly to every uſe of the vapour-bath, we may rub the part with a ſolution of Venice ſoap, or alſo with ol. majoranæ, ol. tartari. fœtid. or ſome other ſimilar oil. In proportion to the effects which it produces on the patient, the vapour bath may be applied for the ſpace of half an hour or an hour, twice or thrice a day, or only every other day. The fluid employed for forming the vapour bath may contain, diſſolved in it, ſal ammoniac, balſamum vitæ externum, &c. In the intervals, the embrocations are to be applied. Fumigations, with volatile ſubſtances, have alſo been employed with great advantage.

Where the ſtiffneſs of the joint owes its origin to a diſlocation that has been reduced, and where the ſoft parts have been bruiſed, repeated blood-letting, with emollient and diſcutient poultices ſhould be uſed, till the tumor and ſwelling have diſappeared, after which the parts may gradually be moved. But when the diſlocation has not been reduced we muſt attend to the tumor, hardneſs, and inflammation, which are to be treated with general remedies. Where theſe obſtacles do not ſtand in our way, we may let blood, and attempt the reduction, provided the diſorder is not of too long ſtanding.

When ſymptoms of a deficiency of the ſynovia are obſerved, or the blood is inadequate to its ſecretion in the glands of the joints; we muſt not only put our patient upon a proper regimen, but alſo employ general remedies adapted to the complaint; ſuch as gentle evacuants, moderate frictions to the diſeaſed part, baths with decoctions of emollient herbs, or alſo emollient poultices, to which we may add a quantity of black ſoap. When, on the contrary, there is too great an abundance of ſynovia, particularly when the diſeaſed parts are affected with pain and ſwelling, we muſt let blood, and before uſing diſcutient poultices or baths, rub the diſeaſed parts with warm flannel, and, at the ſame time, gently move the joint. But ſhould this not be ſufficient, we may mix ſtimulating herbs with the poultices, and add to the baths a quantity of lime-water, kitchen-ſalt, or ſal ammoniac.

Diſtortion of the limbs is ſometimes a congenital diſeaſe, which moſt frequently occurs in the foot. See Vari & Valgi.

ANCI, in Greek γαλαξιαι, *weaſel-elbowed*, from γαλη, a *weaſel*, and αγκων, *an elbow*, a name given by Hippocrates to thoſe who, from ſlipping the head of the *os humeri* into the *ala*, have an arm ſhorter and ſmaller than it ought to be, and the cubit or elbow of a weaſel; whence they are called by ſome *muſtelani*, which fully expreſſes the Greek word, or barely *anci*. The diſorder that gives occaſion for the name, happens either in the womb, where the *os humeri* ſuffers a luxation, from too much moiſture; or in tender years by means of an abſceſs deeply ſeated about the head of the *os humeri*. See Dislocation and Luxation.

ANCIAO, in *Geography*, a ſmall town of Portugal, in Beira, containing one pariſh, and about 1200 inhabitants.

ANCIASMUS, in *Ancient Geography*, a town of Greece in Epirus, which was an epiſcopal ſee. It is thought to be the ſame with the *Onchesmus* of Ptolemy.

ANCIENT, or Antient, in its uſual ſenſe, denotes a thing which exiſted in times long ago; and thus it is oppoſed to *modern*.

We ſay ancient nations, ancient architecture, ſculpture, philoſophy, &c. ancient manners, ceremonies, poets, phyſicians, and the like.

Ancients, in *Church Diſcipline*. See Elders.

Ancients, in *Inns of Court*, imports a diſtinction of a certain degree. Thus, the ſociety of Gray's Inn conſiſts of benchers, ancients, barriſters, and ſtudents under the bar: here the ancients are the elder barriſters.

In the inns of chancery there are only ancients, and ſtudents, or clerks; and among the ancients one is yearly the principal, or treaſurer. In the Middle Temple ancients are ſuch as have gone through, or are paſt their reading.

Ancient is ſometimes alſo uſed, in a *military ſenſe*, for the colours, or an ensign.

Ancient, or Anshent, in the *Naval armament*, a ſmall flag or ſtreamer ſet upon the ſtern of a ſhip, or on a tent, ſimilar to the guidon uſed at funerals, which was called an anſhent.

Ancient *demeſne or domain*, in *Law*, is a tenure, whereby all manors belonging to the crown in William the Conqueror's and St. Edward's time were held.

The number of names of all manors, after a ſurvey made of them, were entered in a book called "Domeſday Book," yet remaining in the Exchequer; ſo that ſuch lands as by that book appeared to have belonged to the crown at that time, and are contained under the title "terra regis," are called ancient demeſne. The tenants in ancient demeſne are of two ſorts; one who hold their lands freely by charter; the other by copy of court-roll, or by the verge, at the will of the lord, according to the cuſtom of the manor. The advantages of this tenure are, 1. That tenants holding by charter cannot be rightfully impleaded out of their manor; and when they are, they may abate the writ by pleading the tenure. 2. They are free from toll for all things relating to their livelihood and huſbandry; nor can be impannelled on any inqueſt. Theſe tenants held originally by ploughing the king's lands, plaſhing his hedges, and the like ſervice, for the maintenance of his houſehold; and it was on this account that ſuch liberties were given them, for which they may

may have writs of *monſtraverunt* to ſuch as take the duties of toll, &c. No lands are to be accounted ancient demeſne, but ſuch as are held in ſocage. Whether land be ancient demeſne or not, ſhall be tried by the Book of Domesday.

Ancient *differences*, in *Heraldry*. See Bordures.

ANCIENTY, in ſome *Ancient Statutes*, is uſed for elderſhip or ſeniority. The elder ſiſter can demand no more than her other ſiſters, beſide the chief meſne, by reaſon of her ancienty. This word is uſed in the ſtatute of Ireland, 14 Hen. III.

ANCIGNE, in *Geography*, a town of France, in the department of the two Sevres, and chief place of a canton, in the diſtrict of Malle; five leagues and a half ſouth-ſouth-eaſt of Niort.

ANCILLA, in *Entomology*, a ſpecies of Phalæna, of the Bombyx tribe. The wings are brown, with three tranſparent white ſpots on the anterior pair: abdomen yellow, with a black ſtreak. Gmel. This is the ſame inſect as Fabricius deſcribes under the ſpecific name obscura. *ſpec. inſ.* and is likewiſe the Noctua Ancilla of Wien. Schmetterl. It inhabits Germany, according to Gmelin, and feeds on the lichen parictinus; Fabricius notes it in the cabinet of Dr. Allioni as a native of Italy. In ſome ſpecimens the poſterior wings are without ſpots, in others yellow, with a brown margin and curved mark.

This ſpecies muſt not be confounded with the Phalæna Ancilla of Cramer, Pap. t. 149, which is an Indian inſect, and the variety (γ) of the Noctua Fullonica of Gmelin, aud Noctua Dioscoreae of Fabricius.

ANCILLON, David, in *Biography*, a French Proteſtant divine, was born at Metz in 1617. In early life he applied to his ſtudies with ſuch diligence, that it was neceſſary, on ſome occaſions, to reſtrain, what his biographer calls, the exceſs and intemperance of his ſtudious diſpoſition. From the age of 10 years he purſued his courſe of learning at the college of the Jeſuits at Metz; and at this time many attempts were made by the directors of the inſtitution to gain him over to their religion and party; but all their efforts were ineffectual. Having determined to devote his life to the profeſſion of divinity, he removed in 1632 to Geneva; and, during a reſidence of ſeven or eight years in that place, he acquired an extenſive and accurate knowledge of philoſophy and theology. In 1641 he underwent an examination before the Synod of Charenton; and ſo far approved himſelf by the ſpecimens which he exhibited of his talents, learning, and modeſty, that he was appointed to the church of Meaux, which was one of the moſt conſiderable benefices then vacant among the reformed. Here he exerciſed his miniſtry with very great ſatisfaction both to himſelf and to thoſe with whom he was connected for 12 years; and ſuch was his reputation, that he was admired and eſteemed by perſons of all perſuaſions, both Catholic and Proteſtant. His popularity as a preacher recommended him to the attention of a wealthy perſon, who had one daughter, to whom he was affectionately attached, and he was induced by the reſpect which he entertained for him to declare to ſome of his friends, that if Ancillon would come and demand her of him in marriage, he would be happy in admitting him to an alliance in his family. In proceſs of time a negociation commenced, and it terminated in 1649 in an union, which was the ſource of much domeſtic felicity. Four years after his marriage, Ancillon availed himſelf of a vacant benefice in his native city to remove thither. Here he uniformly maintained the ſame character, and purſued his ſtudies with unabating ardour. The fortune he had acquired by marriage enabled him to indulge his favourite propenſity, which was that of the purchaſe of books, ſo that his library became both large and curious; and as it was one of the fineſt private collections in France, it was viſited as an object of curioſity by travellers who paſſed through Metz. Ancillon purchaſed the beſt editions of books, for which he gave theſe good reaſons: that the leſs the eye is fatigued in reading a book, the more is the mind at liberty to judge of it; and that as the beauties and faults of a work are more clearly ſeen in print than in manuſcript, ſo the ſame beauties and faults are more clearly ſeen when it is printed on good paper and in a fair character, than when the paper and type are bad. Ancillon was no leſs induſtrious in the uſe than curious in the choice of his books, and his reading was very various and extenſive; but he diſtinguiſhed between thoſe books which he read for amuſement or for general information, and ſuch others as were uſeful to him in his profeſſion. The former he read but once, curſorily, according to the Latin proverb, "ſicut canis ad Nilum bibens et fugiens," like the dog that drinks at the ſtream as it runs; the latter he read over ſeveral times with attention and care, and omitted no means of impreſſing their contents correctly upon his memory. He marked his books with a pen as he read them, and placed in the margin references to other authors. Ancillon, though he was uncommonly induſtrious in his purſuit of knowledge, did not allow his fondneſs for ſtudy to occaſion a neglect of the duties of his profeſſion; but in order to reconcile the one with the other, he addicted himſelf in too great a degree to a recluſe and ſedentary life; and he could never be prevailed upon more than three or four times to viſit a country-houſe which he had near the city. He ſcarcely ever left his own habitation, unleſs to go to church, or to perform the functions of his office; but he never neglected the ſervices of religion, nor diſregarded the calls of humanity. He diſcharged all the important and uſeful duties of a Chriſtian miniſter without oſtentation, without ambition, and without avarice.

After having enjoyed the ſweets of literary retirement for upwards of 40 years, and occupying the ſtation of miniſter to the Proteſtant church at Metz, with great reputation and uſefulneſs, for 22 years, Ancillon's repoſe was diſturbed by the demon of perſecution. Upon the revocation of the edict of Nantes, in 1685, this excellent perſon was reduced to the neceſſity of abandoning his library, his church, his friends, and his country, and of ſeeking refuge, from the phrenzy of religious bigotry, among ſtrangers. He fled into Germany; and his library, a few books which he had concealed excepted, fell in ſmall parcels, and for very inadequate payments, into the hands of the monks and clergy of Metz, and the adjacent towns. Thus deprived of the fruits of an attention beſtowed on his collection of books for 44 years, and of the pleaſure and benefit which he derived from them, he might well exclaim:

> "Impius hæc tam culta novalia miles habebit,
> Barbaras has ſegetes?" Virg. Eclog. i. v. 71.
>
> "Did we for theſe barbarians plant or ſow?
> On theſe, on theſe our happy fields beſtow?"

In the city of Hanau, Ancillon found an aſylum; and here he had an opportunity of exerciſing his miniſtry, at the requeſt of the French church, with great acceptance, till the jealouſy of the other two miniſters of the church, excited by his popularity, rendered his ſituation extremely uneaſy, and induced him to withdraw from Hanau, and to retire to Frankfort. With a view to the ſettlement of his family, he ſoon afterwards removed to Berlin, where he was favourably received by the elector of Brandenburg, aud obtained the

charge

charge of a French church. In this ſituation he remained, enjoying the comfort of ſeeing his children and other relations well eſtabliſhed, and ſupporting the character, which he had maintained through life, of a learned ſcholar, an excellent miniſter, and in all reſpects a truly worthy man, till death finiſhed his courſe in the year 1692. His literary works are few. In 1657 he publiſhed, at Sedan, in 4to. "A Relation of the Controverſy concerning Traditions, held between the Author and M. Bedacier, a Doctor of the Sorbonne." At Hanau he printed in 1666, "An Apology for Luther, Zuinglius, Calvin, and Beza." He alſo wrote, "The Life of William Farel, or the Idea of a faithful Miniſter of Chriſt," of which only a ſurreptitious copy was printed in Holland. Some of his learned converſations were publiſhed by his ſon in a miſcellany, mentioned in the next article. Gen. Dict.

ANCILLON, CHARLES, an advocate, the ſon of the ſubject of the laſt article, was born at Metz in 1659, and was a learned and zealous defender of the Proteſtant cauſe. After the revocation of the edict of Nantes, he was commiſſioned by the reformed at Metz to ſolicit at court an exemption in their favour; but he only ſucceeded in obtaining a mitigation of the treatment of his perſecuted brethren. At Berlin, whither he removed, he was appointed inſpector of the tribunal of juſtice, inſtituted for the French in Pruſſia, hiſtoriographer to the king, and ſuperintendant of the French ſchool In this city he died in 1715, at the age of 56 years. He wrote, in French, "An Hiſtory of the Eſtabliſhment of the French Refugees in the States of Brandenburg," printed in 8vo. at Berlin, in 1690; "A critical Miſcellany of Literature, collected from the Converſations of his father, Miniſter of Metz," 3 vols. 8vo. 1698; "The Life of Soliman II.," 4to. 1706; "A Treatiſe on Eunuchs," 4to. 1707; "Memoirs of many literary Charaters," 12mo. 1709. Gen. Dict.

ANCINALE, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Calabria Ultra; ſeven miles ſouth-ſouth-eaſt of Squillace.

ANCISA, one of the chief places in the Val di Arno in Tuſcany.

ANCISTRUM, from *αγκιστρον*, a *hook*, in *Botany*, a genus of the *diandria monogynia* claſs and order, and of the natural order of *roſaceæ*, Juſſ. Its characters are, that the *calyx* is a perianthium one-leafed, (four-leafed, H. K.) turbinate, truncate, four-toothed, teeth cylindric, awned, erect, terminating in four-reverſed hooks; *corolla* (none, H. K.) ſuperior, one-petalled, funnel-ſhaped with a very ſhort tube, and a ſpreading quadrifid border; the diviſions nearly equal, obtuſe, of the length of the tube; the *ſtamina* have filaments faſtened to the baſe of the tube, longer than the corolla, capillary; anthers roundiſh; the *piſtillum* has an oblong germ, filiform ſtyle of the length of the corolla; ſtigma pencil-ſhaped; *pericarpium* none, but the calyx, in the bottom of which is the fruit (a drupe, dry, hiſpid, one-celled, H. K.), the *ſeed* ſingle and oblong. Martyn reckons three, and Gmelin two ſpecies. 1. A. *decumbens*, (A. anſerinæfolium of Forſt. Gen. A. diandrum of Forſt. fl. Auſtr. A. ſanguiſorbæ of Linn. Suppl.) "with ſtems decumbent, peduncle ſcape-form ſolitary, flowers in a globular head, leaflets wedge-form, deeply ſerrate, hoary beneath, ſeed covered with the thickened calyx." It reſembles burnet in the herb and manner of flowering, and is remarkable for the yellow awns to the calyx, like fox's nails; a native of New Zealand. 2. A. *lucidum*, ſhining A., "with ſtems ſubdemerged, peduncles ſcape-form, ſpikes ovate, and leaflets oblong, quite entire, acute, and ſubfaſcicled." This ſpecies is a native of Falkland Iſlands, and introduced in 1777 by Dr. J. Fothergill. It flowers in May and June. 3. A. *latebroſum*, (agrimonia decumbens of Linn. Suppl.) hairy A. "with ſtems demerged, duncles ſcape-form, ſpikes elongate, leaflets oblong, gaſhed, and villoſe, and fruits armed on every ſide." The calyx cloſes as the ſeed ripens, and thickens into an ovate globoſe, ſuberoſe, white-tomentoſe bark, armed every way with ſhort briſtles, thickening outwardly, and having four reverſed barbed little prickles. The ſeed ſingle, ovate-globoſe, produced at top into a boſs, ſmooth and pale; covered with a thin membranaceous ſkin, and on the outſide of that with a coriaceous, hard, thick, integument, reſembling a ſhell. Martyn's Miller.

ANCIZAN, in *Geography*, a town of France, in the department of the Higher Pyrenees, and chief place of a canton in the diſtrict of La Barthe de Neſte, five leagues ſouth-ſouth-eaſt of Bagneres.

ANCLABRIS, in the *Religion of the ancient Romans*, denoted a table in temples, whereon the prieſts eat their portion of the ſacrifices and oblations.

ANCLACÆ, in *Ancient Geography*, a people placed by Ptolemy in Aſiatic Sarmatia.

ANCLAM, in *Geography*, a town of Germany, in the Circle of Upper Saxony and duchy of Pomerania, ſituate on the river Peene, in a fertile country. On one ſide of it are ſwamps and meadows, with a ſtone-dyke, a quarter of a German mile in length, and on the other deep moats and walls. It has two pariſh churches, has a good trade both by land and water, and has thriven under the Pruſſian government. It is the capital of the circle to which it gives name, and the territory belonging to the town is near three German miles long, and contains 17 villages and two farms. It is eight leagues ſouth of Gripſwald, and 14 north weſt of Stettin. N. lat. 54°. E. long. 14° 9'.

ANCLE. See ANKLE.

ANCLOTE *Point*, in *Geography*, on the peninſula of California, coaſt of the North Pacific Ocean, lies in N. lat. 30°. and W. long. 116°, ſoutherly from the town of Velicета, and north-eaſt from the ſmall iſland of Guadaloupe.

ANCOBARITIS, in *Ancient Geography*, a country of Meſopotamia, known to Ptolemy, and placed by Strabo in Arabia Deſerta.

ANCOBER, ANKOBAR, COBRE, or GOLD RIVER, in *Geography*, a river of Africa, which runs into the Atlantic, between the Gold Coaſt and the country of Axim. At its mouth is a good harbour. N. lat. 4° 48'. W. long. 40'.

ANCOBER, or ANKOBAR, a town and diſtrict of the Gold Coaſt, extending from north to ſouth about 18 or 20 leagues along the river of this name. In this ſmall kingdom there are women who never marry, but devote themſelves, by certain ceremonies of an infamous kind, to public proſtitution.

ANCOCUS *Creek*, in *Geography*, lies in New Jerſey, being a water of the Delaware, ſix miles ſouth-weſt from Burlington. It is navigable 56 miles, and conſiderable quantities of lumber are exported from it.

ANCOE, a ſmall town of South America, three leagues from the city of Guamanga.

ANCON, in *Anatomy*, denotes the curvation or flexure of the arm, whereon we reſt in leaning.

This is otherwiſe called OLECRANUM.

ANCON, in *Architecture*, is uſed to denote the corners or quoins of walls, croſs beams, or rafters.

ANCON is alſo uſed in the *Ancient Architecture*, to denote the two parts or branches of a ſquare, which meet in an angle reſembling the letter L.

ANCON is alſo uſed by Vitruvius, to denote a kind of *menſulæ*, or tables before doors, bent ſomewhat after the manner of *volutes*, ſo as to reſemble the letter S.

In this ſenſe *anconet* amount to the ſame with what the Greeks call προθυρίδες, *prothyrides*.

ANCON is particularly applied in the *Ancient Architecture* to the brackets, or ſhouldering-pieces, called CONSOLES and CORBELS by the moderns.

ANCON was alſo uſed by the Carthaginians, to denote a dark priſon or dungeon. Suidas mentions one of this kind, in which Gelimer uſed to put all who diſpleaſed him; from which Belisarius delivered many merchants of the eaſt, whom the tyrant intended to put to death.

ANCON is alſo applied to the angles or flexures of rivers; ſometimes alſo to the tops of mountains.

ANCON, in *Ancient Geography*, a town of the Leuco-Syrians, in Cappadocia. M. d'Anville places it upon the Euxine Sea, between Amiſus to the weſt, and the Promontorium Heracleum to the north-eaſt.

ANCONA, a town of Italy, in Picenum to the north, ſituate on a ſmall iſthmus, which joins the promontory of Cumerium to the continent. As ἀγκὼν denotes curvature, its name is probably deduced from its ſituation. Some ſay that it was firſt built by the Syracuſans, when they fled from the tyranny of Dionyſius, towards the year 405 before Chriſt. It was famous for the beauty of its dyeing, and the purple of Ancona was only inferior in eſtimation to that of Phœnicia. It became a Roman colony probably after the war of Tarentum, about the year of Rome 485, when the conſul P. Sempronius conquered the Picentines, and extended the frontiers of the Roman poſſeſſions as far as Æſis. The emperor Trajan conſtructed a good port, in commemoration of which a triumphal arch of fine veined marble was erected to him on the mole, which ſtills makes a beautiful appearance. Ancona was ineffectually beſieged by the Goths under Totila, A.D. 551; but it was taken by Ariulf, king of the Lombards, and duke of Spoleto, in 592. In 839 it was taken and pillaged by the Saracens. It is now the capital of a country of the ſame name; a free port, with a convenient harbour, ſecured by a ſtrong mole, on which are generally mounted 8 or 10 guns; and its chief exports are grain, wool, and ſilk. It is the ſee of a biſhop, immediately under the pope. The Jews are very numerous in Ancona; however they live in a particular quarter of the town, and are obliged, by way of diſtinction, to wear a bit of red cloth in their hats. The exchange in Ancona has a beautiful front, and over the entrance an equeſtrian ſtatue; and within it is a lofty ſpacious apartment, in which, among other ſtatues, are thoſe of Faith, Hope, Charity, and Religion. The inhabitants of Ancona, ſays Keyſler (vol. iii. p. 209.), eſpecially the female ſex, ſo far excel thoſe of the other parts of Italy, in ſhape and complexion, that they ſeem to be a different race of mankind. In the ſhallows near Monte Comero, or Conaro, about 10 Italian miles from Ancona, there is a ſingular ſpecies of teſtaceous fiſh, called ballani, or ballari, which are found alive in large ſtones. The ſhell of this fiſh is thin, rough, and of an oblong figure, reſembling a date; and hence they are called Dattili del Mare, or ſea dates. Theſe ballari are laid within the mole, and come to perfection. In fiſhing for them, ſuch ſtones are ſelected as have the ſurface full of little holes, which indicate that theſe fiſhes have inſinuated themſelves into them. When the ſtones into which the ſpawn has penetrated are taken, ſeveral of theſe fiſhes are found in them. Both the fiſh and its juices are ſo luminous in the dark, that one may ſee to read by the light they afford; and even the water in which this fiſh has been ſqueezed, when put in a glaſs, emits an effulgence which laſts from eight to twelve hours. Great quantities of the ballari are brought to Rome, where they are reckoned "beccone di cardinale," or, dainties fit for a cardinal. Oyſters are preſerved here alive in ſea-water for ſeveral years; but the oyſters of Ancona, though large, are flabby and unpalatable. Here is alſo a kind of ſea-craw fiſh, called nocchia, reſembling our lobſters, but of a more delicate flavour. In the harbour of Ancona there is alſo a fiſh called the ſepi, which has a longiſh white ſhell on its head: theſe ſhells are often found along the ſhore, and, when pulverized, are uſed for cleaning plate. Ancona is 107 miles north-north-eaſt of Rome. N. lat. 43° 38'. E. long. 13° 30'.

ANCONA, *Marquiſate of*, a province of Italy, in the pope's territories. It is bounded on the north and eaſt by the Adriatic, on the ſouth by Umbria and Abruzzo Ultra, and on the weſt by the duchy of Urbino. The air is indifferent, but the ſoil is fertile, particularly in hemp and flax, and there is plenty of wax and honey. The province is about 22 leagues in length, and 16 in breadth: and along the coaſts towers are erected, and furniſhed with cannon, in order to keep off the corſairs. The chief rivers are the Fiumelino, Aſpido, Tingo, or Tenna, Ragnola, and Tronto. The principal towns are Ancona, Aſcoli, Camerino, Fermo, Jeſi, Loretto, Macerata, Montalto, Oſimo, &c.

ANCONÆUS, or ANCONEUS *Muſculus*, in *Anatomy*, ariſes tendinous from the back part of the external condyle of the os brachii; it becomes fleſhy, and terminates by a thin fleſhy attachment in a ridge on the outer and back part of the ulna. Its uſe is to aſſiſt in extending the forearm. Formerly all the extenſor muſcles of the elbow were called anconei, and that which now excluſively bears the title was the anconeus quartus, or minor.

ANCONY. See IRON, *Manufacture of*.

ANCORARIUS MONS, in *Ancient Geography*, a mountain of Africa, in the Hither Mauritania. According to Pliny the wood which grew upon it had the ſmell of citron, and was called citrus.

ANCOURT, FLORENT CARTON D', in *Biography*, an eminent actor and comic writer, was born at Fontainbleau, in 1661, and educated at the Jeſuits' college in Paris. Deſtined for the law, he became an advocate at the age of 17 years; but falling in love with an actreſs, whom he married in 1680, he then devoted himſelf to the ſtage as an actor; he excelled in the graver comic parts; and, as a dramatic writer, his particular line was humorous farce. He was diſtinguiſhed by his exhibition of ruſtic characters; his dialogue, though filled with the jargon of the peaſantry, was gay and lively, and abounded with ſmart ſallies; and his plots generally conſiſted of little incidents, contrived to ridicule the follies of the day. His pieces were popular, and attracted numerous auditors. His proſe was much better than his verſe. His company was much ſought by the gay and great, and Louis XIV. was fond of him. In 1718 he quitted the theatre, and retired to an eſtate in Berry, where he employed himſelf in thoſe religious duties, pertaining to his ſpiritual ſafety and welfare, with which, according to the maxims of the Roman Catholic religion, the profeſſion of a player is incompatible. He died in 1726, and left two married daughters. His works were printed in 1729, in nine vols. 12mo. A ſelection of the beſt of them has been publiſhed in three vols. 12mo. Gen. Dict.

ANCRE, in *Geography*, a ſmall town in France, in the province of Picardy, upon a ſmall river of the ſame name, five leagues north-eaſt of Amiens. N. lat. 49° 59'. E. long. 2° 45'.

ANCRE'E, ANCRED, or ANCHORED, in *Heraldry*, is ſaid of a croſs where its extremities turn back like the flukes of an anchor, or terminate like the *croſs patonce*, but in a ſharper turn. Care muſt be taken not to miſtake the croſs ancrée for the croſs moline, which is of the ſame form, and by ſome of the old heralds called a croſs ancrée, or anchored.

ANCRINA,

ANCRINA, in *Ancient Geography*, a town of Sicily, according to Ptolemy, at ſome diſtance from the ſea coaſt.

ANCTERES, in the *Ancient Medicine*, ſeem to have been the ſame, at leaſt to have anſwered the ſame uſes as our SUTURES.

Some alſo ſpeak of a ſtrong kind of ſticking plaſter under this denomination.

ANCTERIASMUS, in *Medicine*, the operation of applying a *fibula* to cloſe the two patent lips of wounds.

This is alſo called by Latin writers, *infibulatio*.

ANCTERIASMUS is more particularly uſed to denote the paſſing a *fibula* through the prepuce of the ancient ſtage-players and buffoons.

ANCUAH, in *Geography*, a town of the province of Alovahat, to the north of Egypt and of the Thebaid.

ANCUBITUS, among *Ancient Phyſicians*, denotes a diſeaſe of the eyes, wherein there is an appearance of ſand, or little ſtones ſprinkled on them.

This is otherwiſe called PETRIFICATION.

ANCUD, in *Geography*, an archipelago or cluſter of iſlands in a part of the Pacific Ocean, between the coaſt of Ancud, that of Chili, and the iſland of Chiloe.

ANCUD is a name given to a coaſt of South America in the province of Chili, between the archipelago of Ancud to the weſt, the Andes to the eaſt, the country of Oſorno to the north, and the Terra Tagellanica to the ſouth.

ANCUROPOLIS, or the city of Anchors, in *Ancient Geography*, was one of the cities of the Heptanomis in Egypt, mentioned by Ptolemy, and ſo called from a neighbouring quarry, out of which ſtone anchors were cut.

ANCUS, a name for ſuch as have an arm bent crooked, ſo that they cannot extend it. See ANCI.

ANCUS MARTIUS, in *Biography*, the fourth king of Rome, was grandſon of Numa Pompilius by his daughter Pompilia and Marcus his relation, the ſon of that Marcus who perſuaded Numa to accept of the kingdom, and who afterwards killed himſelf, becauſe he was not choſen in his room. His name Ancus was derived from the Greek word αγκων becauſe he had a crooked arm, which he could not ſtretch out to its full length. He ſucceeded Tullus Hoſtilius, according to the common computation, in the year before Chriſt 634. He began his reign by endeavouring to reſtore the religious ceremonies, which had been neglected in the time of his predeceſſor, to their former uſe, to revive huſbandry, and to promote the arts of peace. Nevertheleſs his natural diſpoſition was martial, and he gained various advantages for his country by his arms. The Latins gave him an early opportunity of exerciſing his military talents. Having violated the treaty which had been made with Tullus, by invading the Roman territories, Ancus declared war againſt them with all the religious ſolemnity enjoined by Numa, and took the field with an army conſiſting entirely of new-raiſed troops. After having taken ſeveral cities, he defeated them in a pitched battle, obliged them to ſue for peace, and obtained a triumph at Rome for the advantages which he had gained. He alſo recovered Fidenæ, which had revolted; defeated the Sabines, and obtained victories over the Veientes, for which a ſecond triumph was decreed him by the ſenate. During his reign Rome was greatly enlarged, by carrying the walls round the Aventine Hill, and incloſing the hill Janiculum, which was on the other ſide of the Tiber, and which was now made a fort of citadel for Rome. A communication was alſo opened between this citadel and the city, by means of the bridge Sublicius, which Ancus erected over the Tiber, and that part of the river which waſhes the foot of the Aventine Hill. He alſo built a large priſon in the Roman forum. Ancus likewiſe extended the territories of Rome as far as the ſea, and eſtabliſhed the port and city of Oſtia, in order to ſecure to his ſubjects the advantages of trade. About this town he cauſed many ſalt-pits to be dug, and diſtributed ſalt among the more indigent claſſes of his ſubjects. He rebuilt the temple of Jupiter Feretrius in a very magnificent manner; and having ſpent the latter years of his reign in improving the city, and enriching its inhabitants, he died, after a proſperous reign of 24 years. Livy, lib. i. c. 32, 33. t. i. p. 134—144. Dion. Hal. lib. iii. t. i. p. 170, &c. ed. Oxon.

ANCY, in *Geography*, a ſmall town of South America, three leagues from the city of Guamanga.

ANCY LE DUC, a town of France, in the department of the Saone and Loire, one league north of Marcigny les Nonains.

ANCY LE FRANC, or ENCRE, a town of France, in the department of the Yonne, and chief place of a canton, in the diſtrict of Tonnerre, eight leagues eaſt of Auxerre, and three ſouth-eaſt of Tonnere.

ANCYLE, in *Antiquity*, denotes a ſmall kind of brazen ſhield, ſuppoſed to be the ſhield of Mars, and ſaid to have fallen from heaven into the hands of Numa Pompilius, at the ſame time that a voice was heard, that Rome ſhould be miſtreſs of the world while ſhe preſerved that ſhield. Though there was but one ancyle that fell from heaven, yet there were twelve preſerved; Numa, by the advice, as it is ſaid, of the nymph Egeria, having ordered eleven others, perfectly like the firſt, to be made by Veturius Mamurius, ſo that if any ſhould attempt to ſteal it, as Ulyſſes did the Palladium, they might not be able to diſtinguiſh the true ancyle from the falſe ones. Theſe ancylia were preſerved in the temple of Mars; and were committed to the care of 12 prieſts or *ſalii*, inſtituted for that purpoſe. They were carried every year, in the month of March, in proceſſion all round Rome; and the 30th day of that month they were again depoſited in their place.

ANCYLE, ſee ANCHYLOSIS.

ANCYLOBLEPHARON, or ANCHYLOBLEPHARUM, (from αγκυλη, *hamus*, and βλεφαρον, *palpebra*) in *Surgery*, an adheſion of the eye-lids. This may either be a natural or a congenite defect, or it may be produced by accidents, ſuch as burns, violent inflammations, and ulcers. The eye-lids may either adhere to each other only, or they may adhere to the eye-ball itſelf; and ſometimes both kinds of adheſions are preſent together.

There are properly three degrees of this diſeaſe. The *firſt* is, when the eye-lids are only glued together by means of pus or thick mucus, as happens in many inflammations of the eye, particularly in the ſuppurating inflammation, whilſt the patient is aſleep; alſo in the ſmall-pox, when the eye-lids have been kept cloſe for ſeveral days in conſequence of the general ſwelling of the face; in ſuch caſes, therefore, it is alſo termed the *ſpurious* ſpecies of the diſeaſe. The *ſecond* degree is when the edges of the eye-lids not only adhere together, but are even connected by means of a cicatrix. The *third* degree is where the eye-lids have alſo formed an adheſion with the conjunctive coat, or the ball of the eye. This third degree is alſo particularly termed SYMBLEPHARON. Theſe two laſt degrees are accounted the *genuine* ſpecies of the diſeaſe.

In the firſt degree, when the eye-lids are glued together by a purulent or tough mucous matter, we muſt employ emollient applications. The eye-lids ſhould be moiſtened with a luke-warm mixture of milk and water, or with an infuſion of rad. altheæ, or with an emollient decoction, applied upon a piece of linen, till they ſpontaneouſly ſeparate from each other. We may alſo rub them gently with an ointment conſiſting of ſyr. papav. ol. amygd. and camphor, and after-

wards apply an emollient poultice of hb. falv. f. m. lini and milk. Should theſe remedies not produce the deſired effect, we may cautiouſly introduce a probe with a knob between the eye-lids, and thereby prevent their adheſion.

In the ſecond degree the edges of the eye-lids either adhere together at all points from one canthus to the other, ſo as to form a perfect concretion, or they are only more or leſs connected together at one or the other angle of the eye. In the firſt caſe, the patient is entirely deprived of ſight; in the ſecond he can ſee by turning the ball of his eye ſideways, ſo that if the diſeaſe be not ſpeedily removed, ſquinting may eaſily be the conſequence. The method of cure in this diſeaſe is to ſeparate the eye-lids from each other by means of an inciſion.

In this operation the ſurgeon muſt uſe great caution in directing his inſtrument, ſo as to avoid the ball of the eye, and prevent its injuring the eye-lid in ſuch a manner as to lay bare the tarſus, the conſequence of which might be a very troubleſome ulceration. This may be accompliſhed without difficulty, when the eye-lids do not entirely adhere together, but are ſtill ſeparate at ſome point; as for example, when there ſtill remains an opening at the internal canthus. Some uſe for this purpoſe a ſmall grooved probe, which they introduce between the eye-lids, and then carry along the groove a thin and ſomewhat crooked-bladed knife, or a ſmall pair of ſciſſars, or only a lancet. But in preference to the probe we may uſe, as a more convenient and ſafe inſtrument, a ſmall knife, with a ſtraight back, but ſomewhat curved at the edge, and terminating at the point in a very ſmall probe with a knob, about two lines in length.

For performing the operation the patient is placed upon a chair, in a convenient poſture; an aſſiſtant ſecures his head, and, at the ſame time, draws the ſuperior eye-lid upwards, whilſt the ſurgeon draws the inferior downwards with two fingers, or elſe draws it with a ſmall forceps downwards, and, at the ſame time, off from the eye. Sometimes the ſurgeon himſelf may ſtretch both eye-lids from each other with the fingers of one of his hands. With the other hand he introduces the ſcalpel abovementioned under the eye-lids, in ſuch a manner, that the back is directed towards the ball of the eye, and the edge to the place where the preternatural adheſion is ſituated; that is, to the interval between the two edges of the eye-lids, or between both rows of eye-laſhes, which frequently remain uninjured by the diſeaſe, puſhes it forwards, and thus divides the preternatural adheſion. In caſe of neceſſity he may alſo uſe a ſmall pair of eye-ſciſſars, though this inſtrument is not ſo ſafe and convenient as the blunt-pointed ſcalpel.

When the eye-lids are entirely cloſed they muſt firſt be opened at ſome external point, by drawing out the ſkin into a croſs fold, and introducing a lancet into it, ſo as to form an aperture through which a ſcalpel or probe may be introduced; which being done, the reſt of the operation is performed after the manner already deſcribed. But leſt the ball of the eye might be injured, the firſt aperture ſhould be made with caution, and always either at the inner or outer canthus of the eye, for fear of wounding the tranſparent cornea, which might thereby be rendered opaque. The ſafeſt method of proceeding will therefore be to draw at the ſame time the eye-lids from each other. This inciſion, however, but ſeldom becomes neceſſary; for even in a complete adheſion an opening may always be perceived at the inner canthus of the eye, through which a ſcalpel or probe may be introduced. When the puncta lacrymalia are likewiſe obſtructed, a ſpecies of fiſtula lacrymalis remains after the operation, unleſs the puncta can be opened. See FISTULA LACRYMALIS.

When the diviſion of the preternatural adheſion has been performed, we ſhould apply to the eye a piece of very fine ſoft linen ſpread with Goulard's cerate, or ſome other cooling ointment; and after the firſt dreſſing we ſhould daily rub between the eye-lids a quantity of ointment made with freſh butter and *flor. zinci.* or *tutia*, either with or without balſ. Peruv. or elſe ſome ſaturnine ointment. The patient ſhould likewiſe repeatedly open and move his eye-lids during the day; and in the firſt night after the operation he ſhould let himſelf be frequently awakened, in order to prevent the formation of a new adheſion. In this, as in all other operations on the eye, we ſhould do all that is in our power to prevent inflammation, and to relieve any that may have taken place.

But, before we operate upon a complete adheſion, we ſhould carefully examine whether the ball of the eye be perfectly ſound, and whether the eye-lids have not formed adheſions with the ball of the eye alſo; which may happen in caſes of burns, or when quicklime has fallen into the eye, in which caſes not only the edges of the eye lids, but the ball of the eye itſelf is generally injured, and often the cornea rendered entirely opaque. For when the cornea is entirely opaque, and the eye-lids adhere not only with each other, but alſo with the ball of the eye; when the patient perceives no ſenſation of light while a candle is held cloſe to his eye in a dark room, and in general cannot diſtinguiſh light from darkneſs; when the eye-ball is felt under the eye-lids ſmall and collapſed; and when from the cauſe, by which the diſeaſe has been occaſioned, there is reaſon to ſuſpect that the cornea has been rendered opaque—the patient's ſight cannot be reſtored by an operation, which conſequently will be ſuperfluous. We may conclude that the eye-lid adheres to the ball, and that an operation will conſequently be difficult, if not impracticable, when the eye-lid cannot be moved backwards and forwards upon the ball, or when we feel that the patient cannot move the ball of his eye, or when, in moving it, the eye-lid contracts itſelf into wrinkles. However, when the eye-lid does not adhere throughout, but only at particular points, and not on the cornea, to the ball, it is worth our while to attempt the operation, for which purpoſe we muſt firſt draw the eye-lid aſunder, and then ſeparate the adhering lid from the ball.

In the third degree, which conſiſts in a preternatural adheſion of the eye-lids with the ball of the eye, there ſometimes alſo exiſts an adheſion of the edges of the eye-lids with each other; in many caſes, however, the adheſion ſubſiſts only between the eye-lids and the ball, forming what is termed SYMBLEPHARON. Of ſuch adheſions ſeveral varieties are obſerved; they are ſometimes firm, or fleſhy; at others, looſe or membranous. Either the whole ſurface, or a ſingle part of one or the other eye-lid adheres to the ball. In the firſt caſe, which is very rare, the patient is altogether unable to open his eye; in the ſecond he can only open his eye-lids partially, and ſee when he turns the ball of the eye to the aperture; in which caſe he may eaſily become ſubject to STRABISMUS by habit. The adheſion of the upper eye-lid occurs far more frequently than that of the lower.

The ſeparation of the preternaturally united parts can here be performed only by the knife. A ſmall crooked knife, formed like a probe at the point, has been propoſed for this purpoſe. In performing this operation, we muſt take care that we may not injure either the eye-lid or the ball of the eye, which it is the more difficult to avoid, as we frequently cannot ſee how we carry the knife, on account of the hæmorrhage. By preſſing the ball of the eye with the blade of our inſtrument backwards from the eye-lid, and at the ſame time drawing, or letting an aſſiſtant draw the eye-lid forwards from the ball, we may in many caſes not only perform a part of the ſeparation without cutting; but alſo, if in-

ciſion ſhould be neceſſary, we may uſe our inſtrument with greater ſafety, and without injuring any of the parts. With this view Mr. Kaltſchmidt has recommended to uſe a ſmall lancet in ſuch a manner, that its ſurface lies firm upon the ſurface of the eye, the edge being ſteadily directed againſt the fibres which form the adheſion, ſo as to divide them more by preſſure than by moving the lancet to and fro. Moreover, we ought, in performing this operation, to be particularly cautious not to injure the inner ſurface of the eye-lid, it being better to cut away a part of the conjunctiva of the eye, than to injure the eye-lid itſelf. But when the eye-lid adheres to the cornea we muſt ſpare the latter, and preſs the knife more upon the eye-lid. For performing this operation a ſteady and experienced hand is particularly neceſſary.

This operation, however, is always very difficult, and it will be attended with no benefit when the cicatriſation is firm and fleſhy, and when the eye-lid adheres cloſely to the ball. Neither will it be productive of any benefit when the eye-lid, though adhering only at one part, is connected with the cornea, and the adheſion is of a muſcular nature; ſo that it is highly probable the cornea will be rendered opaque, unleſs we can hope afterwards to reſtore its tranſparency. In this caſe, however, as in every caſe where the adheſion is muſcular and cicatriſed, it is very difficult to prevent the parts from forming new adheſions with each other. It is, therefore, only in thoſe caſes where the adheſion is looſe and membranous, and only a ſmall part of the ball connected with the eye-lid, and that at the ſide, that the operation can be performed with facility, and with a ſure hope of a fortunate event; though even here it is often very difficult to prevent a new adheſion from taking place. When the adheſion is very looſe, we may frequently diſpenſe with cutting inſtruments, and effect the ſeparation by means of a ſmall blunt knife, ſhaped like a SPATULA.

In order to prevent the formation of a new adheſion, after the operation, ſome introduce lint into the eye, others a piece of linen or fine leather in the form of a creſcent, others a thin, ſmooth plate of ivory, lead, or horn, ſhaped ſo as to correſpond with the form of the eye, or only a thin, flat piece of wax. All theſe foreign ſubſtances, however, when introduced between the ball and lid of the eye, irritate, preſs, and inflame the eye; neither do they keep their ſituation. It is therefore better to direct the patient frequently to roll the ball of his eye, and not to ſleep too long at a time; and when the hæmorrhage has ceaſed, frequently to introduce upon the inner ſurface of the eye, with a hair pencil, a little cream, oil of almonds, ſaturnine or tutty-ointment; or to drop, into the ſpace, between the lid and the ball, ſome gently aſtringent and drying collyrium. We may alſo (as Heiſter adviſes) introduce repeatedly towards the termination of the cure a blunt probe between the lid and ball of the eye, and move it gently backwards and forwards; but this muſt be done with the utmoſt caution. Any remaining opacity of the cornea muſt be treated with the proper remedies.

The method of treatment, practiſed by Fabricius Hildanus (Obſervat. Centur. v. Obſ. 7.) might alſo in ſome caſes be attempted. His method was gently to introduce a crooked probe at the inner angle of the eye, under the upper eye-lid, between the lid and ball of the eye, till its point projected out of the outer canthus. He then faſtened a fine ſilk thread to the point of the probe, and introduced the probe again in the ſame manner as before; the ends of the thread he tied together under the eye, and faſtened a ſmall lump of lead to them. During the day time the lead was ſuffered to hang to the thread, but it was taken off when the patient went to bed. By means of this thread, and the weight ſuſpended to it, the adheſion was ſeparated in the ſpace of nine days, the eye-lid and ball of the eye completely recovered their motion, and nothing of the diſeaſe remained behind except a ſmall ſpeck upon the cornea.

Vide C. F. Kaltſchmidt, Diſſ. de puero xii. annorum anchyloblepharo laborante curato. Jen. 1764. Reſp. C. G. Barchewitz.—G. I. Badendyk, Diſſ. de Ancyloblepharo. Jen. 1785.

ANCYLOGLOSSUM, or ANCHYLOGLOSSUM, in *Surgery*, (from ἀγκύλη, *hamus*, and γλῶσσα, *lingua*) *Ancyloglaſſe*, *Ancylion*, and adheſion of the tongue, or the being TONGUE-TIED. This term is applied to that mal formation of the parts, in which the frenulum of the tongue confines its apex too much, and impedes its motion, either by its being continued too far forwards towards the extremity of the tongue, or by its being too ſhort, conſidered in its perpendicular direction. Both theſe defects are generally natural ones, and are therefore moſt commonly obſerved in new-born infants. However, even in adults, the frenulum may ſometimes be ſhortened, and the motion of the tongue impeded in conſequence of a wound, ulcer, &c. We diſcover the exiſtence of this defect, when we find that we cannot introduce the finger under the tongue, and raiſe it up; when the infant neither ſucks the finger, when it is introduced into its mouth, nor the nipple of the mother; when the child, after it has begun to ſpeak, cannot properly pronounce the letters which are principally articulated with the apex of the tongue, namely, *ſ*, *l*, *r*, (a very complete adheſion of the tongue, whether by means of the frenulum, or any other preternatural connecting ſubſtance, may even occaſion complete dumbneſs); and when the apex of the tongue cannot be drawn forwards, beyond the teeth, to the gums or lips.

The cure of this defect conſiſts in the operation of dividing the frenulum, which, however, is very frequently performed without neceſſity, and to the very great detriment of the infant. (Fabricius ab Aquapendente) Chirurg. Operat. cap. xxxvi.) aſſerted, that among a 100,000 children that were born, ſcarce one actually required this operation. See alſo Jourdain on the diſeaſes of the Mouth, vol. ii. p. 594. and 602.) For only in that very rare caſe, in which the infant is unable to ſuck, in conſequence of the immobility of the tongue, are we authorized and obliged to perform the operation. Should even the frenulum be ſomething too ſhort, and the apex of the tongue not ſufficiently moveable, ſo that there is cauſe to apprehend that the child, when he learns to ſpeak, will not be able properly to articulate the lingual letters, we ought, provided he be not prevented from ſucking by that defect, to defer the operation to a future period, for it is unneceſſary to perform it at preſent; and ſhould it afterwards become neceſſary, for the purpoſe of enabling the child to articulate his words properly, it may then be performed with greater facility, ſafety, and accuracy; beſides, that the frenulum often becomes ſpontaneouſly elongated, and ſufficiently extended in conſequence of the mere motion of the tongue. As there are various other cauſes, which may be impediments to the infant in ſucking, we muſt not always look for the fault in the ſtate of the frenulum. Nay, though we ſhould even find the tongue actually immoveable in an infant that either cannot or will not ſuck, we are not authoriſed immediately to ſuppoſe that the defect of the frenulum is the cauſe of it, and ſo undertake the operation without farther examination. For we ſometimes find that preternatural membranes and ligaments, which proceed from the lateral edges of the tongue, and connect it with the gums, were the cauſe of the impeded motion of the tongue; and that, after theſe have been divided, the infant is able to ſuck. In new-born infants the tongue ſometimes adheres ſo ſtrongly to the gums, by means of a viſcid mucus,

that

that the patient cannot ſuck, nay, ſcarcely draw breath; this mucus may eaſily be removed by means of a ſpatula.

In performing the operation, we have principally to take care to make the inciſion into the frenulum of the proper length; for if we make it too long, that is too far on towards the root of the tongue, the tongue becomes too moveable, and another defect, of which we ſhall treat hereafter, is produced; whilſt, if we do not make it long enough, the tongue does not acquire ſufficient mobility, and the intention of the operation is not completely anſwered. However, it is always better rather to make the inciſion too ſhort than too long, as in the former caſe the operation may be repeated, and the diviſion made longer, whilſt, in the latter, the fault cannot be remedied. Moreover, we ought always to make the inciſion as much as poſſible in the middle, between the tongue and the ſubjacent ſoft parts, and avoid the blood-veſſels, nerves, and ſalivary ducts.

When it is determined to perform the operation, we proceed in the following manner: The patient being properly ſecured, and his mouth opened, we introduce the common mouth-ſpatula under the apex of the tongue, in ſuch a manner that the frenulum lies in the ſlit of the ſpatula. Inſtead of this ſpatula we may alſo uſe a grooved probe, with a flat and ſlit handle. Some recommend, inſtead of the ſpatula, to uſe a ſmall two-pronged fork, with knobs at the points. With one or other of theſe inſtruments, which we hold in the left hand, we raiſe the apex as much as poſſible, and ſtretch the frenulum. This manœuvre, as well as the reſt of the operation, may be facilitated by applying external preſſure under and behind the chin, by which means the ſoft parts under the tongue are elevated. We then divide the frenulum with a round-pointed pair of ſciſſars, which we hold in our right hand. The crying of the child greatly facilitates the operation; in performing which we may alſo compreſs his noſtrils, which will compel him to keep his mouth open.

Various other complicated inſtruments have been propoſed for performing this operation, but they may all be diſpenſed with, as none of them have any advantage over the more ſimple ones, the ſpatula, and ſciſſars: indeed we have often performed the operation with no other inſtrument than the ſciſſars. When the frenulum has been properly divided, there is ſeldom any neceſſity for employing any peculiar treatment; it may, however, be uſeful, during the firſt period after the operation, to draw a linen rag, neatly ſpread with fine-pounded ſugar or honey, ſeveral times a day under the tongue, in order to prevent the formation of a new adheſion. Sometimes alſo it happens, eſpecially when the frenulum is uncommonly fleſhy, or has been divided too far back, that a hæmorrhage enſues, which, though of itſelf inſignificant, may frequently be rendered dangerous, nay, even fatal in conſequence of the ſucking uſual with new-born infants, upon awaking, when the breaſt is not ſoon given them. This accident may be prevented by attending to the infant for the firſt twenty-four hours after the operation, and as ſoon as it awakes, taking it up, and laying it to the breaſt till it falls again aſleep. But there is ſtill greater cauſe to apprehend a dangerous hæmorrhage, when, through want of the proper caution, any conſiderable blood-veſſel under the tongue has been injured. This muſt immediately be ſtopped by ſtrong aſtringent remedies, *e. g.* concentrated vinegar, ſpir. vin. rectif. or Theden's aq. vuln. with which ſmall compreſſes ſhould be wetted, and laid under the tongue; or with blue vitriol, or agaric, preſſure being at the ſame time applied. In order to prevent the fatal hæmorrhage, which might afterwards ſupervene, it is neceſſary that the child ſhould be attended to during the firſt days after the operation, that we may ſee whether it moves its lips or appears to ſuck or ſwallow any thing; and when it does ſo, we muſt immediately examine whether any blood is diſcharged, in order that we may be able immediately to ſtop the hæmorrhage. We have known a very troubleſome excreſcence ariſe under the tongue of an infant, after it had been cut too deeply by an officious nurſe.

The frenulum may alſo, in ſome caſes, poſſeſs too great a facility of motion; namely, when, by a fault of the original conformation it is too long in its perpendicular direction, or when it does not extend far enough from the root towards the apex of the tongue. This fault is not to be diſcovered till the child begins to ſpeak. Little or nothing can be done to remedy it, though it ſometimes ſpontaneouſly diſappears as the child grows older. A ſimilar defect is produced when the frenulum has been divided without neceſſity, or when, in performing the operation from proper indications, the inciſion has been made too long. When either this or the preceding defect is preſent in a high degree, it ſometimes happens that the infant, which is in the habit of ſucking as ſoon as it awakes, ſucks down the apex of its tongue, and is ſuffocated. If we diſcover the accident in time, and extricate the tongue with our finger, the infant immediately recovers: it will, however, be neceſſary that we ſhould prevent the recurrence of a ſimilar accident. This we may do by two different means. As ſoon as the infant awakes, and begins to ſuck, we muſt either let it have the breaſt immediately, or we muſt put a finger or ſome other ſubſtance into its mouth till the breaſt can be given it. When it has been weaned it gradually loſes the habit of ſucking its tongue, and then there is no more danger to be apprehended. When circumſtances do not admit of ſuch attention being paid to the infant, or when the child, after it has been weaned, ſtill retains the habit of ſucking its tongue, we may prevent the tongue from being drawn down into the throat, by applying an ivory ſtick between the jaws of the child, which is to be faſtened behind the neck and under the chin with ſtrings. With adults, whoſe frenulum is either too looſe, or does not extend far enough towards the tip of the tongue, we may employ the tongue-bandage of M. Petit or Pibrac, of which we ſhall take notice under the article Wounds *of the Tongue*.

Finally, by frequent and forcible ſuction of the retroverted tip of the tongue, adults may ſometimes ſtretch, elongate, and relax their frenulum, which before was quite perfect, in ſuch a manner as to produce all the defects abovementioned.

Inſtead of a frenulum we ſometimes find, in infants, a fleſhy excreſcence under the apex of the tongue, which frequently is ſo large as to prevent both ſuction and deglutition, and can only be removed by exciſion. In this operation we have chiefly to apprehend the hæmorrhage, which ſometimes is ſo profuſe as to occaſion the death of the patient. As the remedies abovementioned are not applicable in ſuch caſes, we ought to employ the actual cautery, or ſometimes we may ſucceed with compreſſion. It might, perhaps, be adviſeable to cut out, at firſt, only a part of the excreſcence, ſo as to enable the infant to ſuck and ſwallow; after which, as he grows older, the reſt of it may be extirpated with greater eaſe and ſafety, if it produce any inconvenience. Both in children and adults, ſuction, deglutition, ſpeech, and maſtication are ſometimes impeded by painful excreſcences on the frenum, which ought to be removed by cutting, tying, or cauſtic. Ulcers, fiſtulas, and encyſted tumors, which are frequently found on the frenulum, muſt be treated in the ſame manner as when ſituated in other parts of the body.

Vide Chr. Car. Lang. Diſſ. de frenulo linguæ, ejuſq. inciſione—Præſ. Juſt. Chr. Loder. Jenæ, 1785. I. F.

Schweighaufer Diſſ. de Affectib. linguæ. Argentor, 1789.

ANCYLOMELE, αγκυλομηλη, from αγκυλος, *crooked*, and μηλη, a *probe*: a ſurgeon's crooked probe, or a probe with a hook.

ANCYLOSIS. See ANCHYLOSIS

ANCYLOTOMUS, (from αγκυλος, *crooked*, and τεμνω) Fr. Ancylotome. A knife for looſening the tongue. This inſtrument is no more in uſe. The term is alſo applied in general to all crooked-bladed knives.

ANCYLUS, in *Conchology*, a name given by Geoffroy to the PATELLA LACUSTRIS of Linnæus. See LACUSTRIS.

ANCYRA, now called by the Turks ANGOURI, in *Ancient Geography*, a city of Aſia Minor, and formerly the capital of Galatia, ſituate near the ſmall lake Cenaxis, and not far from the river Halys, and belonging to the Tectoſagi. Pauſanias (Attic. c. iv. p. 12.) intimates that it was founded by Midas, and that it derived its name from an anchor which was found there, and which was preſerved in the temple of Jupiter. It was afterwards greatly enlarged and adorned by Auguſtus, who, on this account, might be deemed the founder of it. In the time of Nero this noble city received the title of the metropolis of Galatia; and it is ſtill populous. Its inhabitants, according to Suidas, were denominated Hellenogalatæ, or Græco-Galli. See ANGORA.

ANCYRA, *Ancyra Abaſitidis* of Strabo, a town of Phrygia, mentioned by Pliny (l. v. c. ult.) and confounded by Steph. Byz. with the Ancyra of Gallo-Græcia of the preceding article.

ANCYRÆ, a town of Sicily, mentioned by Diodorus Siculus, lib. xiv. c. 49.

ANCYREUM, a promontory of Aſia Minor, noticed by Dionyſius Periegetes, as ſituated where the Euxine Sea terminated, and where the Boſphorus commenced.

ANCYROIDES, αγκυροειδης, is uſed by ſome writers in *Anatomy* for the proceſs or ſhooting forth of the ſhoulder-bone, in form of a beak; otherwiſe called *coracoides*.

ANCZAKRISH, in *Geography*, a river of Podolia, which diſcharges itſelf into the Black Sea, near Oczakow.

ANDA, in *Botany*, is a tree of Braſil, found, according to Piſon (Hiſt. Nat. Racened.), in the foreſts, at a ſmall diſtance from the ſea-coaſt; the wood of which is ſpungy and light; the leaf longiſh, fibrous, and pointed; the flower large and yellow; and the fruit a grey nut, which incloſes, under a double rind, two kernels of the taſte of cheſnuts. The fruit is ſaid to be purgative, and a little emetic: two or three of the kernels are a doſe. The Indians extract oil by expreſſion from theſe kernels, with which the natives anoint their limbs. The rinds of the fruit are eſteemed proper to ſtop a looſeneſs; thrown into ponds they kill the fiſh.

ANDA, in *Ancient Geography*, a town of Africa, according to Appian.

ANDABATÆ, in *Antiquity*, a kind of GLADIATORS, who fought hookwinked; having a ſort of helmet that covered the eyes and even the face.

They were called *andabatæ*, *quaſi* αναβαται, *aſcenſores*, becauſe they fought mounted on horſeback, or out of chariots. Others derive the word from ανα, *againſt*, and βαινω, *I go*.

Some ſay, the *andabatæ* fought in the dark, or late at night, after the *circenſia* were over. There were two men in the chariot, *viz.* the driver, or *auriga*, and the παραβατης, who was alſo called αναβατης, q. d. *adſcenſor*, or *mounter*; whence by corruption the Latins formed the andabata.

It has been diſputed among critics whether the andabatæ were a people who actually fought blindfold in their wars, or a ſet of combatants who only practiſed this method of fighting for the ſake of exerciſe.

ANDABATIS, in *Ancient Geography*, a town of Cappadocia, according to Antonine.

ANDACA, a town of India, which ſurrendered to Alexander, but its ſituation is unknown.

ANDAGUAYLAS, in *Geography*, a juriſdiction of the empire of Peru, in South America, ſubject to the archbiſhop of Lima: ſituate eaſt by ſouth of the city of Guamanga, extending between two branches of the Cordillera above 20 miles, and watered by ſeveral ſmall rivers. It abounds in ſugar plantations, grain of moſt ſorts, and fruits. This province is one of the moſt populous in theſe parts; and its climate is partly hot, and partly temperate.

ANDAGYRI, or ANDIGRI, a diſtrict of the iſland of Sumatra, with a populous town of the ſame name, ſituate on a river commodious for trade; the chief article with which this diſtrict abounds is pepper.

ANDAJA, a river of Spain, in Old Caſtile, which joins the Duero.

ANDALUSIA, a province of Spain, which formerly comprehended the kingdom of Granada, then called Upper Andaluſia; but the name is now appropriated to Lower Andaluſia, which is the moſt weſterly province of the ſouthern part of Spain. It is ſeparated, on the north, from Eſtramadura and New Caſtile by the Sierra Morena Mountains; on the eaſt, from Portugal by the river Chanca, and on the weſt, from Algarve by the Guadiana; on the ſouth, it has the ocean, the Straits of Gibraltar, and part of the Mediterranean; and along the ſouth-eaſt it has the kingdom of Granada. Its utmoſt length from Ubeda to Ayamente, is ninety leagues, and its breadth about ſixty. Its chief cities and towns are Seville, the capital, Baeza, Gibraltar, Corduba, Cadiz, Medina Sidonia, Jaen, Port St. Mary, &c. Its principal rivers are, the Guadalquivir, Xenil, Odier, or Odiel, Guadalate, and Tinto, or Azeche. Andaluſia is reckoned the richeſt and moſt fertile province of Spain; abounding in exquiſite fruits of all kinds, honey, excellent wine, grain, ſilk, ſugar, fine oil, numerous herds of cattle, particularly horſes, metals, cinnabar, and a ſpecies of quickſilver. The air, though warm, is refreſhed by cooling breezes, and the great extent of ſea coaſt is favourable to commerce. The wool of Andaluſia, ſays Keyſler, (Travels, vol. iii. p. 20.) is known to ſurpaſs all other; though the ſheep on which it grows were originally natives of England. The name of Andaluſia is applied by the Arabs not only to the modern province, but to the whole peninſula of Spain. Some have derived the name from Vandaluſia, the country of the Vandals; but the Handaluſia of Caſiri, which ſignifies in Arabic the region of the evening, or of the weſt, or the Heſperia of the Greeks, is perfectly appoſite. Gibbon's Hiſt. vol. ix. p. 467.

ANDALUSIA, NEW, a diſtrict of South America, in the eaſtern part of the province of Terra Firma, ſituate on the coaſt of the Atlantic, oppoſite to the Leeward Iſlands. The boundaries of this territory are indefinite, as the Spaniards pretend a right to countries in which they have never eſtabliſhed any ſettlements. If the diſtricts of Camana and Paria are included, it extends, according to the moſt reaſonable limits, 500 miles from north to ſouth, and about 270 from eaſt to weſt. The interior country is woody and mountainous, variegated with fine vallies that yield corn and paſturage. The produce of the country conſiſts chiefly in dyeing drugs, gums, medicinal roots, Brazil wood, ſugar, tobacco, and ſome valuable timber; to which may be added pearls, for which the Spaniards uſed to fiſh along this coaſt to Carthagena. The capital of Andaluſia is Camana, Cumana,

mana, or as fome writers call it, New Corduba, fituate in N. lat. 9° 55', about nine miles from the North fea. As the place was naturally ftrong, the Spaniards laid the foundation of a town in 1520, and fortified it with a caftle, which was capable of making a vigorous defence; and this was actually the cafe in 1670, when the Buccaneers affaulted it, and were repulfed with great flaughter. Mod. Un. Hift. vol. xxxv. p. 176.

ANDALUSICUS, in *Ornithology*, a fpecies of TETRAO that inhabits Andalufia. It is rufous, variegated with black: underfide reddifh white: legs and bill flefh coloured. Gmelin. The black marks on the plumage are irregular, but partly difpofed in bars; the neck and breaft are flightly tinged with yellow; the quills dufky. It has only three toes, which are all placed forwards. Latham. This is the ANDALUSIAN QUAIL of the latter author.

ANDAMANS, two iflands in the Gulf of Bengal, oppofite to the coaft of Malacca, though at a confiderable diftance. They are denominated the Great and the Little Andaman, which is about eight leagues in length, and five in breadth. The former is about 140 miles long, and its greateft breadth about 20; its deep bays afford excellent harbours, and one of its numerous creeks paffes through the ifland, and is navigable by fmall veffels. The foil is chiefly black mould, and the cliffs are compofed of a white arenaceous ftone. The forefts, which are extenfive, afford fome valuable trees, as ebony, and the Mellori, or Nicobar bread fruit. The only quadrupeds are wild hogs, monkies, and rats. The fifh, fupplied by the fea, are, for the moft part, mullets, foles, and good oyfters. The conduct of the inhabitants manifefts very little civilization; they are brutal, deceitful, and ferocious; and they are probably cannibals. They have woolly heads, and perfectly refemble negroes. As to their origin, report fays, that they are defcended from a crew of African flaves. Soon after the Portuguefe had difcovered the paffage to India round the Cape of Good Hope, one of their fhips, having on board a number of Mozambique negroes, was loft on the Andaman iflands, which, it is faid, were till then uninhabited. The blacks remained in the ifland, and fettled it; whereas the Europeans made a fmall fhallop, in which they failed to Pegu. But this account is not compatible with the defcription given of thefe iflanders by the Mahometan travellers in the ninth century. Canoes, however, might have been driven from the African coafts by a fouth-weft monfoon; and this defert ifle might have been thus occupied. A Britifh fettlement has been lately formed on the Greater Andaman, and fome convicts have been fent thither from Bengal. The natives are about 2000, and are now profiting by the example of Englifh induftry. The limits of thefe iflands are in N. lat. 14° 0'. 10° 8' E. long. 93° 3'. 93° 35'. Afiatic Refearches, v. ii. and iv.

ANDAMAS, a town of Perfia, in the province of Kuziftan, 45 leagues weft of Ifpahan.

ANDAMENTO, in *Mufic*, the *motivo*, or movement in giving out the fubject of a fugue; a theme, longer and more important than a POINT, which fee.

ANDANASAR, in *Geography*, a town of India, on this fide the Ganges, in Decan.

ANDANCE, a town of France, in the department of the Ardeche, and chief place of a canton, in the diftrict of Mezen, on the Rhone, 20 miles north of Valence, and 12 north of Tournon.

ANDANIA, in *Ancient Geography*, a town of Meffenia, fouth-weft of Meffene. It was one of the moft ancient cities, and had probably been the capital of the country. Paufanias (Meffenica. c. i. p. 282. 323.) has given a particular account of its origin, and of its decline and defertion.

ANDANIS, a river of Carmania, fo called by Pliny and Ptolemy, but denominated by Arrian, Anamis.

ANDANTE, in *Mufic*, from *andare*, Ital. *to walk*, &c. neither to run nor to creep, but the medium between both thofe motions. *Andantino*, the diminutive of *andante*, is applied to movements fomewhat quicker, and bordering on *allegretto*, or rather *graziofo*.

ANDARÆ, a people of India, on the other fide of the Ganges, who formed, according to Pliny, a very powerful nation. Hardouin is of opinion, that the country which Pliny meant to defcribe was the kingdom of Pegu.

ANDARAX, in *Geography*, a town of Spain, in the country of Granada, fix miles north-weft of Almeria.

ANDARBA, in *Ancient Geography*, a town placed by Antonine in Dalmatia.

ANDARGE, in *Geography*, a river of France, which rifes in the vallies of Unflan, and joins the Arron near Verneuil.

ANDARIACA, a town of Afia Minor, which was fituated, according to Ptolemy, in Lycia.

ANDARINI, a pafte of vermicelli, reduced into fine grains, like anifeed.

ANDARISTUS, in *Ancient Geography*, a town of Europe, in Macedonia. Ptolemy refers it to the Pelagonians.

ANDARO *Ifland*, in *Geography*, lies on the weftern coaft of the peninfula of India. N. lat. 10°. and E. long. 73° 35'.

ANDASTES, an Indian nation, in Canada.

ANDATE, in *Mythology*, the goddefs of Victory, was one of the principal deites of the ancient Britons; fhe had a famous temple at Camelodunum.

ANDATIS, in *Ancient Geography*, a town of Ethiopia, on the banks of the Nile, according to Pliny.

ANDAUTONIUM, a town of Higher Pannonia, upon the river Savus, north-eaft of Sifcia.

ANDAYE, in *Geography*, a fea-port town of France, in the department of the Lower Pyrenees, near the mouth of the Bidaffoa, on the borders of Spain, with ftrong fortifications, and a good trade; five miles fouth weft of St. Jean de Luz. N. lat. 43° 25'. W. long. 1° 45'.

ANDEAH, a town of Hindoftan, in the circar of Bilfah, 30 miles eaft-north-eaft of Biltah, and 120 fouth of Agra.

ANDECRIUM, or ANDETRIUM, in *Ancient Geography*, a town of Dalmatia.

ANDEB, or AINTAB, in *Geography*, a town of Turkey in Afia, in the government of Aleppo, fituate on the road that leads from Aleppo to Erzerum, near the river Sefchar, in a valley that abounds with vines, various kinds of fruits and apples of a large fize. This was ancintly *Antiocha ad Taurum*.

ANDEGAN, the capital of Fergana, one of the provinces of great Bucharia.

ANDEGAVI. See ANDES.

ANDEIRA, in *Ancient Geography*, a town of Afia Minor, in Thebaic Cilicia, at fome diftance to the north of the fmall river Scilleus. Near this town there was a chapel confecrated to the mother of the gods, and a fubterraneous grotto, which extended as far as Palœa.

ANDEL, in *Geography*, a town of Franee, in the department of the northern coaft, and chief place of a canton, in the diftrict of Lamballe, feven miles eaft of St. Brieuc.

ANDELANGA, in *Midddle Age Writers*, occurs as part of the *formula* of divers donations.

In this fenfe we meet with *donare per* andelangam & *feftucam*, *vendere* & *tradere per* andelangam. &c. Some will have the term properly to denote what we call an *andiron*;

iron; others a long ſtaff, or rod, which it is known was much uſed in the act of putting into poſſeſſion.

The word is ſometimes alſo written *andelangus*, *andelago*, *andilago*, or *andalagus*, &c.

ANDELINGEN, or ANDELFINGEN, in *Geography*, a town of Swiſſerland, in the canton of Zurich; ſeated on an eminence in a vogtey of the ſame name, and near the river Thur; 17 miles north-north-eaſt of Zurich.

ANDELLE, a river of France, in the province of Normandy, which riſes near Ferté-en-Bray, paſſes by Vexin-Normand, and diſcharges itſelf into the Seine, about four leagues above Rouen.

ANDELOT, a town of France, in the department of the Upper Marne, and chief place of a canton, in the diſtrict of Chaumont, on the river Rougnon; 10 miles north-north-eaſt of Chaumont.

ANDELSPACH, a river of Germany, which runs into the Danube, near Scheir.

ANDELUS, in *Ancient Geography*, a town of Spain, placed by Ptolemy among the Vaſcones.

ANDELY, in *Geography*, a town of France, and principal place of a diſtrict, in the department of Eure. It is divided into two by a paved cauſeway; one of the parts is called *Le Grand Andely*, and the other *Le Petit Andely;* the one is upon the Seine, the other upon the river Gambon. It is 20 miles ſouth-eaſt of Rouen. N. lat. 49° 15′. E. long. 1° 14′.

ANDENA, in *Ancient Writers*, denotes a ſwath in mowing. The word is likewiſe uſed to ſignify as much ground as a man can ſtride over at once.

ANDENAS, in *Geography*, a ſmall iſland of Norway, in the North Sea, with a town of the ſame name. N. lat. 69° 30′. E. long. 14° 54′.

ANDEOL, or ANDIOL, a ſmall town of France, in the Vivarais, at the junction of the Ardeche with the Rhone. It is four leagues from Viviers. N. lat. 44° 24′. E. long. 2° 50′.

ANDERA, a beautiful village of Egypt, on the Nile, in which are found ſeveral monuments that indicate its former grandeur.

ANDERAB, the chief city of the province of Tokareſtan, in Great Bucharia, ſituate near a paſs through the mountains of Hindooh Koh, which ſeparate India and Perſia from Bucharia, and poſſeſſed by the Uſbeck Tartars. As there is no other way of croſſing the mountains towards India with beaſts of carriage, except through this city, all travellers and goods from Bucharia are obliged to pay four per cent. On this account the khan of Balk maintains a conſiderable number of ſoldiers in this place, which is otherwiſe of no great ſtrength. Anderab, though ſmall, is very rich and populous. The neighbouring mountains yield quarries of lapis lazuli, which furniſh a conſiderable trade between the Buchari and Perſia and India.

ANDER-ESCH, a town of the duchy of Luxemburg, two leagues and a half ſouth of Luxemburg.

ANDERITUM, or ANDERIDUM, in *Ancient Geography*, afterwards called *Gabali*, the capital of the Gabali, in Aquitania Prima. It was an epiſcopal ſee; but the city was ruined by an incurſion of the Alemanni, and the ſee was transferred to Mende.

ANDERLECH, in *Geography*, a town of Brabant, three miles ſouth-weſt from Bruſſels.

ANDERNACH, a town of Germany, in the circle of the Lower Rhine; in the archbiſhopric of Cologn, and in a prefecturate of the ſame name. It was anciently called *Antoniacum*, *Antunacum*, and *Antonacenſe caſtellum*, and was a free imperial city. In the year 1496 it was by force of arms rendered municipal by the elector of Cologn, to whom it now belongs. It is ſeated on the Rhine, and a toll is levied on travellers for the ſupport of its walls. Its trade, for which it is advantageouſly ſituated, conſiſts principally of ſtone ware, tiles, timber, and the ſoriff, a ſtone uſed in conſtructing dykes, which are conveyed to Holland by the Rhine. It is alſo remarkable on account of the large rafts which are here built upon the borders of the Rhine, the ſmaller ones being brought down the rivers Mayn and Rhine from Franconia and the country about Mentz, which are here united with thoſe of Andernach. One of theſe rafts, when it arrives in Holland, whither they paſs from the month of May to the end of Auguſt, is calculated to be worth about 80,000 guilders. They frequently require from 2 to 300 men to guide them. An irreconcileable animoſity ſubſiſts between the inhabitants of Andernach and thoſe of Lintz, and it is kept up by an annual ſermon preached againſt the latter in the open market-place of Andernach. There are three medicinal ſprings in its vicinity. It is ſituated on the confines of the electorate of Treves, three leagues north-weſt from Coblentz, and eight and a half ſouth-ſouth-eaſt from Cologn. N. lat. 50° 29′. E. long. 17° 9′. Render's Tour, vol. i. p. 316.

ANDERNO *Port* lies on the eaſt ſide of Scarpante, near the Archipelago Iſlands, nearly in the courſe from the eaſt end of Candia Iſland to Rhodes, to the north-eaſt.

ANDERO, ST. a ſea-port town in the Bay of Biſcay, in Old Caſtile, ſeated on a ſmall peninſula. It is a trading town, and contains about 700 houſes, 2 pariſh churches, and 4 monaſteries. Here the Spaniards build and lay up ſome of their men of war. N. lat. 43° 20′. W. long. 4° 30′.

ANDERO *Iſland*, ST. See ANDRES.

ANDERSKOW, a town of Denmark, in the Iſland of Zealand, one mile ſouth-eaſt of Slageliſe.

ANDERSON, ALEXANDER, in *Biography*, an eminent mathematician, was born at Aberdeen, in Scotland, and flouriſhed at the latter end of the 16th, and beginning of the 17th centuries. He was profeſſor of mathematics at Paris, where he publiſhed ſeveral ingenious works in geometry and algebra, both thoſe of his own and of other perſons. In 1612 was publiſhed in 4to. a ſupplement to Apollonius, written by Ghetaldus, under the title of "Supplementum Apollonii redivivi." His "Antilogia," treating of the analytic method of reaſoning, and containing farther obſervations on the former work, was publiſhed at Paris in 4to. in 1615. About the ſame time he publiſhed two treatiſes of Vieta, "On Equations," with a dedication, preface, and appendix, and Vieta's tract of "Angular Sections," with demonſtrations. A couſin of this gentleman, whoſe name was David Anderſon, was alſo diſtinguiſhed for his acquaintance with mathematical and mechanical ſcience. His daughter was the mother of the celebrated James Gregory, and as ſoon as ſhe diſcovered his propenſity to theſe ſciences, ſhe took pains in giving him neceſſary inſtructions in the elements of mathematics. Hutton's Math. Dict.

ANDERSON, SIR EDMUND, an Engliſh lawyer, was deſcended from a Scots family, ſettled in Lincolnſhire, and proſecuted his ſtudies, firſt at Oxford, and afterwards in the Inner Temple, where in due time he became a barriſter. In the 19th year of Queen Elizabeth, he was appointed the queen's ſerjeant at law, and ſoon after one of the juſtices of aſſize. In 1581 he went the Norfolk circuit, and diſtinguiſhed himſelf by his zeal againſt Browne, who was the founder of the ſect denominated Browniſts. His continued zeal in ſupport of the eſtabliſhed church recommended him to the queen; and in 1582 he was advanced to

the dignity of lord chief juſtice of the common pleas. In the following year he received the honour of knighthood. In 1580 he was appointed one of the commiſſioners for trying Mary, queen of Scots, and he ſat in the ſtar-chamber when ſentence was pronounced againſt her. He afterwards, viz. in 1587, ſat in the ſame court, when Davidſon, the queen's ſecretary, was charged with iſſuing the warrant for the execution of Mary, contrary to queen Elizabeth's command, and without her knowledge; and it was his opinion that the ſecretary had done "juſtum non juſtè," what was right but not in a due manner; upon which Mr. Granger very properly obſerves, that this diſtinction was "excellent logic for finding an innocent man guilty, and drawn from the ſame mood and figure with the queen's order and no order for Davidſon's ſigning the warrant." The diſtinction, however, was admitted; and the ſecretary was ſentenced to pay a fine of 10,000 pounds, and to be impriſoned during the queen's pleaſure. Judge Anderſon ſeems to have imbibed, in connection with this ſubſerviency to the will of the court, an intolerant and perſecuting ſpirit; and he has been reproached on this account, and not unjuſtly, by the Puritan writers. Mr. Pierce, in his "Vindication of the Diſſenters," p. 129, (ed. Lond., 8vo., 1717,) charges him with very unjuſtifiable conduct with regard to Udal, a Puritan miniſter, who was confined in 1589, and tried and condemned the year following, and with endeavouring to trick him out of his life. Upon an examination of Udal, at the houſe of Lord Cobham, in January, 1589—90, the lord chief juſtice endeavoured to draw from him a confeſſion that he was the author of certain books, which furniſhed the charges againſt him; though a law, 42 Edw. III. c. 3. to which Udal referred, ſays generally, that no man ſhall be put to anſwer without preſentment before juſtices, or matter of record, or by due proceſs, and writ original, &c. Udal, indeed, was not tried till July following; nevertheleſs the judge muſt know that, conſidering the diſpoſition of government towards ſeparatiſts, ſuch a confeſſion might endanger his life. He manifeſted a ſimilar ſpirit in 1596; when he declared in his charges, in the northern circuit, that thoſe who oppoſed the eſtabliſhed church, oppoſed her majeſty's authority, who was ſupreme in all caſes eccleſiaſtical as well as civil, and on this account they were enemies to the ſtate, and diſturbers of the public peace; and he directed the grand juries to inquire concerning perſons of this deſcription, that they might be puniſhed. At Lincoln, in his firſt and ſecond charge, as we are informed by the letter of a clergyman, preſerved in Strype's Annals, vol. iv. p. 267, he inſinuated with wonderful vehemency, that the country is troubled with Browniſts, with diſciplinarians as he called them, and erectors of Preſbyteries. He alſo called the preachers knaves; ſaying, that they would ſtart up in the pulpit, and ſpeak againſt every body; he urged the grand jury to ſuppreſs, by the ſtatute againſt Conventicles, a meeting held even with the biſhop's allowance, at Lowth; and declared that he would complain to her majeſty of any, though never ſo great, who ſhould ſhow themſelves diſcontented with the jury for any ſuch matter; in ſhort, he conducted himſelf with ſo much wrath, ſo many oaths, and ſuch reproachful revilings, upon the bench, that offence was taken at it by perſons of principal credit and note, throughout all the circuits.

He was nevertheleſs an able lawyer, and adhered with rigorous exactneſs to the ſtatutes; nor does it appear, that his obedience to the will of the ſovereign proceeded, like that of others, from view of perſonal intereſt, or from a fear of loſing his office, but from reſpect for what he deemed the conſtitutional right of the crown. In a caſe, when the queen would have ſtretched her prerogative beyond the limit of the law, the lord chief juſtice and his brethren reſiſted, and by their ſteadineſs obliged the queen to relinquiſh her claim. He alſo, together with the other judges, ſigned a remonſtrance againſt the arbitrary proceedings of the court, by which at the command of a counſellor, or nobleman, ſubjects were frequently committed to priſon, and detained without good cauſe, and contrary to the laws of the realm; a ſpirited meaſure which produced conſiderable effect; for we are told in Sir William Anderſon's reports (Reports, part ii. p. 297,) that "after this there did follow more quietneſs than before." Upon the acceſſion of James I., the lord chief juſtice was continued in his office; and he retained it till his death in 1605. "With a harſh and ſevere temper, and intolerant principles, which rendered him hoſtile to ſectaries, and with notions of arbitrary power, which made him, in ſome caſes, an inſtrument of tyranny, he appears to have poſſeſſed great firmneſs of temper, and independence of character. If his principles would not ſuffer him to be always an equitable judge, he was a great lawyer, and, on the whole, an honeſt man." His works are "Reports of Caſes, adjudged in the time of queen Elizabeth, in the common bench," in folio, London, 1644; "Reſolutions and Judgments in the Courts of Weſtminſter, in the latter end of the reign of queen Elizabeth," publiſhed by John Goldeſborough, Eſq. 1653. The title is now extinct. Biog. Brit.

Anderson, John, the ſon of a rich merchant, was born at Hamburgh, in 1674. Having made great proficiency in canon law, natural hiſtory, and the languages, he was made ſyndic of the city of Hamburgh, and he was employed in various negociations in the principal courts of Europe. In the proſecution of his ſtudy and reſearch, he directed a particular attention to the northern nations, and both by reading and converſation obtained a very conſiderable degree of information concerning them. By means of the Daniſh colonies eſtabliſhed in Davis's Straits, he gained an accurate knowledge of thoſe ſequeſtered parts, and he was enabled to correct many erroneous and fabulous accounts, concerning the ſtate of Iceland. The reſult of his inquiries was communicated to the public in a German work, entitled, "The natural hiſtory of Iceland, Greenland, Davis's Straits, and other northern regions;" ſince tranſlated into other languages. Mr. Anderſon died in 1743; and left behind him MS. pieces, that have not been publiſhed. Moreri.

Anderson, Adam, a native of Scotland, was brother to Rev. James Anderſon, D. D. editor of the "Diplomata Scotiæ," and "Royal Genealogies," miniſter of the Scots church, in Swallow-ſtreet, Piccadilly, and known in London, among his connections, by the name of biſhop Anderſon; a learned but imprudent man, who loſt a great part of his property in the year 1720. Adam Anderſon was for 40 years a clerk in the South Sea Houſe; one of the truſtees for eſtabliſhing the colony of Georgia, in America; and one of the court of aſſiſtants of the Scots corporation, in London. His well known work, entitled, "An Hiſtorical and Chronological Deduction of the Origin of Commerce," was firſt printed in two volumes, fol., in 1764; and a new edition of it, with conſiderable additions, was publiſhed in four volumes, 4to., in 1789. Mr. Anderſon died in Red Lion-ſtreet, Clerkenwell, Jan. 10, 1755.

Anderson's *Iſland*, in *Geography*, a ſmall iſland in the North Pacific ocean, diſcovered ſoon after Mr. Anderſon, the ſurgeon of the Reſolution, had breathed his laſt, and ſo called after his name. It was ſeen at ſome diſtance from a rocky point called Cape Newnham, ſituated in N. lat. 58° 42′. E. long. 197° 36′.

ANDES, in *Ancient Geography*, a ſmall place of Italy, near Mantua, celebrated as the birth-place of Virgil; hence he

he is called *Andinus*, according to ſome copies of Silius Italicus, lib. viii. v. 596; whilſt others read *Aonius*. It is now the village of Bandes, ſituate where the Veroneſe hills imperceptibly ſlope down into the plain of Mantua.

Andes, Andegavi, or Andicavi, a people of Gaul, to the eaſt of the Namnetes or Nannetes, and to the north of the river Liger. Pliny (lib. iv. c. 18.) calls them Andegavi, and they are denominated by Tacitus (Annal. iii. c. 41.) Andecavi, which Ptolemy has corrupted into Ondicavæ. Their chief city was called Juliomagus or Civitas Andicavorum. It is now Angers, and the territory of the Andes was the preſent Anjou. The Andes, or Andecavi, were valiant, and fought bravely in defence of their liberty; they entered into the conſpiracy of Vercingetorix, under the conduct of Dumnacus; and under the empire of Tiberius, when they were grievouſly oppreſſed with taxes, they raiſed the ſtandard of rebellion.

Andes, a chain of mountains in South America, called by the Spaniards Cordillera de los Andes, or great chain of Andes, which commences near the capes of Iſidro and Pilares, in the ſouthern extremity of the continent, and ſtretches along the Pacific ocean, at the mean diſtance of about 100 miles, traverſing the kingdom of Chili, and the provinces of Buenos Ayres, Peru, and Quito, to the weſt ſide of the gulf of Darien, through an interval of not leſs than 4600 miles. From thence they continue their courſe through the extenſive kingdom of New Spain, till they loſe themſelves in the unexplored countries of the north. The chief ſummits of this range of mountains are near the Equator, not far from the city of Quito. The higheſt of them is Chimborazo, about 100 miles ſouth of Quito, and about 10 miles north of Riobamba; and its height was computed by the French mathematicians, who were employed from 1735 to 1743, in meaſuring a degree of the equator, to be about 3217 French toiſes, or 20,280 feet, above the level of the ſea; that is about 5000 feet higher than Mont Blanc. But as theſe mountains are elevated on the high plain of Quito, which is elevated farther above the ſea than the top of the Pyrenées, and conſtitutes more than one-third of the computed height, they are inferior in actual elevation to Mont Blanc. That part of Chimborazo, which is covered with perpetual ſnow, is about 2400 feet from the ſummit. The mountain next in height is ſuppoſed to be the volcano of Cotopaſhi, which is eſtimated at about 18,600 feet, and is ſituated about 25 miles ſouth-eaſt of Quito. Other elevated ſummits are Pachincha, a few miles north-eaſt of Quito; and the Altar and Sanga, ſouth-eaſt of Chimborazo. In the province of Quito, the Andes form a double chain, including the plain of Quito. The weſtern ridge comprehends Pachincha, Iliniſſa, Chimborazo, &c.; and the eaſtern is compoſed of Cotopaſhi, the Altar, Sanga, &c.; and this double ridge is extended for about 500 miles from the ſouth of Cuenza to the north of Popayan. The higheſt of theſe ridges is barren, and covered with ſnow, although it lies in the torrid zone; the other, which is lower, is fruitful in woods, groves, &c. and abounds with wild hogs and ſheep, called guanacos, which reſemble a camel in ſhape, but of a ſmaller ſize, and bearing hair for ſoftneſs, firmneſs, and colour, preferred to ſilk.

There are ſeveral arms, or ramifications, which proceed from the Andes, and which ſerve to conſolidate the union of the ſouthern with the northern parts of America. The moſt northern of theſe, or that of the coaſt of Venezuela, lying between nine and ten degrees of N. latitude, is the moſt lofty and narrow. This great chain of the Andes extends from the high plain of Quito, by Popayan and Choco, on the weſt of the river Atrato, towards the iſthmus, where, on the banks of the Chagré, it forms mountainous land only about 1200 feet high. From the ſame Andes proceed ſeveral branches, one called the Sierra de Abibe, towards the province of St. Marta, covered with ſnow, and viſible from the ſea. This chain is reſtricted, as it approaches the gulf of Mexico, and cape of Vela, and afterwards runs due eaſt towards the mountain of Paria, or even to the iſle of Trinidad. The greateſt height is in the two Sierras Nevadas of St. Marta, and of Merida; the firſt being near 5000 varas, and the ſecond 5400 varas, about 2350 toiſes, or 14,000 Engliſh feet above the ſea. Several mountains of this chain are perhaps equal in height to Mont Blanc; they are perpetually covered with ſnow, and frequently pour from their ſides ſtreams of boiling ſulphureous water; and the higheſt peaks are elevated amidſt mountains of little height, that of Meridan being near the plain of Caracas, which is only 260 feet above the ſea. The general height of the chain of the coaſt is from ſix to 800 toiſes; the Nevada of Merida is 2350, and the Silla de Caracas 1316, lowering towards the eaſt, ſo that cape Codera is only 176 toiſes. This depreſſion, however, is only of the primitive rock; for there are ſecondary calcareous mountains from cape Unara, which are higher than the gneiſs, or foliated granite, and the micaceous ſchiſtus. Theſe calcareous mountains, covered with calcareous free-ſtone, follow this chain on its ſouthern ſide, and increaſe in height towards the eaſtern point of the continent. The chain of the coaſt is more ſteep towards the north than the ſouth; and there is a dreadful perpendicular precipice of 1300 toiſes in the Silla de Caracas, above Caravelledo, the northern part of this chain being perhaps broken by the gulf of Mexico.

The ſecond chain, which is that of Parima, or of the cataracts of Orinoco, was ſcarcely deemed paſſable till within 30 years, ſince the expedition of Ituriaga and Solano. It leaves the Andes near Popayan, and ſtretching from weſt to eaſt, from the ſources of the Guaviari, appears to extend to the north-eaſt of that river, forming the cataracts of Maypura and Atures, in the Orinoco, lat. 5°, which are truly dreadful, and nevertheleſs afford the only paſſage yet opened towards the vale of the Amazons. Thence this chain continues its courſe, with a breadth ſometimes of 120 leagues, north-eaſt to the river Caronis, but further to the eaſt its continuation is little known. It has, however, been diſcloſed by Don Antonio Santos, who, under the diſguiſe of an Indian, paſſed from the mouth of the river Caronis, to the little lake of Parima, and obſerved this range between 4° and 5° N. lat., where it is about 60 leagues broad, and divides the waters which fall into the Orinoco and Eſquibo, from thoſe that fall into the river of Amazons. Further to the eaſt, this range becomes ſtill wider, deſcending ſouth along the Mao, where the Dutch call a part of it Dorado, or the mountain of gold; as it is compoſed of bright micaceous ſchiſtus, which gives a ſimilar character to a ſmall iſle in the lake of Parima. To the eaſt of the Eſquibo this range takes a ſouth-eaſt direction, and joins the granitic mountains of Guiana, in which is the ſource of the river of Surinam, and alſo of other rivers. This laſt group of mountains is very extenſive, the ſame gneiſs being found at 8° 20′ and 2° 14′. This wide range is inhabited by a number of ſavage tribes, which are not much known in Europe. It no where ſeems to riſe to an equal height with the northern range of the coaſt; the mountain of Duida, whoſe volcano is in lat. 3° 13′, not far from Eſmeralda, being deemed the higheſt, and, by the meaſure of Humboldt, found 1323 toiſes above the ſea. This is a picturesque and majeſtic mountain, ejecting flames towards the cloſe of the rainy ſeaſon, and ſituate near a beautiful plain, covered with palm-

trees and ananas. Towards the eaſt it ſeems to terminate in broken rocks; but without any appearance of any ſecondary ſtrata, the rocks being granite, gneiſs, micaceous ſchiſtus, and hornblende ſlate.

The third chain of primitive mountains, or that of Chiquitos, unites the Andes of Peru and Chili with the mountains of Brazil and Paraguay, and ſtretches from La Paz, Potoſi, and Tucuman, through the provinces of Moxos, Chiquitos, and Chaco, towards the government of the Mines, and of St. Paul, in Brazil. The higheſt ſummits appear to be between 15° and 20°; the rivers there paſſing to that of Amazons, or that of La Plata.

Between theſe three great ridges are three immenſe vallies; that of Orinoco, that of the river of Amazons, and that of the Pampas of Buenos Ayres, from 19° to 52° ſouth lat. all opening to the eaſt, but ſhut on the weſt by the Andes. The middle valley, or that of the Amazons, is covered with foreſts ſo thick, that the rivers alone form roads; while thoſe of Orinoco and Pampas are ſavannahs or graſſy plains, with a few ſcattered palms; and ſo level, that ſometimes for 800 ſquare leagues there is no elevation exceeding eight or ten inches. In the northern plain the primitive rock is covered with limeſtone, gypſum, and freeſtone, while in that of the Amazons the granite every where appears. The general inclination is to the north-weſt, which, according to Humboldt, is the uſual arrangement of primitive rocks. In the Andes petrifactions are uncommon, but there are ſometimes patches of gypſum, and ſecondary limeſtone; while the range of Parima conſiſts entirely of granite and other primitive rocks. But in the calcareous freeſtone of the northern ridges of the coaſt, Humboldt found many ſhells, ſeemingly of recent petrifaction, as they are thoſe of the ſea, now at the diſtance of nine leagues. In the plain of Orinoco are found petrified trees, in a coarſe breccia. Granite forms the chain of Parima; but in that of the coaſt it is covered, or mingled with gneiſs and micaceous ſchiſtus. It is ſometimes ſtratified in beds from two to three feet thick, and ſometimes contains large cryſtals of felſpar. The micaceous ſchiſtus ſometimes preſents red garnets, and ſapphare; and in the gneiſs of the mountain of Avila green garnets appear. In the range of Parima there occur large maſſes of moſt brilliant talc, formerly imparting ſuch reputation to the Dorado, ſituate between the rivers Eſquibo and Mao, and other mountains, which like burniſhed gold, reflect the light of the ſun, and have hence been denominated the ſhining mountains. Smectite, or ſoft jad, is formed into idols: and Condamine diſcovered that hard jad, called Amazon ſtone. Schiſtoſe chlorite alſo occurs; and beautiful hornblende ſlate riſes through the ſtreets of Guaiana, or S. Thome. Other ſubſtances are decompoſed felſpar or kaolin, primitive limeſtone and plumbago; and there are veins of quartz, which contain auriferous pyrites, and antimony, native gold, grey copper, and malachite. The copper mines of Aroa are alone wrought, and produce about 1500 quintals yearly. Slate is rare, but ſometimes covers the micaceous ſchiſtus; and in the northern chain there are rocks of ſerpentine, veined with bluiſh ſteatite. The grunſtein of Werner ſometimes occurs in that ridge. Among the rocks called tranſitive by Werner, as connecting the primitive with the ſecondary, are trap, green ſlate, amygdaloid, and the ſchiſtoſe porphyry of that author, green with cryſtals of felſpar. The ſecondary rocks are limeſtone, gypſum, argillaceous ſchiſtus, and freeſtone, or calcareous ſandſtone, with coarſe breccia.

The eaſtern ſpurs of the Andes, according to Helms, a practical German mineralogiſt, who was employed for ſome years in the mines of Peru, ſometimes preſent red and green granite, and gneiſs, as towards Cordova, and Tucuman, but the grand chain conſiſts chiefly of argillaceous ſchiſtus, or various kinds of thick ſlate, bluiſh, dark red, fleſh colour, grey and yellow; on which, in many places, are incumbent ſtrata of limeſtone, and large maſſes of ferruginous ſandſtone. No mountains, ſays this author, have been obſerved by him in Hungary, Saxony, or the Pyrenées, which are ſo irregular as the Andes, or broken into ſuch alternate ſubſtances, manifeſting ſuch prodigious revolution of nature. Amid the argillaceous ſchiſtus the metals ſometimes occur in veins of quartz, ſometimes in alluvial layers of ſandſtone, and iron ſand. Near Potoſi are irregular beds of large bullets of granite; and the celebrated mountain, ſo rich in ſilver ore, is chiefly compoſed of a firm yellow argillaceous ſlate, full of veins of ferruginous quartz, in which are found ſome of the beſt ores. In paſſing the higheſt ridge of the Andes, between Potoſi and Lima, Helms ſtill found argillaceous ſchiſtus, the predominant ſubſtance; ſometimes with ſtrata of ſandſtone, ſometimes with long extents of granite. Near the lake of Titicaca the Andes are of prodigious height, this being the centre of the chain, and perhaps equalling the ſummits near Quito; and Helms obſerved in ſome places the baſis of argillaceous ſchiſtus covered with alluvial layers of marl, gypſum, limeſtone, ſand, fragments of porphyry, and even rock ſalt; and yet rich ſilver occurs in abundance. Near Guancavelica, the mountains are chiefly ſand-ſtone or limeſtone; but ſtill equally high and equally rich. To the north of this place the ridge for 100 miles is ſaid to be calcareous, yet fertile in metallic ores. According to Helms, the ſummits near La Paz are the higheſt of the Andes; but he did not travel ſo far as Quito.

It is ſaid that the Andes have 16 volcanoes, which break out in various places, and by melting the ſnow occaſion ſuch torrents of water, that numbers of men and cattle have periſhed. Argillaceous ſchiſtus, that predominates in a range ſo lofty and extenſive as the Andes, where upon the common theories granite might have been expected, is probably the work of that prodigious ſubterranean fire that iſſues from ſo many volcanoes, and of the eruptions of mud, combined with ſubterranean waters; for this mud is the very matter of argillaceous ſchiſtus, and thus ejected during thouſands of years, has become ſuperincumbent on the granite, which is perhaps the principal ſubſtance in ſuch parts as are not volcanic.

The French mathematicians, who viſited the Andes, for meaſuring a degree of the meridian, have given a particular account of the occurrences that befel them on this occaſion. Having divided themſelves into two bodies, Don George Juan and M. Godin, at the head of one party, went to the mountain of Pambamaria; and M. Bouguer de la Condamine, and Don Ulloa, with their aſſiſtants, aſcended the higheſt ſummit of Pachincha. Both parties ſuffered from the extremity of the cold, and the impetuoſity of the winds, which on theſe heights blow with inceſſant violence. They had commonly, in other uncomfortable ſituations, pitched a field-tent for each company; but on the top of Pachincha this was impracticable, and they were under the neceſſity of contenting themſelves with a very ſmall hut, which, like all the other adjacent parts, was ſoon covered with ice and ſnow. The air on this ſummit was alſo ſo ſubtile, as to render reſpiration very difficult. They generally kept within their hut; which they were obliged to do, on account of the intenſeneſs of the cold, the violence of the wind, and the darkneſs occaſioned by a thick fog. When the fog cleared up, the clouds deſcended towards the earth; and ſurrounded the mountain in ſuch a manner

manner as to repreſent the ſea, with the rock on which they were ſituated like an iſland in the centre of it. When this happened, they heard the horrid noiſes of the tempeſts, which then diſcharged themſelves on Quito, and the neighbouring country. They ſaw the lightnings iſſuing from the clouds, and heard the thunder rolling far beneath them; and whilſt the lower parts were involved in tempeſts of thunder and rain, they enjoyed a delightful ſerenity; the wind abated, the ſky was clear, and the enlivening rays of the ſun moderated the ſeverity of the cold. But when the clouds roſe, reſpiration became difficult, and ſnow and hail fell continually, and the wind reſumed its former violence; ſo that they were apprehenſive, leſt their hut ſhould be overturned, and blown down the precipice, on the edge of which it was built, or that they ſhould be buried under it by the accumulation of ice and ſnow. Their fears were increaſed by the dreadful concuſſions occaſioned by the fall of enormous fragments of rocks, and the velocity with which the wind moved dazzled their ſight. For their greater ſecurity they faſtened the door of their hut with thongs of leather, and ſtopped every crevice on the inſide; and they alſo completely covered it with ſtraw; but all this precaution was not ſufficient to prevent the wind from penetrating. They had no other light in this confined ſtate, but that of a lamp or two, which they kept burning; but notwithſtanding the ſmallneſs of their habitation, and the heat of the lamps, the cold was ſo intenſe, that each of them was obliged to have a chaffing-diſh of coals. Such were the effects of the aſperity of the climate, that their feet were ſwelled and ſo tender, that they could not even bear the heat, and walking was attended with great pain. Their hands were covered with chilblains; their lips were ſwelled and chopped; ſo that every motion, in ſpeaking or the like, drew blood. Their common food in this inhoſpitable region was a little rice boiled with ſome fleſh or fowl, which was procured from Quito; and inſtead of water, their pot was filled with ice; and whilſt they were eating, every one of them was obliged to keep his plate over a chaffing-diſh of coals, to prevent his proviſions from freezing. When they attempted to augment their inward heat by drinking ſtrong liquors, they felt no ſtrength in them, nor were they any greater preſervative againſt the cold than common water. The Indians, who attended them, could not by any encouragement, or threat of puniſhment, be prevailed upon to continue with them. Upon their firſt feeling the rigour of the climate, they immediately prepared for deſertion; and ſuch was the inconvenience reſulting from this circumſtance, that they were in danger of being confined in their hut, by the maſſes of ſnow, which it was the buſineſs of theſe Indians every morning to remove. Such, and ſimilar to theſe, were the difficulties and inconveniences with which they encountered during the whole progreſs of their occupation in forming triangles for meaſuring degrees of the meridian. Don Juan Don Ulloa's Voyage to South America, by Adams, vol. i. p. 214, &c. Journal de Phyſique, Meſſidor An. ix. July, 1801. Helms's Tagebuch, &c.; or Journal of a Journey through Peru, from Buenos Ayres to the great river La Plata, by Potoſi to Lima, &c. 8vo. Dreſden, 1798. Pinkerton's Modern Geography, vol. ii. p. 673, &c.

ANDESAGE, a town of France in the department of the Lot and Garronne, and chief place of a canton, in the diſtrict of Villeneuve d'Agen, 10 miles north-eaſt of Agen.

ANDETHANA, in *Ancient Geography*, *Epternach*, a town of Gaul, belonging to the Treveri, in Belgia prima, between Auguſta Treverorum to the eaſt, and Orobannum to the weſt.

ANDETRIUM, (Pliny), ANDRETIUM, (Strabo), ANDERION, (Dion Caſſius), and ANDRETRIUM, (Ptolemy), a town of Dalmatia, ſituate on an almoſt inacceſſible rock, ſurrounded with deep vallies and rapid torrents; whence it appears to be the citadel now called *Cliſſa*. N. lat. 43° 20'. E. long. 17° 46'.

ANDEVALLO, in *Geography*, a ſmall country of Spain, in Andaluſia, on the frontiers of Portugal and Spaniſh Eſtremadura.

ANDEZEIOW, or DEDERZEIOW, a town of Poland, in the palatinate of Cracow, 52 miles ſouth ſouth-weſt of Cracow.

ANDIANTES, a people, according to Ptolemy, of Lower Panponia.

ANDIATOROQUE, a lake of Canada, in North America, near New England.

ANDILLA, a town of Spain, in the province of Valencia, ſix leagues from Alicant.

ANDIRA, or ANGELIN, in *Botany*, *G. Piſon*; a tree in Brazil, the wood of which is hard and proper for building. Its bark is of an aſh colour; its fruit is of the ſhape and ſize of an egg, green at firſt, but growing blacker by degrees. It is covered with a hard rind, incloſing a grain, or yelloviſh kernel, of a bitteriſh, aſtringent taſte. They pulverize this nut, and give it for worms; but not more than one ſcruple; for more than this is ſaid to be poiſonous. In the Linnæan ſyſtem by Gmelin, *andira* is a genus of the *diadelphia decandria* claſs and order; the characters of which are, that the *calyx* is urceolated almoſt entire, or quindentated; the *corolla* has two petals: and the fruit is a fleſhy pod, ovate, furrowed, and containing a ſingle ſeed.

ANDIRA, in *Zoology*, is an animal called alſo *andira-guacu*, a kind of bat in Brazil: the largeſt of which are as big as our pigeons: they call them horned bats, from a ſort of excreſcence, or pliant body, above their beak. Some of theſe are very dangerous; for they get into chambers in the night, and ſo ſubtilly open the veins in the feet of thoſe who are in bed, that they are not perceived but by the flowing of the blood, which is difficult to be ſtopped. The inhabitants reckon the tongue and heart of that animal among poiſons. The andira is the VESPERTILIO SPECTRUM of Linnæus. See SPECTRE.

ANDIRIAR, in *Botany*, the name by which Rhaſes, and ſome others, expreſs the FABAGO.

ANDLAU, in *Geography*, a town of France, in the department of the Lower Rhine, ſituate on a mountain, and defended by a caſtle. It was formerly an imperial free city, and has a nunnery, inſtituted for ladies of noble extraction. It is 18 miles ſouth-ſouth-weſt of Straſburg. N. lat. 48° 24'. E. long. 7° 24'.

ANDLAU is alſo a river of France, which riſes near the town of the ſame name, and diſcharges itſelf into the Ill, near Fegerſheim, in the department of the Lower Rhine.

ANDOCIDES, in *Biography*, an Athenian orator, was born at Athens, the firſt year of the 78th olympiad, or 468 years before Chriſt. He was attached to oligarchy, and not to popular government. When Alcibiades was tried for demoliſhing the ſtatues of Mercury, Andocides was ſuſpected, and he eſcaped by acknowledging the crime, and accuſing his accomplices. The ſtyle of his orations is plain and ſimple, and almoſt entirely deſtitute of ornament. Four are extant, of which the two firſt are vindications of himſelf; the third is on the ſubject of peace with the Lacedæmonians; and the fourth againſt Alcibiades, who had ſent him into exile. They were firſt publiſhed with thoſe of Antiphon, Æſchines, &c. by Aldus Manutius, in folio, at Rome, in 1513; and afterwards in a more ſplendid manner, in 1575, by Henry Stephens. The orations of Antiphon, Andocides,

des, and Hiero, were published in 8vo, with a Latin version, at Hanau, in 1619. Plut. Alcibiades apud opera, tom. i. p. 201. Fabr. Bib. Græc. lib. ii. c. 26. § 3. tom. i. p. [illegible].

ANDOLOGENSES, in *Ancient Geography*, a people of Spain, according to Pliny.

ANDOMADUNUM, Andomatunum, (Ptolemy), Antematunum, (Antonine), Civitas Lingonum, (Tacitus), now *Langres*, a city of Gallia Belgica, was a Roman colony, and appears, by many remains of antiquity, to have been considerable. It was situated on an eminence as the termination *dunum* imports. N. lat. 48°. E. long. 5° 22′.

ANDONY River, in *Geography*, lies on the coast of Benin, in Africa, east from Cape Formosa, between the new and old Calabar rivers, in about N. lat. 4° 30′, and E. long. 9° 55′.

ANDORA, a town of Italy, in Genoa, whose neighbourhood produces good wine; two miles north-east of Oneglia.

ANDORINHA, in *Ornithology*, a name by which the Portuguese in the Brasils call the Brasilian swallow, more usually known by its Brasilian name *tapera*.

ANDORISIPPO, in *Ancient Geography*, a town placed by Pliny in Bætica. Hardouin calls it *Andorisæ*.

ANDORNO, in *Geography*, a town of Italy, in the principality of Piedmont, and lordship of Vercelli, 25 miles north-west of Vercelli.

ANDORRA, a town of Spain, in Catalonia, situate in a valley of the same name, which is surrounded by the Pyrenees, and formerly made a part of the county of Foix, with which it joins; the valley is fertile, and watered by a small river, called Belira, that runs into the Segra, three leagues north of Urgel.

ANDOSILLA, a town of Spain, in Navarre; two leagues from Calahorra.

ANDOSINI, in *Ancient Geography*, a people placed by Polybius, in Spain, towards the Pyrenees.

ANDOVER, in *Geography*, a borough town of England, in the county of Hampshire, pleasantly situate near the river Ande. It has a manufacture of shalloons, and a considerable trade in malting. Its market is on Saturday. It is governed by a bailiff, steward, recorder, ten other persons of approved reputation, and 24 burgesses. It sends two members to parliament. A navigable canal is making from this town to Southampton; it is 63½ miles from London, and 17½ from Salisbury. N. lat. 51° 20′. W. long. 0° 56′.

Andover is also a large and thriving town of North-America, in Essex county, Massachusets, containing two parishes, and 2863 inhabitants. It has a paper mill and powder mill and an excellent academy, called "Phillips Academy," from the name of its founders. This town lies about 20 miles west of Newbury port, and about 22 north of Boston.

Andover is also a town of Hillsborough, in New Hampshire, incorporated in 1779, and containing 645 inhabitants.

Andover is also the south-westernmost township in Windsor county, Vermont, situate 32 miles north east of Bennington, and containing 275 inhabitants.

Andover is also a place in Sussex county, New Jersey, near the source of Pequest river, five miles south-south-east from New-Town, and 16 in the same direction from Walpack.

ANDOVILLE, a town of France, in the department of the Mayenne, a chief place of a canton, in the district of Laval, near the river Ernée, six miles north of Laval.

ANDRAÆ, in *Ancient Geography*, a town of Asia Minor, placed by Ptolemy in Cappadocia, in the prefecture of Chamanes.

ANDRACHNE, in *Botany*, *Telephoides* of Tournefort, a genus of the *monoecia gynandria* (*pentandria trigynia*, Gmelin's Linnæus) class and order; of the natural order of *tricoccæ* and *euphorbiæ* of Jussieu; the characters of which are, that it has male and female flowers; in the former the *calyx* is a five-leaved, equal, marcescent perianthium; the *corolla* has five petals, emarginate, slender, and shorter than the calyx, the nectary has five leaflets, semibifid, herbaceous, one within each petal, and less than it; the *stamina* have five filaments, small, inserted into the rudiment of each style, and simple anthers; in the latter the *calyx* is a five-leaved, equal, permanent perianthium; the *corolla* has no petals, the nectary as in the male; the *pistillum* is a germ superior and globose, styles three, filiform, and two-parted, the stigmas globose; the *pericarpium* is a capsule globose-trilobate, three-celled, cells bivalved, of the size of the calyx, (tricoccous elastic, G.); the *seeds* are in pairs, rounded on one side, triangular and obtuse on the other. Obs. It is related to *clutia*.

Martyn enumerates three, and Gmelin two species. 1. A. *telephoides*, telephoides of Dill. and Buxb. glaux of Bocc. procumbent and herbaceous. This is a low plant, with its branches trailing on the ground; the leaves are small, oval, and of a sea-green colour; found wild in some parts of Italy, and in the Archipelago, whence its seeds were sent by Tournefort to the royal garden at Paris; and cultivated in Kew garden by Dr. Sherard, in 1732. As it has no great beauty, it is only preserved in botanic gardens for the sake of variety. 2. A. *fruticosa*, β clutia androgyna of Linn. Mantiss. erect and shrubby. It rises 12 or 14 feet high, with branches bearing spear-shaped, pointed, smooth leaves; the flowers are small, and of an herbaceous white colour; some flowers are male, with a one-leafed round flat obtuse calyx, a little quinquefid, others on the same plant female, five-parted; a native of the East Indies, in China, and also of La Vera Cruz, in New Spain. 3. A. *arborea* of Miller, with arborescent stem, and leaves ovate, obtuse, hoary underneath. This has a strong woody stem, which rises more than 20 feet high, with branches from which proceed oval blunt leaves hoary on the under side, and furrowed on the upper, and placed alternately on the branches. This species grows naturally at Campeachy, and the seeds were sent from thence to England by Dr. Houstoun. There is another sort, raised from seeds, sent from Jamaica; the leaves of which resemble those of the laurel, except that they are much larger; this has not yet flowered in Europe.

Culture. The seeds of the first species may be sown on a moderate hot bed in March; and the plants, which spring up in about a month, may be removed, each into a small pot, and plunged into another moderate hot bed; in mild weather they should have plenty of air and be often watered; in June they will produce flowers, and the seeds will ripen in August and September, after which the plants decay. The second and third species are very tender plants; their seeds should be sown in pots, which must be plunged in a hot bed of tanner's bark, and watered; when the plants come up, each of them should be planted in a small pot, plunged into a tan-bed, and they should be shaded till they have taken fresh root, and afterwards in warm weather exposed to the air, but constantly kept in the bark stove.

Andrachne. See Arbutus.

ANDRADA, Diego De Payva D' or Andradius, in *Biography*, a learned Portuguese divine of the 16th century, was born at Coimbra, distinguished in that University, and sent by Sebastian, king of Portugal, to the council of Trent, where he was celebrated for the understanding of a deep

deep theologian, and for the tongue of an eloquent orator. During the ſeſſion of the council he wrote a treatiſe, entitled, "Orthodoxarum Explicationum Libri Decem," in anſwer to an attack upon the Jeſuits by Chemnitius. This was anſwered by Chemnitius. Andrada prepared an elaborate rejoinder under the title of "Defenſio Tridentinæ fidei," or a defence of the Catholic faith, &c. firſt publiſhed in 4to. at Liſbon, in 1578, and afterwards at Ingolſtadt, in 8vo. in 1580. Andrada publiſhed alſo ſeven volumes of ſermons, Although a champion for orthodoxy, he had the candour to allow that the heathen philoſophers might be ſaved. Gen. Dict.

Andrada, Francis, hiſtoriographer to Philip III. king of Spain, was the brother of the preceding Andrada. He wrote "The Hiſtory of John III. king of Portugal," in the Portugueſe language; which was publiſhed, in 4to., at Liſbon, in 1533.

ANDRAGATHIA, in *Ancient Geography*, a town of Italy, in the vicinity of Poſidonium.

ANDRAGIRI, or Gudaviri, in *Geography*, a province and town in the iſland of Sumatra. The town is in the middle of the iſland, and belongs to the Dutch, who have built a fort for its ſecurity.

ANDRAMIT, Adramit, or Andramiti, a town of Natolia, in Turkey, in Aſia. The Turks call it Palament. See Adramyttium.

ANDRAPANA, in *Ancient Geography*, a town of Aſia, in India, aſcribed by Ptolemy to the Indoſcythians.

ANDRAPODISMUS, in *Ancient Writers*, the ſelling of perſons for ſlaves.

Hence alſo *andrapodiſtes*, ανδραποδιστης, a *dealer in ſlaves*, more particularly a *kidnapper*, who ſteals men or children, to ſell them; a crime for which the Theſſalians were noted.

ANDRAPODOCAPELI, Mancipiorum Vindictores, in *Antiquity*, dealers in ſlaves. They cleanſed the ſkins of the ſlaves with baths prepared with barley and other kinds of meal, to which nitre, according to Galen, was occaſionally added, they whipped them lightly with cords, and then ſmeared them with oil, and uſed various other acts to make them ſleek and plump, and to give them an appearance of health. They were alſo called Mangones, and the art Mangoneiam. Caſtelli Lexicon.

At Athens, ſeveral places in the forum were appointed for the ſale of ſlaves. Upon the firſt day of every month, the merchants brought them into the market, and expoſed them to ſale, whilſt the crier, ſtanding upon a ſtone erected for that purpoſe, called the people together.

ANDRARUM, or Anderum, in *Geography*, a town of Sweden, in the province of Schonen; 14 miles [illegible] Chriſtianſtadt.

ANDRASTE, in *Antiquity*, one of the female divinities of the ancient Britons, ſuppoſed to have been the ſame with Venus or Diana.

ANDRE, St., in *Geography*, a town in the kingdom of Leon, in North America, near the mouth of Naſſas river, which falls into the gulf of Mexico.

Andre, a ſmall river of France, in Britany, which runs into the Loire, at Nantes.

Andre, a town of Phrygia in Aſia Minor.

André, St., in *Biography*, born at Dijon, the 15th of February, 1704, received his education at Montpellier, and in 1729 was admitted member of the company of ſurgeons, at Verſailles, and appointed one of the ſurgeons to the king. He applied himſelf particularly to the ſtudy of the diſeaſes of the urethra, and was expert in the application of bougies, on which he placed his principal dependence in theſe complaints, varying the ingredients of which they were compoſed, to make them more or leſs ſtimulating and eroding, as the circumſtances of the caſes required. In 1751, he publiſhed his "Diſſertations ſur les maladies de l'uretre, qui ont beſoin de bougies," 12mo. Paris, and in 1758; "Maniere de faire uſage des bougies antivenereiennes," 8vo. alſo at Paris. For an account of other publications by this writer, ſee Eloy. Dict. Hiſt.

ANDREA, in *Geography*, a town of Africa, in Upper Guinea, about a quarter of a mile from the river Meſurado, and eight miles from its mouth; it contains about 40 or 50 houſes; its chief riches are palm, wine, and rice; a trade is alſo carried on in ivory and ſlaves.

Andrea Andreani, in *Biography*, an eminent engraver, was born at Mantua, and died A. D. 1623, at a very advanced age. Beſides his own engravings, he procured many performed by other perſons, and ſold the impreſſions under his own name. He engraved only on wood, in a peculiar ſtyle, diſtinguiſhed by the name of "Chiaro-ſcuro," which is performed with two, three, or more blocks of wood, according to the number of tints required, which are ſtamped upon paper, one after another, ſo as to produce the effect of a waſhed drawing. The invention of this ſpecies of engraving was much prior to the æra of this artiſt. His great merit as an artiſt, is acknowledged by all who are converſant with his prints. His drawing is excellent, executed with great ſpirit, and in a very maſterly ſtyle. The heads of his figures are characteriſtic and expreſſive, and he has diſplayed great judgment in the management of his various tints. His works are conſidered as admirable tranſcripts from the ſketches of many of the greateſt painters. Among his moſt finiſhed prints may be reckoned, "Chriſt departing from Pilate," who is waſhing his hands; a large print lengthways, on two blocks, engraved from a bas relief of Giovan. Bologna; "An emblematical Print," repreſenting the Chriſtian, after his ſpiritual warfare in the preſent life, received as victorious into heaven, and crowned by Chriſt;" "The triumph of Julius Cæſar," from Andrea Mantegna, the original of which is at Hampton Court; it is cut on 10 blocks of wood, dated 1598; "The entombing of Chriſt," from Raphael de Reggio; "The rape of the Sabines," from a group by Giovan. Bologna. The ſcarceſt of all his works is ſaid to be "The pavement of Sienna," after a drawing of Franceſco Vanni. Strutt.

Andrea, da Pisa, a ſculptor and architect, was born at Pi[illegible] in 1270. He built ſeveral caſtles, and the church of St. John, at Pittoia; but his ſkill in architecture was principally diſplayed at Florence, where he enlarged and fortified the palace of the duke, by erecting many manſions in it and ſurrounding it with magnificent towers and gates. On this account he obtained the right of citizenſhip. At the requeſt of the duke of Athens, he made a model of a citadel, which he intended to erect for reſtraining the Florentines; upon which they took the alarm, and expelled the duke; but Andrea paſſed the remainder of his days at Florence, cultivating the fine arts, ſuch as painting, poetry and muſic, beſides thoſe which were profeſſionally his own, and died in 1345, aged 75.

Andrea Del Sarto. See Sarto.

Andrea Mantegna. See Mantegna.

Andrea, in *Geography*. See Andros, and Andrew's *Cape*.

ANDREÆ, John Gerhard Reinhard, in *Biography*, an apothecary at Hanover, was born 17th December, 1724. By the attention of his mother he was well educated in the languages and ſciences; and in 1744 he viſited Berlin, where

where he attended lectures on chemiſtry, anatomy, botany, and natural hiſtory. In the following year he inſpected the various mines in Saxony, and proceeded through Leipſick, Halle, the Hartz, and Caſſel to Frankfort, where he reſided till the Spring of the year 1746. From hence he removed to the univerſity of Leyden, and ſtudied chemiſtry under Gaubius, botany under Royen, and natural philoſophy under Muſchenbrock. In the year 1747, he viſited England, and returned to Hanover where he ſucceeded to his father's buſineſs, in 1751, and diſtinguiſhed himſelf by his ſkill and diligence. He wrote many uſeful papers in the Hanoverian Magazine, and other periodical works, by which he gained conſiderable reputation and eſteem; in 1763 he made a tour to Switzerland, the original of which was publiſhed in 1776, in a 4to. volume, with engravings; and in 1765 he was charged by government to examine the principal kinds of earth and marl in the electorate, and to publiſh a work on their nature and uſe, for the benefit of farmers, which appeared in 1789, under the title of "A Treatiſe on various kinds of earth in his Britannic Majeſty's dominions, &c. and their uſes in agriculture." In December 1791, he was attacked by an inflammation of the urethra, which at length terminated in his death, on the firſt of May, 1793. His writings and collection of natural hiſtory procured for him an extenſive acquaintance with men of literature and ſcience, and an admiſſion into many learned ſocieties. Gen. Biog.

Andreæ, in *Entomology*, a ſpecies of Carabus. The thorax orbicular, black, and gloſſy; wing-caſes pale, with a black band in the middle. Fabricius. Inhabits Italy.

Andreæ, is likewiſe a ſpecies of Cimex, that inhabits the Weſt Indies. It is red, except the antennæ, ſhank of the legs, beak and wings, which are black. Linnæus. The cimex ruficollis of Muſ. Lud. Ulr., and cimex thorace nigro of Thunberg are ſuppoſed to be varieties of this ſpecies.

Andreanofskie-Ostrova, or Andrenovian *iſles*, in *Geography*, a cluſter of iſlands, between Aſia and America, which in a general view may be regarded as the ſame with the Fox iſlands, being the weſtern part of the ſame range; or the Andrenovian iſles, in a more limited ſenſe, may be conſidered as forming a groupe of ſix or more iſles, about 500 miles to the ſouth-eaſt of Beering's iſland. Theſe, in both reſpects, are a kind of elongation of the American promontory of Alaſka, and in the moſt recent maps of Ruſſia they are comprehended under one general name of Aleutian iſles.

Andreas, John Valentine, in *Biography*, a Lutheran clergyman, was born in the year 1586; became dean of Vayhingen, chaplain to Everhard III. duke of Wurtemberg, abbot of Bebenhauſen, and laſtly of Adelberg; and died June 27th, 1654. His principal works are "Mythologia Chriſtiana;" "De curioſitatis pernicie:" "De reſtitutione reipublicæ Chriſti, in Germania;" "Subſidia rei chriſtianæ et literariæ;" "Theophilus, five de religione chriſtiana colenda;" "Menippus prior et poſterior;" "Peregrinus in Patria;" "Fama Andreana refloreſcens," which contains the life of his grandfather; and various poems in honour of Auguſtus, duke of Wolfenbuttle, inſerted in a book, entitled "Selenelia Auguſtalia." Some have repreſented John Valentine Andreas, as the founder of the Roſicrucians. Gen. Biog.

Andreas, Valerius, a learned Brabanter, was born at the village of Deſſchel, November 25th, 1588. He ſtudied the Greek language at Antwerp, under Andreas Schottus, and the Hebrew under John Hay, a Scots Jeſuit; and his proficiency in the latter language was ſuch that he was invited to be profeſſor of it at Louvain. He afterwards applied to the ſtudy of the law, and in 1621 obtained the degree of doctor. In 1628 he was appointed profeſſor of the "Inſtituta," and in 1638 librarian to the academy. His works are "Orthographiæ Ratio, ab Aldo Manutio collecta, nunc multis aucta; cum libello de ratione interpungendi ac diſtinctis notis;" "De Initiis Collegiæ Buſlidiani, deque vita et ſcriptis profeſſorum ejuſdem collegii;" "De Linguæ Hebraicæ Laudibus, antiquitate, dignitate, neceſſitate;" "Diſſertatio de Toga et Sago;" "Topographia Belgica." His principal work was "Bibliotheca Belgica, de Belgis vita Scriptiſque claris;" firſt printed in 1623, and afterwards with conſiderable additions in 1643. Gen. Biog.

Andreas, John, a famous canoniſt of the 14th century, was the natural ſon of a prieſt, and born at Mugello, near Florence. He proſecuted his ſtudies at Bologna, and particularly that of the canon law, under the profeſſor Guy de Baiſ, who procured for him the degree of doctor, gratis. He was a profeſſor at Padua, about the year 1330, and alſo at Piſa; but he acquired the greateſt reputation at Bologna. He is ſaid to have led a very auſtere life, macerating his body with prayer and faſting, and lying upon the bare ground for 24 years ſucceſſively, under a covering of bear-ſkin. He married a woman named Milantia, by whom he had a beautiful daughter, whom he called Novella, after the name of his mother, and who is ſaid to have read lectures for him when he wanted leiſure. Reſpect for his mother and affection for his daughter induced him to entitle his "Commentary upon the Decretals of Gregory IXth," the "Novellæ." Having loſt his natural ſon Banicontius, who publiſhed ſeveral books, he adopted a learned canoniſt, whoſe name was John Calderinus, and gave him his daughter in marriage. Andreas died of the plague at Bologna in 1348, after having been profeſſor 45 years, and was buried in the church of the Dominicans. He was the author of ſeveral books, ſuch as "A gloſs upon the ſixth book of Decretals;" "Gloſſes upon the Clementines;" "A Commentary in Regulas Sexti," entitled "Mercuriales," either becauſe it was written on Wedneſdays, (dies Mercurii), or becauſe it contained his Wedneſday's diſputations. He alſo enlarged the "Speculum of Durant," in 1347. However he has been accuſed of great plagiariſm. Gen. Dict.

Andreas, John, was born a Mahometan at Xativa, in the kingdom of Valencia, and ſucceeded his father as Alfaqui in that city. He was converted to Chriſtianity by a ſermon preached in the great church of Valencia, in 1487, and profeſſing his faith was baptized, in memory of the calling of St. John and St. Andrew, by the name of John Andreas. Soon after his converſion, he became a prieſt and a public teacher, and was employed by king Ferdinand and queen Iſabella, on a miſſion to the Moors of Grenada, many of whom he induced to abjure Mahomet, and to aſſume the profeſſion of chriſtianity. He was afterwards made a canon, and appointed to undertake the converſion of the Moors of Arragon; but the queen's death prevented the execution of this undertaking. However, he tranſlated from the Arabick into the language of Arragon, the whole law of the Moors, that is, the alcoran and its gloſſes, and the ſeven books of the Suni. He alſo wrote a work, entitled "The Confuſion of the ſect of Mahumed," for the purpoſe of expoſing the follies of Mahometaniſm, which was publiſhed firſt in Spaniſh, has been tranſlated into many languages, and is often cited by thoſe who have occaſion to write againſt the Mahometans, as Hoornbeck, Hottinger, and Schultetus. Gen. Dict.

ANDREAS, TOBIAS, profeſſor of Hiſtory and Greek at Groningen, was born at Braunfels in the county of Solms, in 1604. He ſtudied at Herborn under Alſtedius and his uncle Piſcator, and afterwards reſided ſeven years at Bremen. After his return to his own country, in 1628, he removed to Groningen, where he read lectures on all parts of philoſophy, and obtained the appointment of tutor to the ſons of Henry Alting, his patron, and afterwards in the family of the Prince Palatine. In 1634 he ſucceeded James Gebhardus, as profeſſor of Hiſtory and Greek at Groningen, which office he retained till his death in 1676. He was diſtinguiſhed by his attachment to Des Cartes, whom he vindicated by his writings, both during the life and after the death of that eminent philoſopher. He inſtituted a proſecution againſt Martin Schookius, profeſſor of philoſophy at Groningen, for accuſing Des Cartes of atheiſm. The reſult was, that the accuſer acknowledged Des Cartes's innocence, but was himſelf acquitted. His "Methodi Carteſianæ Aſſertio," was publiſhed in the year 1653. Gen. Dict.

ANDREAS, JAMES, a famous Lutheran divine, was born at Waibling, in the dutchy of Wirtemberg, in 1528, and though of mean parentage, was encouraged in the proſecution of his ſtudies firſt at Stutgard and afterwards at Tubingen, where he connected theology and Hebrew with philoſophy, and took the degrees of bachelor and maſter of arts; and in 1546 he was appointed miniſter of the church of Stutgard; but upon the publication of the "Interim" he was obliged to retire to Tubingen, where he officiated as miniſter. In 1553 he took the degree of doctor of divinity, and was appointed paſtor of the church of Gopping, and ſuperintendant of the neighbouring churches. After performing ſeveral truſts that were devolved upon him, in order to promote the reformation from popery, he attended the diet of Worms in 1557, and was appointed one of the ſecretaries at the conference at Worms between the papiſts and the divines of the Auguſtan confeſſion. In 1559 he attended the diet of the empire at Augſburg; and after his return from Paris, in 1561, he was made chancellor and rector of the univerſity of Tubingen. In 1565 he eſtabliſhed a church at Hagenaw, an imperial city, where he preached many ſermons on the principal points of the Chriſtian religion, which were afterwards printed. He took ſeveral journies, in order to effect an union of the churches of the Auguſtan confeſſion, and engaged in ineffectual conferences with Beza and others, with a view of terminating theological diſputes. His laſt public act was a conference at Baden, in 1589, with John Piſtorius, who then inclined to Calviniſm, but afterwards revolted to popery. He had a preſentiment of his death for ſome time before it happened; and upon its approach he expreſſed his conſtancy in the faith which he had aſſerted, and in the exerciſe of a lively devotion he expired in 1590, in the 62d year of his age. His character and learning were held in high eſtimation; and the books which he wrote were ſo numerous, that it was ſaid that he left 150 works upon various ſubjects. Gen. Dict.

ANDREAS, ST. in *Geography*, a town of Germany, in the circle of Auſtria and dutchy of Carinthia, upon the river Lavant, with a biſhopric ſuffragan of Saltzburg; 16 leagues eaſt of Clagenfurt.

ANDREASBERG, a town of Germany, in the circle of Lower Saxony, and principality of Grubenhagen, having in its environs ſome conſiderable iron-mines, 12 miles from Goſlar, and 12 from Northauſen.

ANDREE, YVES-MARY, in *Biography*, a French Jeſuit, was born in 1675, at Chateaulin, in the county of Cornouailles. Having occupied the chair of profeſſor royal of mathematics at Caen, from 1726 to 1759, when he was 84 years of age, and enjoyed a repoſe of four years, he finiſhed his laborious life in 1764. He was not only a good mathematician, but well acquainted with other branches of learning; and he alſo wrote elegant verſes. Of his "Eſſay on the Beautiful," written in French, a new edition was given in a collection of his works, publiſhed in three volumes, 12mo. in 1766. The ſubject is treated with perſpicuity of method, ſtrength of argument, and dignity of ſtyle. Gen. Biog.

ANDREDCHESTER, a town of ancient Britain, ſuppoſed by Camden to be Newenden, in Kent, but by Somner to be Pevenſey, or Haſtings. It was beſieged by the Saxons, under Ella, but relieved by the Britons. The town was afterwards taken and levelled with the ground, and the inhabitants were maſſacred without diſtinction of age or ſex.

ANDREEVNA, in *Geography*, a town of Ruſſia, in the government of Ekaterinoſlav, 48 miles ſouth-ſouth-eaſt of Ekaterinoſlav. N. lat. 47° 50'. E. long. 32° 14'.

ANDREINI, ISABELLA, in *Biography*, a native of Padua, was one of the moſt celebrated actreſſes who appeared in Italy in the cloſe of the 16th and beginning of the 17th century. Her perſon recommended her action: and ſhe not only ſung and played well, but poſſeſſed an excellent talent for poetry, ſo that ſhe was univerſally admired. She was enrolled in the ſociety of "Intenti" at Pavia; and Cinthio Aldobrandini, nephew of pope Clement VIII. wrote many verſes in her praiſe. In France ſhe was honourably received by the king and queen, and principal perſons of the court, and in honour of them ſhe compoſed ſeveral ſonnets. She died in 1604 at Lyons, in the 42d year of her age, and was buried with diſtinguiſhing marks of attention. Her huſband wrote an epitaph which bears teſtimony both to her morals and to her talents. An edition of her poems, conſiſting of ſonnets, madrigals, ſongs, and eclogues, and a paſtoral, intituled "Mirtilla," was publiſhed at Milan in 1605; and prefixed to it are many elegiac verſes in Latin and Italian, written on occaſion of her death. Some letters of hers were publiſhed at Venice in 1610. To her other qualifications were added ſome knowledge of philoſophy, and an acquaintance with the French and Spaniſh languages.

Her huſband, Francis Andreini, was a player, famous for rhodomontade parts; after his wife's death he left the ſtage, and became a writer of the ſame caſt with that of his acting. Their ſon, John Baptiſt Andreini, was alſo an actor and a dramatic writer. A piece of his, called "Adamo," has been an object of curioſity, becauſe it has been ſuppoſed to have afforded a hint to Milton in his Paradiſe Loſt. See Hayley's Life of Milton. Gen. Dict.

ANDREJOF, in *Geography*, a town ſituate near the Boriſthenes, between Muſcovy and Poland.

ANDRELINUS, PUBLIUS FAUSTUS, in *Biography*, a modern Latin poet, was born at Forli, in Italy, about the middle of the 15th century. His taſte for poetry was manifeſted in early life; for his four books "De Amoribus," written when he was only 22, were ſo well received, that he was ſolemnly crowned at Rome by the Roman academy. Here he became known to Ludovico Gonzaga, duke of Mantua, who patronized him, in 1484, as his own poet. In 1488 he was recommended by Gonzaga to the dauphin of France, and in the next year appointed public profeſſor of belles lettres in Paris, an office which he held 30 years. To his public lectures he added private inſtructions; and he united with rhetoric and poetry the explanation of the ſphere. He obtained honours and lucrative appointments from the kings, Charles VIII, Lewis XII, and Francis I;

and he was alſo penſioned by Queen Anne, of Bretagne, whence he ſtyled himſelf, "Poeta regius ac reginæus." Andrelinus was celebrated by many of his contemporaries as the firſt poet of the age, and as having contributed in an eminent degree, to promote literature in France. Eraſmus, however, though he praiſed him when alive, gives an unfavourable account both of his talents and morals after his death. He charges him with licentiouſneſs of manners, and with a tumultuous and quarrelſome diſpoſition. Nevertheleſs he obtained a high degree of reputation as a profeſſor and writer till the time of his death, which happened at Paris, in February, 1518; and his memory was honoured with elegies, inſcriptions, &c. Voſſius compares the poetry of Andrelinus, which conſiſted of ſonorous verſes and pompous expreſſions, without much meaning, to a river of words with a drop of ſenſe, and Eraſmus conteſts the grant of this drop. Moſt of his poems have been inſerted in the firſt volume of the "Deliciæ Poetarum Ital." They chiefly conſiſt of elegies, eclogues, and panegyrical pieces on various occaſions. He alſo wrote moral and proverbial epiſtles in proſe. Gen. Dict.

ANDRENA, in *Entomology*, one of the new genera in the Fabrician arrangement, conſiſting, for the moſt part, of ſuch inſects as belong to the APIS genus in the ſyſtem of Linnæus. The tongue is trifid, or three-cleft, lip cylindrical, and on each ſide two membranaceous briſtles; antennæ filiform. Fabricius. In the Entomologia Syſtematica of Fab. are thirty-one ſpecies of this genus, *viz.* cœruleſcens, ruſipes, ſpiralis, cornuta, labieta, florea, metallica, ænea, cyanea, marginata, helvola, bicolor, tricolor, curvipes, cincta, ſtrigata, nigrita, faſciata, zonata, circulata, pilipes, carbonaria, hirſuta, hirtipes, hæmorrhoidalis, guloſa, bidentata, nigricornis, vireſcens, cingulata, and ſuccincta, which ſee reſpectively.

ANDRENEH, in *Geography*. See ANDRONA.

ANDRENOVIAN ISLES. See ANDREANOFSKIE-OSTROVA.

ANDRES, or ANDERO *Iſland*, is ſituated ſouth-eaſt by eaſt from Cape Gracias a Dios, the fartheſt point eaſtward of the province of Honduras, not far from St. Catherine's, or Providence iſland, to the weſt-ſouth-weſt, in N. lat. 12° 30′, and W. long. 81° 40′.

ANDRES, a town of Aſiatic Turkey, 60 miles eaſt from Angura.

ANDRETTA, a town of Italy, in the kingdom of Naples, and Principato Ultra, ſix miles north of Conza.

ANDREW, in *Biography*, an apoſtle of Chriſt, was born of Jewiſh parents at Bethſaida, in Galilee. The name of his father, who was a fiſherman of that town, was Jonas; and both he and his brother Peter followed that occupation. John Baptiſt, who was the herald of Chriſt, and who introduced him to the notice of the Jewiſh people as the promiſed Meſſiah, pointed him out to Andrew and Simon Peter, under the emblematic appellation of the Lamb of God; upon which they accompanied him to the place of his reſidence. Andrew ſeems to have been the firſt diſciple of Chriſt; for he underſtood the ſacrifical alluſion of John, and ſaid to his brother, "We have found the Meſſiah." John i. 35—41. He was afterwards choſen by Chriſt as one of his twelve apoſtles. To the brief account given by the evangelical writers of this apoſtle (Matt. iv. 18—20. Mark i. 16—18. i. 29. xiii. 4. John vi. 7. xii. 20—22.) tradition has added ſeveral particulars of leſs certain authenticity. Euſebius relates, (Eccl. Hiſt. lib. iii. c. i. p. 71.) that, when the apoſtles arranged the objects of their miſſion for the propagation of Chriſtianity, Andrew made choice of Scythia. Other accounts are leſs worthy of credit than this. "The Acts of the paſſion of St. Andrew," which mention his martyrdom at Patræ, in Achaia, and ſaid to be written by the prieſts of Achaia, are preſerved in Surius's Hiſtory of the Saints, and approved by Baronius, Bellarmin, and others of the Romiſh communion: but they are rejected by the beſt critics as ſpurious. The ancients, ſays Dupin (Hiſtory of the Canon, &c. vol. ii. p. 149.), knew no other acts of St Andrew beſides thoſe which had been corrupted by the Manichees, mentioned by Euſebius, (Eccl. Hiſt. lib. iii. c. 25.) Philaſtrius (Hæres. 87.) Epiphanius (Hæres. 47. n. 1. Id. 61. n. 1. Id. 63. n. 2.) and Auguſtin (de fide. cont. Manichæos) and which pope Gelaſius has placed among the apocryphal writings. This work was not cited till the ſeventh century; and neither its doctrine nor language agrees with thoſe of the early ages. Beſides, theſe Acts of St. Andrew are not found in any of the ancient catalogues of the ſacred books, nor are they appealed to by any Chriſtian writers, nor read in any of their aſſemblies, but on the contrary expreſsly condemned as an impious forgery by every one who has mentioned them. As they contained ſome doctrines which were favourable to the Manichees, Encratites, Apotacticks, or Apoſtolicks, and Origenians, it is no wonder that they ſhould have eſteemed this apocryphal piece above other ſcriptures. The "Goſpel of Andrew," and other books that have been ſanctioned by his name, belong to the ſame claſs of apocryphal writings. The relation of thoſe who ſay that he was crucified on a croſs in the form of the letter X, hence vulgarly called St. Andrew's croſs, or on an olive tree, which others have aſſerted, is entitled to no credit; nor indeed is it certain that he was crucified. According to Jerom (Adv. Vigil. p. 22.) his body was removed with St. Luke's to Conſtantinople in 357. The accounts of this apoſtle that are given by Gregory of Tours in the ſixth century, by Nicephorus of Conſtantinople in the 9th, and by Nicephorus Calliſtus in the fourteenth, contain many fabulous particulars. The legend of Gregory, therefore, will claim no regard; which informs us, that ſtreams of oil flowed from the tomb of this ſaint on the anniverſary of his martyrdom, and ſometimes ſwelled to the middle of the church. Dupin, ubi ſupra. Jones's Canon, vol. i. p. 145—187. Fabr. Cod. Apoc. Nov. Teſt. p. iii. p. 526.

ANDREW, biſhop of Cæſarea, in Cappadocia, lived, according to Cave, about the year 500. He wrote a commentary upon the book of Revelation, prefacing it with aſſerting the inſpiration of the book, for which he appeals to the authorities of Gregory the divine, Cyril of Alexandria, Papias, Irenæus, Methodius, and Hippolytus, and dividing it into 24 larger, and 72 ſmaller ſections. He appears to have received as authentic all the books of the New Teſtament which we receive; he mentions the ſymbols of the four evangeliſts, *viz.* the lion for John, the calf for Luke, the eagle for Mark, and the man for Matthew. After reciting ſome opinions with regard to the period of a "thouſand years," mentioned in this book, he conſiders it as denoting the time of the preaching of the goſpel, or the time of the goſpel diſpenſation. Cave. Hiſt. Lit. tom. i. p. 467. Fabr. Bib. Græc. tom. vii. p. 791. Lardner's Works, vol. v. p. 249—252.

ANDREW, biſhop of Samoſata, was an intimate friend of Theodoret, and flouriſhed in the fifth century. About the year 429 he was appointed by John, biſhop of Antioch, to refute, on behalf of the eaſtern biſhops, the "Anathematiſms" of Cyril. Under the pretence of illneſs he declined attending at the council of Epheſus; however, he vigorouſly oppoſed the Neſtorians, and for many years renewed his hoſtilities againſt Cyril. Some curious extracts from his firſt book againſt Cyril are found in Cyril's "Apologetics for

his

his Anathematiſms." Smaller fragments of his ſecond book againſt Cyril are preſerved by Anaſtaſius the Sinaite in his "Hodegos." Eight letters of Andrew, in an ancient Latin verſion, are publiſhed in the collection of "Epheſian Epiſtles," by Lupus. Cave, Hiſt. Lit. vol. i. p. 419. Fabr. Bib. Græc. vol. x. p. 124.

Andrew, biſhop of Crete, was a native of Damaſcus, and flouriſhed at the cloſe of the ſeventh and beginning of the eighth century. Cave places him about the year 635. The early part of his life was ſpent by him as a monk at Jeruſalem. Theodoret, patriarch of Jeruſalem, invited him to attend the ſixth general council of Conſtantinople; and he afterwards copied the acts of that aſſembly againſt the Monothelites. He was appointed biſhop of Crete, and probably remained in that ſee till his death, about the year 720. He wrote ſeveral homilies, which are extant; and which, according to Moſheim, (Eccl. Hiſt. vol. ii. p. 174.) are deſtitute of true piety and eloquence. They were collected, and publiſhed in folio by Francis Combeſius, at Paris, in 1644. Cave, Hiſt. Lit. vol. i. p. 582. Fabr. Bib. Græc. lib. v. c. xli. § 2. tom. x. p. 121.

Andrew, John, ſecretary of the Vatican library, was employed under the popes Paul and Sextus IV. when printing was firſt introduced into Rome, in reviſing MSS., writing prefaces and dedications, and correcting the preſs. Cardinal de Cuſa, who had been his ſchool-fellow, gave him the biſhopric of Accia in Corſica; and pope Paul II. afterwards appointed him to that of Aleria in the ſame iſland, where he died. He publiſhed an edition of Livy, and of Aulus Gellius, printed at Rome, in folio, in 1469; of Herodotus, in 1475; and of Strabo, printed at Venice, in folio, in 1472. He was alſo the editor of the Epiſtles of Cyprian, and of the works of S. Leo. Nouv. Dict. Hiſt.

Andrew, preſbyter of Ratiſbon, was an hiſtorian of the 15th century, and flouriſhed under the emperor Sigiſmund. He wrote in Latin "A Chronicle of the Dukes of Bavaria," publiſhed at Amberg; and "A Hiſtory of Bohemia," in ſeven books. His countrymen called him a ſecond Livy. Voſſ. de Hiſt. Lat. lib. iii. c. 5.

Andrew I. king of Hungary, was a prince of the blood-royal, and eldeſt ſon of Ladiſlaus the Bald. When king Peter was reſtored in the year 1044, he was obliged to take refuge in Ruſſia; but the idolatrous Hungarians promiſed to kill Peter, and to expel all foreigners, provided Andrew would aboliſh the Chriſtian churches. The compact was ſettled; and, after great ſlaughter and plunder, Andrew was placed on the throne in 1047, inſtead of Peter, who was impriſoned, loſt his eyes, and ſoon died. Andrew, however, in violation of his promiſe, obliged all his ſubjects to profeſs Chriſtianity. After having ſettled his diſputes with Albert of Auſtria, he invited his brother Bela, with his family, to ſettle in Hungary, and aſſigned him a third part of his dominions. When the emperor Henry III. invaded Hungary, he was reduced to ſuch ſtraits by Andrew and Bela, that, in order to avoid total deſtruction, he entered into a treaty, of which it was one condition, that the daughter of Henry ſhould be married to Solomon, the ſon of Andrew. This ſon was five years old, and he was then crowned; but, fearing that his brother Bela would diſturb the ſucceſſion, Andrew ſent for him, and inſtructed two of his confidential ſervants how to act. "I ſhall offer him," ſaid the king, "a crown, the ſymbol of the royal authority, and a ſword, that of the church. If he chooſes the former, inſtantly put him to death; if the latter, let him live." An officer, who overheard this order, whiſpered to Bela, "chuſe the ſword." Accordingly he took the ſword, and his brother Andrew was ſatisfied; but Bela ſoon after retreated to Poland, and came from thence at the head of an army to dethrone him. Andrew was protected by the emperor; but, meeting his brother on the banks of the Teiſs, he was defeated, abandoned by his own men, and killed in the purſuit, A. D. 1059. Mod. Un. Hiſt. vol. xxxii. p. 107.

Andrew II. king of Hungary, was the ſecond ſon of Bela III. Having occaſioned a rebellion againſt his elder brother Emerick, he was deſerted by his army, and, in endeavouring to make his eſcape, taken priſoner, and brought to Emerick, by whom he was freely pardoned. From this time his ſentiments were ſo changed, that he became a ſteady ſupporter of the throne. Upon the death of his nephew Ladiſlaus, Andrew ſucceeded, and was crowned by the univerſal conſent of the ſtates. During the firſt twelve years of his reign he enjoyed unmoleſted peace; but when pope Honorius III. ordered a new cruſade to be preached, Andrew reſolved to make an expedition into the Holy Land. He proceeded to Conſtantinople; but there he heard that during his abſence a tragical event had occurred in his kingdom. The government had been entruſted to Banchanus, one of the nobles, and it was adminiſtered to univerſal ſatisfaction. But the wife of the governor, who was very beautiful, was debauched by Queen Gertrude's brother, who viſited her during the king's abſence, and the queen was acceſſory to the diſhonour. The injured lady informed her huſband of this atrocious act; upon which he revenged himſelf by ſtabbing the queen; and, ruſhing out into the ſtreet with his bloody ſword, he publiſhed his wrongs, and the revenge he had taken; declaring, at the ſame time, that he would not decline a trial, but go immediately to Conſtantinople to receive the ſentence of the king. Andrew acquitted him, and ordered him back to his government. At the trial the accuſation againſt the queen was found to be juſt. Banchanus was acquitted, but his family was ruined by the reſentment of the king's ſons. Andrew tranſported his troops into Syria, and diſplayed his courage in ſome conflicts with the Saracens; but, being weary of the expedition, he determined to return home, though he was threatened with excommunication by the patriarch of Jeruſalem. He propoſed, however, to leave one-half of his troops in Paleſtine, under the command of the duke of Auſtria, and with the other half he was allowed to return into Hungary. Accordingly he ſet ſail on board the Venetian fleet, with a variety of precious relics, and with the title of the "Hieroſolymitan;" and, in his viſit to the prince of Eſte, by whom he was honourably entertained, he fell in love with his daughter, married her, and took her with him into Hungary. The remaining period of his reign was devoted to the buſineſs of healing the diſcontents of his ſubjects, and forming a ſyſtem of legiſlation. Beſides other meaſures which he adopted, he was the author of a famous decree, which confirmed and augmented the privileges of the nobility, and allowed them to take up arms in their defence, if he or his ſucceſſors attempted to abridge them: a ſtipulation nugatory againſt a powerful monarch, and which has anſwered no other purpoſe than that of rendering the ariſtocracy factious, and the body of the people ſlaves. Towards the end of his reign the Tartars made ſome ſucceſsful inroads into Hungary. Andrew, having reigned 31 years, died in 1235, and left the kingdom to his eldeſt ſon Bela, to whom he had ceded the ſovereignty before his death. Mod. Un. Hiſt. vol. xxxii. p. 120—123.

Andrew III. king of Hungary, was the grandſon of Andrew II. and being born and brought up in Venice, obtained the ſurname of "Venetian." On the death of Ladiſlaus in 1290, he ſucceeded to the throne, in oppoſition to a number of competitors, by the unanimous conſent of the Hungarians. In his way from Italy through Auſtria he was

detained by duke Albert; and obtained a releaſe by promiſing to eſpouſe Agnes, the duke's daughter. But in the year after his acceſſion he declared war againſt Albert, and laid waſte the country, till at length a peace was obtained by the interceſſion of the prelates. Upon his return to Hungary, Andrew found his kingdom in a diſtracted ſtate; the pope and many of the eccleſiaſtics and nobles having acknowledged the right of Charles Martel, who, in conſequence of their invitation, had ſet out for Hungary with his wife and ſon, Charles Robert, or Charobert, then an infant. The majority of the Hungarians were attached to Andrew; but as the party of Charles was very numerous, and Andrew having no children, Charles continued in poſſeſſion of part of Hungary for ſeveral years without oppoſition. The two rival kings are ſaid to have both died in the ſame year, 1301. Charles, having gone to the jubilee at Rome, died at Naples. Andrew died at Buda, and, leaving no male iſſue, the line of St. Stephen terminated in him. Mod. Un. Hiſt. vol. xxxii. p. 129.

Andrew, *Knights of St. Andrew, or the Thiſtle*, commonly called the *Order of St. Andrew*, in Scotland; according to John Leſley, biſhop of Roſs and others, was inſtituted by Achaius, king of Scots, in memory of an appearance in the heavens of a bright croſs in faſhion of that whereon St. Andrew ſuffered martyrdom, and ſeen by that king the night before the battle which he fought with Athelſtan, king of England, over whom prevailing, he went in ſolemn proceſſion to the kirk of St. Andrew, to thank God and his apoſtle for the victory; promiſing that they and their poſterity ſhould ever have the figure of that croſs in their enſigns and banners. Favin, in his Theatre of Honour, relates it to be inſtituted upon the famous league, offenſive and defenſive, made between Achaius and Charlemagne, king of France; to preſerve the memory of which alliance, Achaius added the treſſure of fleurs de lys to the lion, the then royal arms of Scotland, and took for device the thiſtle and rue, which he compoſed into a collar of his order; and for his motto, *Pour ma Defence*. Menenius makes theſe the ſymbols of two different orders; one of the Thiſtle, whence the Knights were ſo ſtyled, and the motto, *Nemo me impune lacceſſit*; the other called *Sortum Ruta*, or Garland of Rue: nevertheleſs, to both collars hung one and the ſame jewel, that is, the figure of St. Andrew bearing his croſs. Their ſolemn meeting was annually on St. Andrew's Day, in the church of the town dedicated to his name; at which the knights, thirteen in number, in alluſion to our bleſſed Saviour and the twelve apoſtles, were richly habited, and wore their parliament robes, having thereon embroidered on their left ſhoulder *an azure roundle charged with a ſaltier argent, St. Andrew's croſs enfilled in centre, with a crown compoſed of fleur de luces or*. The ſudden death of James V. of Scotland, the rebellion againſt Queen Mary, and the troubles which enſued in that kingdom nearly extinguiſhed the order, which continued to be neglected until it was revived by King James II. of England, who, on the 29th of May, 1687, iſſued his warrant for letters patent to be made out and paſſed *per ſaltum*, under the great ſeal of Scotland. In conſequence of this revival ſeveral new knights were made, and the order continued to flouriſh during the remainder of that king's reign; but on his abdication, and the advancement of King William to the throne, the order was again diſuſed.

Queen Anne, by her letters patent, bearing date at St. James's, 31ſt Dec. 1703, revived, continued, and re-eſtabliſhed the order; and ordained by the ſtatutes, "that the number of knights ſhould conſiſt of twelve beſides the ſovereign, making in the whole thirteen, as heretofore; that the ſovereign's habit ſhould be ſuch as the ſovereigns themſelves ſhould think fit to appoint; that the habit of the brethren ſhould be a doublet and trunk-hoſe of cloth of ſilver, ſtockings of pearl-coloured ſilk, with white leather ſhoes, garters and ſhoe-ſtrings of green and ſilver; the breeches and ſleeves of the doublet decently garniſhed with ſilver and green ribbons; a ſurcoat of purple velvet lined with white taffeta, girt about the middle, with a purple ſword-belt edged with gold, and a buckle of gold, at which a ſword with a gilded hilt, the ſhell thereof to be in the form of the badge of the order, and the pomel in the form of a thiſtle, in a ſcabbard of purple velvet; over all a mantle or robe of green velvet lined with white taffeta, with taſſels of gold and green; and upon the left ſhoulder thereof, *in a field of green, the image of St. Andrew the apoſtle, bearing before him the croſs of his martyrdom of ſilver embroidery, with a circle of gold round it, upon which the motto*, NEMO ME IMPUNE LACESSIT, *in letters of green*; and at the lower part of it a *thiſtle of gold and green, the flower reddiſh*. That about the ſhoulder of each knight ſhould be worn the collar of the order, conſiſting of *thiſtles and ſprigs of rue going betwixt*, and at the middle thereof before ſhould be hung the *image of St. Andrew, chaſed and enamelled on rays of gold, the croſs and feet reſting upon a ground of enamelled green*, or if of diamonds, to conſiſt of juſt thirteen in number; and that the collar ſhould be tied to the ſhoulders of the robe, and the knights have white ribbons upon their heads on days of ſolemn proceſſion or feaſting, where the ſovereign is preſent, or has a commiſſioner for that effect. That they ſhould wear, at the times of permiſſion, a cap of black velvet, a little divided before, wide and looſe in the crown, having a large plume of white feathers, with a black aigrette, or heron's top in the middle of it; the borders of the cap adorned with jewels. That the jewel of the ſaid order ſhould be worn at *a green ribbon over the left ſhoulder, croſs the body, and tied under the right arm*; ſuch jewel to have on the one ſide *the image of St. Andrew, with the croſs before, enamelled as is above ſaid, or cut on ſtone, enriched with precious ſtones round it*: and on the back, *enamelled on a green ground, a thiſtle gold and green, the flower proper with the before mentioned motto round it*. That the medal of the order ſhould be all of gold, the St. Andrew bearing before him the croſs of his martyrdom, with a circle round, and then the motto of the order; and at the lower part of the circle, between the joining of the words, a thiſtle; and to be worn in a green ribbon as the jewel, at times when the jewel is not worn. That upon the left breaſt of the coat and cloak ſhould be embroidered a badge of proportionable bigneſs, being a *St. Andrew's croſs of ſilver embroidery, with rays going out betwixt the points of the croſs; on the middle thereof a thiſtle of gold and green, upon a field of green, and round the thiſtle and field a circle of gold, having on it the motto of the order in letters of green*." This order is ſtyled The moſt Ancient Order, was inſtituted in 787, reſtored in 1540, revived in 1687, and re-eſtabliſhed in 1703, for the ſovereign, twelve knights, and four officers, *viz.* the Dean, Lord Lyon, King of Arms, Secretary, and Gentleman Uſher of the Green Rod. There being no inſtallation of this order, the ſtar and collar are worn immediately after the inveſtiture. See Plate 9.

Andrew, *St. Knights of*, in Ruſſia. This order was inſtituted by Peter the Great of Muſcovy, in 1698, ſoon after his return from his firſt expedition into foreign countries, and intended for animating the nobility in his war againſt the Turks. St. Andrew was choſen as patron of the order, from the Ruſſian tradition, that he introduced Chriſtianity among them. The Knights of this order, among whom were the kings of Sweden and Poland, wear the figure of the Saint on an enamelled croſs, formed by the imperial eagle; at the corners of the croſs are the four letters, S. A. P. R. "Sanctus Andreas Patronus

Patronus Ruſſiæ;" and in the middle an A. the initial of the empreſs Anne, who framed the ſtatutes, and aſſigned the habit of the order. The feaſt is held on the 30th of November. In 1790 it had 63 knights. The badge is faſtened to a blue ribband, and ſuſpended from the right ſhoulder; but at feſtivals is pendent to a collar of gold compoſed of ſquare chains and roſes.

ANDREW'S *Croſs*, is a badge worn in the hat by the people of Scotland, on the day of the feaſt of that Saint.

It conſiſts of blue and white ribbands, diſpoſed into a croſs, or *ſaltier*; and is intended as a commemoration of the crucifixion of St. Andrew, the tutelary Saint of Scotland.

ANDREW'S ST. in *Geography*, an ancient town of Scotland, in the ſhire of Fife, and formerly the metropolis of the kingdom of the Picts. It is ſeated on an eminence, and commands an extenſive proſpect. N. lat. 56° 18'. W. long. 2° 37'. The legendary account of the origin of this city is as follows: St. Regulus, a Greek of Achaia, being warned by a viſion to leave his native country, and to viſit Albion, an iſle ſituated in the remoteſt part of the world, was inſtructed to take with him the arm-bone, three fingers, and three toes of St. Andrew. After a tempeſtuous paſſage he was ſhipwrecked on the coaſts of Otholonia, in the territory of Herguſius, king of the Picts, in the year 370. The king, as ſoon as he heard of the diſaſter, ordered the ſtrangers to be reſpectfully received, and granted to the ſaint his own palace, near which he built a church, called St. Regulus. The place was then ſtyled Mucroſs, or the Land of Boars. St. Regulus changed the name to Kilrymont, and eſtabliſhed the firſt Chriſtian prieſts of the country, called Culdees. This church was ſupreme in the kingdom of the Picts; and Ungus the king ordained that the croſs of St. Andrew ſhould become the badge of the country. In 518, after the conqueſt of the Picts, the epiſcopal ſee was eſtabliſhed at St. Andrew's, and the biſhop was ſtyled, "Maximus Scotorum Epiſcopus." It is ſaid to have been erected into an archbiſhopric at the interceſſion of James III. This ſee contained the greateſt part of the ſhire of Fife, with a part of Perth, Forfar, and Kincardine ſhires, and a great number of pariſhes and churches in other dioceſes.

The town of St. Andrew's was erected into a royal borough by David I. in 1140, and its privileges were afterwards confirmed. The charter of Malcolm II. on a ſmall piece of parchment, is preſerved in the tolbooth; and here are alſo depoſited the ſilver keys of the city, which are delivered to the king if he ſhould viſit the place, or to a victorious enemy. The axe, which in 1646 took off the heads of Sir Rt. Spotſwood, and other diſtinguiſhed loyaliſts, is ſhewn in this place. St. Andrew's is now much reduced as to the number both of houſes and inhabitants, the latter being eſtimated at about 2000. It is ſtill decorated with magnificent relics of its ancient ſplendour. The principal of theſe is the cathedral, which was founded by biſhop Arnold in 1161, but it was not completed till the year 1318. Its demolition, however, was effected by John Knox and his followers, in 1559, in one day. The eaſtern end, with its two high pinnacles, is complete; and one turret of the weſt point yet remains, adorned with ſome curious carved work in a peculiar ſtyle; but the pillars and ſome of the arches of the ſide aile, exhibit a ſpecimen of the pure Gothic, when it admitted of very little ornament: the precinct of this church forms a common burial-place to the town. In the centre of the incloſure is a plain, ſquare tower, of a very extraordinary height, different in its ſtructure from the cathedral, and not unlike ſome of the relics of Norman architecture in England. This is the tower of the chapel of St. Regulus, the body of which remains, but the inſide chapels are demoliſhed. The arches of the windows and doors are round, and ſome exceed ſemicircles; whence we may infer the antiquity of the building. Some trace it to a very early period; but it is commonly thought to have been founded in the eighth century, and eſteemed the earlieſt Chriſtian church in Scotland. The priory was founded by Alexander I. in 1122; and the monks, who were canons regular of St. Auguſtine, were brought from Scone in 1140, by Robert, biſhop of this ſee. By an act of parliament in the reign of James I. the prior had precedence of all abbots and priors; and on the feſtival days wore a mitre and all epiſcopal ornaments. The revenues of this priory were very conſiderable, being in money 2237*l.* 2*s.* 10½*d.* beſides large quantities of different ſorts of grain, and 480 acres of land. The ruins adjoin to thoſe of the cathedral; and nothing now remains but the incloſing wall, which encompaſſes a large area, and one ſingle arch, very much defaced. The incloſure extends from the cathedral to the ſhore. Above the harbour ſtood the collegiate church of Kirk-heugh, originally founded by Conſtantine III. who is ſaid to have retired hither from the world, and to have become a Culdee. The remains of the caſtle occupy the ſummit of a high eminence, which overhangs the coaſt. Separated from the town by a deep chaſm, over which was a draw-bridge, and from the country by an impetuous ſea, foaming over a rocky bed, this caſtle was juſtly eſteemed one of the ſtrongeſt fortifications in the iſland. It was founded in 1401 by biſhop Trail; and it was the reſidence of cardinal Beaton in the zenith of his power and proſperity: but with all his attention to render it, as he conceived, impregnable, it was not of ſufficient ſtrength to defend an ambitious ruler againſt the rage of an exaſperated people. In this fortreſs the cardinal was ſurpriſed by Norman Leſlie, with 15 attendants, in 1546, and aſſaſſinated in the midſt of his numerous retinue. In 1547 the caſtle, poſſeſſed and guarded only by 150 men for five months, was at laſt reduced and demoliſhed. The death of Beaton led to the downfall of the Catholic religion in Scotland; and with that religion the fineſt edifices of St. Andrew's mouldered into ruins, its caſtle was neglected, and the city deſerted. The entrance into the caſtle is ſtill viſible; and ſtrangers are ſhewn the window out of which, it is ſaid, the cardinal leaned to enjoy the cruel martyrdom of George Wiſhart, who was burnt on an adjoining ſpot. Of the four great parallel ſtreets of this city only one now remains entire; one being totally loſt, and other two in a very decayed condition. The univerſity of this city was founded in 1411 by biſhop Wardlaw. It conſiſted once of three colleges. St. Salvator's was founded in 1458 by biſhop Kennedy. This is an irregular pile of building, of conſiderable extent, united with a large church, which contains a fine old monument of the founder, who died in 1466. The interior of the college, though ſpacious, is gloomy, and conſiſts of two large old halls, and a range of apartments in rather a more modern taſte, of which, however, only one ſide is finiſhed. The college of St. Leonard was founded by Prior Hepburn in 1522, but it is now converted into private houſes, and the collegiate part is united with the laſt. The third college is the New, or St. Mary's, which was eſtabliſhed by Archbiſhop Hamilton, in 1553; but the houſe was begun by James and David Beaton, who did not live to complete it. This has a far more cheerful aſpect than the old college, though it is much ſmaller. The library belonging to the whole univerſity is connected with this college. In this library are kept two curious maces, exquiſitely carved in braſs work, and a fourth is preſerved in the audit-room of the old college. Theſe maces were dug for under the great altar of the cathedral by the direction of an old man, who was ſaid to have in his poſſeſſion

poſſeſſion many papers relating to the church and its environs; ſix were found, one of which was preſented to each of the three univerſities of Edinburgh, Glaſgow, and Aberdeen; and the other three are kept at St. Andrew's. On the ſite of this college formerly ſtood, as it is ſaid, a "Schola illuſtris," long before its eſtabliſhment into an univerſity. It is called the "New College," becauſe of its late erection into a divinity college by the archbiſhop.

This univerſity is governed by a chancellor, who is elected by the two principals, and the profeſſors of both the colleges. The rector is the officer to whoſe ſuperintendance are committed the privileges, diſcipline, and ſtatutes of the univerſity. Each college has a principal; that of St. Salvator has nine profeſſors, and the New College has five profeſſors. The ſtudents in the former are generally about 100, and in the latter about 30. This univerſity has many advantages to recommend it in point of ſituation, inſtruction, and diſcipline.

The commerce of St. Andrew's is inconſiderable; and its manufactures, whatever they might formerly be, are reduced to that of golf-balls, which maintains a great number of people.

Andrew's, St. *Bay*, is ſituated between the Forth and the Tay. The haven is defended from the violence of the eaſterly ſea by a ſtone pier; the entry is very narrow, and it has only ſeven or eight feet at neap tides, and ten or eleven at ſpring tides. The city is at the bottom of the bay cloſe upon the ſhore.

Andrew's, St. a ſmall town of America, in the conteſted country between New Brunſwick and the United States, ſituated behind an iſland of the ſame name, on the eaſt ſide of the arm of the inner bay of Paſſamaquoddy, called Scoodick. The town is laid out in the form of an oblong ſquare, and the inhabitants are chiefly employed in the lumber trade.

Andrew's, St. is a townſhip in Caledonia county in Vermont, 100 miles north-eaſt from Bennington.

Andrew's, St. is alſo a pariſh in Charleſtown diſtrict, South Carolina, containing 2947 inhabitants, of whom 370 are whites, and 2546 ſlaves.

Andrew's, or Andres, St. *Bay*, a ſecure harbour in the gulf of Mexico, on the ſouth coaſt of Weſt Florida in North America. It is ſituated between Santa Roſa bay on the north-weſt, and St. Joſeph's bay on the ſouth; and being almoſt ſurrounded by land, it is well ſheltered from almoſt all winds. N. lat. 30° 15′. W. long. 85° 45′.

Andrew *Bay*, lies on the north ſhore of the Straits of Maghellan, between Port Holland on the eaſt, and Cordes bay on the weſt, at the entrance of which there is a good anchorage in 12 fathoms water.

Andrew's, St. or Andrea, *Cape*, lies on the weſt coaſt of Madagaſcar iſland, in the Indian or eaſtern ocean, and nearly eaſt from Mozambique, on the coaſt of Africa. S. lat. 15° 46′. E. long. 45° 22′.

Andrew's, St. *Cape*, lies alſo on the eaſtern coaſt of South America, between Rio de la Plata, on the north-north-eaſt, and Anegada bay on the ſouth-ſouth-weſt. S. lat. 37° 55′. W. long. 60° 45′.

Andrew's, St. *Cape*, is alſo on the north ſhore of Maghellan Straits, in the reach which trends from Cape Forward to the Weſt.

Andrew's *Cape*, or Andrea, lies on the eaſt point of Cyprus. N. lat. 35° 31′. E. long. 34° 55′.

Andrew's, St. *Iſland*, or Andrea, is a ſmall iſland in the gulf of Venice, on the weſt ſide of Liſſa iſland.

Andrew's, St. *River* and *Point*, lye on the coaſt of Africa, north-eaſt by eaſt from Cape Palmas, at the diſtance of 20 or 30 leagues. They are ſituated in that track of coaſt, extending ſeven leagues, which is called the Red Cliffs, or Red Land. Although no ſhips go up this river, a conſiderable traffick is carried on by means of the canoes of the Negroes, who bring down teeth for ſale. Wood and water may be procured here, but no proviſions.

Andrew's, St. *Sound*, lies ſouth of Jekyl's iſland, and is formed by this and a ſmall iſland at the mouth of the Great Sagilla River. The ſmall river oppoſite to this ſound ſeparates Camden from Glynn county, in Georgia.

Andrews, Lancelot, in *Biography*, an Engliſh divine, was born at London in 1565, and was biſhop of Wincheſter, in the reign of James I. and Charles I. From Merchant Taylors' ſchool he was ſent to Pembroke Hall in Cambridge; and by his aſſiduous application he became acquainted with the ſciences and moſt modern languages, and he excelled more eſpecially as a caſuiſt, and was often conſulted in caſes of conſcience. The following anecdote will illuſtrate this part of his character: a corpulent alderman of Cambridge, who had been often reproved for ſleeping at church, and whoſe conſcience troubled him on this account, applied to him for advice. Andrews told him it was an ill habit of body and not of mind, and adviſed him to eat little at dinner. The alderman tried this expedient, but found it ineffectual. He applied again with great concern to Andrews, who adviſed him to make a hearty meal as uſual, but to take his full ſleep before he went to church. The advice was followed, and the alderman came to St. Mary's church, where the preacher was prepared with a ſermon againſt ſleeping at church, which was thrown away, for the good alderman looked at the preacher during the whole ſermon time, and ſpoiled his deſign. Andrews's lectures, as a caſuiſt, were attended by a numerous auditory. His learning, popular talents as a preacher, and zeal for the Proteſtant cauſe, procured for him the patronage of Henry Earl of Huntingdon, and Sir Francis Walſingham, ſecretary of ſtate to Queen Elizabeth; and he paſſed through ſeveral ſtages of preferment to the deanery of Weſtminſter. Whilſt he reſided in London as prebendary and reſidentiary of St. Paul's, he read divinity lectures in that cathedral three times a week during term time; and he alſo maintained a connection with his college, of which he was choſen maſter, and to which he was a liberal benefactor. Andrews's ſtyle of preaching, which was pedantic and quaint, ſuited the taſte of king James I. ſo that he was a great favourite with this prince. The king ſelected him in order to vindicate his ſovereignty againſt the vehement attack of Bellarmine, who, in reply to "James's Defence of the Rights of Kings," had written a tract under the fictitious name of Matthew Tortus. The dean's anſwer was intitled "Tortura Torti;" or Tortus Tortured, and printed in 4to. in 1609. This ſervice was ſo acceptable, that in this year he was advanced from the ſee of Chicheſter, to which he had been promoted in 1605, to the biſhoprick of Ely; and he was alſo nominated a privy counſellor, firſt for England, and afterwards for Scotland, where he attended the king in his journey to that kingdom. In 1618 he was raiſed to the biſhoprick of Wincheſter, and the deanery of the king's chapel, which preferments he held till his death, which happened at Wincheſter-houſe, in Southwark, in 1626, in the 71ſt year of his age. He was buried in the pariſh church of St. Saviour's, Southwark, and a monument of marble and alabaſter was erected over his grave, on which is an epitaph written by one of his chaplains in the higheſt ſtyle of panegyric. Biſhop Andrews appears to have been a man of eminent talents, acquirements, and virtues. He is ſaid to have underſtood 15 languages: he employed a large portion of each day in devotion and ſtudy; and his learning and affability commanded the reſpect not only of his own countrymen,

men, but of foreigners, by whom he was viſited; ſuch as Voſſius, Grotius, Caſaubon, Cluverius, Erpinius, and Dumoulin. His firſt biographer, Iſaacſon, informs us, that in the diſtribution of preferment he was diſintereſted, impartial, and judicious; that he provided liberally for the deſcendants of his early inſtructors and benefactors; that, after he became biſhop, he never viſited either of the univerſities without leaving 50 or 100l. to be diſtributed among poor ſcholars; that his charity kept pace with his advancement, his private alms amounting in the laſt ſix years of his life to upwards of 1300l. and that, as he died a bachelor, he left large legacies to charitable uſes; and among the reſt, a great part of his eſtate to be diſtributed among his ſervants. Biſhop Andrews was a faithful ſon and zealous defender of the church; at the ſame time he was moderate in his political principles, independent in his ſpirit, and ſuperior to the mean adulation that diſgraced the court of James, as the following anecdote, related in the life of Waller the poet, will ſhew. Mr. Waller, going to the king at dinner, overheard a converſation between his majeſty and two prelates, the biſhop of Wincheſter and Dr. Neale, biſhop of Durham, who were ſtanding behind the king's chair. His majeſty aſked the biſhops, "My lords, cannot I take my ſubjects' money when I want it without all this formality in parliament?" The biſhop of Durham readily anſwered; "God forbid, Sir, but you ſhould; you are the breath of our noſtrils." Whereupon the king turned and ſaid to the biſhop of Wincheſter, "Well, my lord, what ſay you?" "Sir," replied the biſhop, "I have no ſkill to judge of parliamentary caſes." The king anſwered, "No put offs, my Lord, anſwer me preſently." "Then Sir," ſaid he, "I think it lawful for you to take my brother Neale's money, for he offers it." Milton thought biſhop Andrews worthy to be celebrated by his pen; and, at the age of 17, wrote an elegy on his death, abounding with that rich fancy which has rendered his works immortal. The works of biſhop Andrews, beſides that already mentioned, are, "A Manual of Private Devotions;" "A Manual of Directions for the Viſitation of the Sick;" a volume of tracts chiefly in Latin, conſiſting of ſermons, theological diſſertations on the eccleſiaſtical rights of princes, tythes, uſury, &c. publiſhed in 4to. in 1629; a poſthumous volume of "Sermons," publiſhed in folio by direction of the king, and under the inſpection of the biſhops of London and Ely; "The Moral Law explained; or Lectures on the Ten Commandments," with other ſermons, printed in folio in 1642; and "A Collection of Poſthumous and Orphan Lectures," delivered at St. Paul's and St. Giles's, Cripplegate, printed in folio in 1657. The ſermons of biſhop Andrews, though learned and pious, afford many ſpecimens of that pedantry and falſe wit which marked the period in which he lived, and cannot be read with pleaſure in an age of more correct taſte. Biog. Brit.

ANDRIA, in *Antiquity*, a name given by the Cretans to the public entertainments, at which whole cities, tribes, or other bodies of men, were preſent. They were firſt inſtituted by Minos of Crete, and, after his example, appointed by Lycurgus at Sparta. They were conducted with the greateſt frugality and decorum, and perſons of all ages were admitted to them.

The hall, or place of eating, where theſe entertainments were held, was denominated *andrion*, in the uppermoſt part of which was a conſtant table ſet apart for ſtrangers.

ANDRIA, is alſo uſed by ſome naturaliſts, to denote a ſpecies of hermaphrodite, wherein the female ſex has the predominancy.

ANDRIA, in *Ancient Geography*, now the *Indre*, a river of the interior of Gaul, which, uniting with the *Carœ*, diſcharges itſelf into the *Liger*.

ANDRIA, a town of Greece, in the diſtrict of Elis.

ANDRIA is alſo a town of Macedonia.

ANDRIA, or ANDRI, in *Geography*, a town of Italy, in the kingdom of Naples and province of Bari; the ſee of a biſhop ſuffragan of the archbiſhop of Trani. It is ſituated in a valley with hilly environs, about four miles from the coaſt of the Adriatic, five miles weſt-ſouth-weſt of Trani. This town is ſaid to have been built by Peter the Norman, and to have derived its name from the antra or caverns in which the firſt ſettlers took up their abode. N. lat. 41° 15'. E. long. 16° 17'.

ANDRIACA, in *Ancient Geography*, a town of Thrace, on the coaſt of the Euxine ſea, near Salmydeſſus, according to Strabo.

ANDRIACA is alſo a town of Aſia Minor, in Lycia. According to Appian this was the port of Mira; but M. d'Anville places it to the ſouth-weſt of Mira.

ANDRIACA is a town placed by Ptolemy in Media.

ANDRICLUS, a high mountain in Cilicia Trachea, placed between the promontory of Anemurium, and the river Selinus.

ANDRICUS, a river of Cilicia, according to Pliny.

ANDRIMACHIDES, a people of Africa whoſe country is not known; but Alexander ab Alexandro reports, that their king obtained the firſt favour of the young women before they were introduced to their huſbands.

ANDRINOPLE, in *Geography*. See ADRIANOPLE.

ANDRIPOURA, or INDRAPOOR, a country of the iſland of Sumatra, including a town of the ſame name, and ſeveral others; the chief article of commerce is pepper. The town is ſituated on a rapid river, 60 miles north-weſt of Bencoolen. S. lat. 2° 15'. E. long. 101°.

ANDRISCUS, called by the Romans *Pſeudo-philippus*, in *Biography*, is ſaid to have been a native of Adramyttium, and deſcended from mean parents. He aſſumed, however, the character of a natural ſon of Perſes, 16 years after the death of the king of Macedon, pretending, that his father had ſent him to Adramyttium in diſguiſe, and that he was not to diſcloſe the ſecret of his birth till he arrived at the age of 14 years. Reſembling Perſes in his perſon, the ſtory was more credible; and accordingly he went to the court of Demetrius Soter, who had married a daughter of that king. Demetrius, either ſuſpecting the impoſture, or dreading the Romans, delivered him up to the republic. From Rome he made his eſcape, and ſought refuge in Thrace. Here he aſſembled a number of perſons, who became attached to his intereſt, and, marching to Macedon, he aſſerted his rightful title to the crown. Having made himſelf maſter of the country, he extended his conqueſts to the adjacent parts of Greece. Scipio Naſica was deputed by the Romans to reſtrain his progreſs; and, by the aid of a body of auxiliaries, he drove him back to Macedon. When the prætor Juventius Thallus was commiſſioned to terminate the war, he advanced to Macedon, and was attacked, defeated, and ſlain by Andriſcus. In conſequence of this advantage Andriſcus was eſtabliſhed on the throne, and the Carthaginians ſent ambaſſadors to congratulate him, and to propoſe an alliance. Andriſcus, however, could not endure proſperity; but became cruel and oppreſſive, and loſt the affection of his ſubjects. At this time the Romans ſent Q. Cæcilius Metellus to Macedon, and Andriſcus was under a neceſſity of valiantly contending for his crown and life. After ſome trifling advantage which he gained at firſt, he was entirely defeated, and compelled to retire into Thrace. The Thracians enabled him to return with a numerous army, but he was again defeated by Metellus;

tellus; and ſeeking refuge with Byzas, a petty prince of Thrace, he was delivered by him to the Romans. Metellus led him in triumph, in the year before Chriſt 147; and he was afterwards put to death by the ſenate. The Roman general, who ſucceeded in the war againſt Andriſcus, obtained the appellation of *Macedonicus*; and it has been doubted whether Andriſcus was an impoſtor, or the ſon of a king. Mod. Un. Hiſt. vol. viii. p. 98—105.

ANDRUS, in *Ancient Geography*, a river of Aſia, which, according to Strabo, ran into the Scamander.

ANDRO, Port, in *Geography*, in the iſland of Belleiſle, on the coaſt of France, is round the eaſternmoſt point of the iſland, called Point de Locmaria on the ſouth ſide.

ANDROCALIS, in *Ancient Geography*, a town of Ethiopia, near Egypt, according to Pliny.

ANDRODAS, in *Ancient Writers*, denotes the ſixty-third year of a man's life, otherwiſe called *annus Ægypticus*, and *climacter magnus*.

ANDROGEUS, in *Entomology*, a ſpecies of PAPILIO (Eq. Tr.) that inhabits Surinam. The wings are black and bronzed; on the underſide lunated ſpots of blue, red, and yellow. Fabricius and Gmelin. This ſpecies is very ſimilar to papilio polydamas; and the PAPILIO ACANTHUS of Cramer is conſidered as a variety (β) of it.

ANDROGYNA, in *Botany*, plants bearing male and female flowers on the ſame root, or bearing ſome flowers with ſtamens only and ſome with piſtils only on the ſame root, without any mixture of ſuch as are hermaphrodite. Of this we have examples in the melon and cucumber.

ANDROGYNUM, in *Eccleſiaſtical Writers*, is uſed to denote *matrimony*, or even one of the parties married.

ANDROGYNUM, *balneum*, denotes a bath common to both ſexes.

ANDROGYNUS, or ANDROGYNOUS, ἀνδρόγυνος, a compound of ἀνηρ, *man*, and γυνη, *woman*, q. d. *man-woman*, an appellation diſtinguiſhing thoſe living creatures, which, by a monſtrous formation of their generative parts, ſeem to unite in themſelves the two ſexes, that of the male and female, and ſynonymous with hermaphrodite. See HERMAPHRODITE. The term is alſo applied in *ancient mythology* to fabulous creatures, each individual of which poſſeſſed the faculties and diſtinguiſhing characters of both ſexes, having two heads, four arms and feet. Some fanciful writers have reported, that the firſt man was created with two bodies, a male and a female, and that of theſe God made two perſons, by ſeparating one body from the other. See ADAM. It is generally ſaid, that this was a fiction of the Rabbins; but there is reaſon to believe that it was of more early original. Plato's fable of the *Androgynes* indicates the tradition to which he had recourſe; and it confirms the ſuppoſition, that a figment of this kind might have had its firſt riſe in thoſe early times, when the Egyptians and Phœnicians diſguiſed the plain narratives which they found of the origin of things with their fables and mythology. See Euſeb. Præp. Evang. lib. i. c. 10. According to Plato's account (in Conviv. Oper. vol. iii. p. 191. ed. Serrani) the Gods formed man with two bodies and two ſexes. This fantaſtic being, poſſeſſing in itſelf the whole human ſyſtem, was endowed with a gigantic force, and became inſolent, ſo as to make war againſt the gods. Jupiter, exaſperated at this inſolence, determined to deſtroy it; but relenting, and averſe from utterly annihilating the human race, he contented himſelf with debilitating this compound being by ſeparating the male from the female, and leaving each half to ſubſiſt with its own powers alone. The office of reforming the ſeparate bodies, and extending their ſkins ſo as to cover the whole ſurface, was aſſigned to Apollo, who faſtened it to the umbilicus. If this half rebelled, it was to be ſubdivided by another ſection, ſo that only one of the parts, which then compoſed it ſhould be left; and even this fourth part of a man was to be annihilated, if it ſhould perſiſt in its obſtinacy and miſchievous attempts. The idea of theſe Androgynes might poſſibly be borrowed from a paſſage in Moſes's account of the creation, in which he repreſents Adam as calling Eve "bone of his bone, and fleſh of his fleſh." A French poet has made an ingenious application of this fable of Plato. He attributes, as the philoſopher does, the propenſity by which the ſexes incline to one another to the natural ardour which each half of the androgynes feels for re-union, and their inconſtancy to the difficulty which each of the diſjoined parts encounters in its efforts to recover its proper and original half. If a woman appears to us amiable, we inſtantly imagine her to be that moiety with whom we ſhould only have conſtituted one whole, had it not been prevented by the inſolence of our original double-ſexed progenitor.

> "The heart, with fond credulity impreſs'd,
> Tell us the half is found, and hopes for reſt;
> But 'tis our curſe, that ſad experience ſhews,
> We neither find our half, nor gain repoſe."

The aſtrologers alſo give the appellation *androgynous* to ſuch of the planets as are ſometimes hot, and ſometimes cold: as Mercury, which is reputed hot and dry when near the ſun, and cold and moiſt when near the moon.

ANDROIDES, in *Mechanics*, compounded of ἀνηρ, ἀνδρος, *man*, and εἰδος, *form*, an AUTOMATON, in the figure of a man; which, by virtue of certain ſprings, &c. duly contrived, walks and performs other external functions of a man. Albertus Magnus is recorded as having made a famous *androides*, which is ſaid not only to have moved, but to have ſpoken. The conſtruction of this machine muſt have been very ingenious and complex, if it be true that he was employed upon it 30 years. Thomas Aquinas is ſaid to have been ſo frightened when he ſaw this head, that he broke it to pieces; upon which Albert exclaimed "Periit opus triginta annorum." Artificial puppets, which, by internal ſprings, run upon a table, and, as they advance, move their heads, eyes, or hands, were common among the Greeks, and from thence they were brought to the Romans. They were known by the name of "Neuroſpaſta," and were much uſed at their ſhows. Ariſtotle (De Mundo, c. vi.) ſpeaks of ſome which moved their heads, eyes, hands, and limbs in a very natural manner. They are alſo particularly mentioned by Galen, (De Uſu partium, lib. iii.) Xenophon, (Sympoſ.) Antoninus, (De Seipſo, ii. 2. iii. 5. vi. 16. vii. 3. xii. 9.) Horace, (Sat. ii. 7. 82.) Gellius, (lib. xiv. 1.) and others. That Dædalus made ſtatues which could not only walk, but which it was neceſſary to tie, that they might not move, is related by Plato, (Meno, Oper. tom. ii. p. 97. and Euthyphron, Oper. tom. i. p. 11.) Ariſtotle, and others. The latter ſpeaks of a wooden Venus, and informs us, that the ſecret of its motion conſiſted in pouring quickſilver into it. The Chineſe have uſed quick-ſilver for giving motion to puppets, and their method of doing it is deſcribed by Muſchenbroek, (Introd. ad Philoſ. Nat. vol. i. c. iii. iv. lviii. p. 143, &c.) Figures or puppets, which appear to move of themſelves, were formerly employed to work miracles; but this uſe is now ſuperſeded, and they ſerve only to diſplay ingenuity, and to anſwer the purpoſes of amuſement. One of the moſt celebrated figures of this kind was conſtructed by Vaucanſon, and exhibited by him at Paris, for the firſt time,

in 1738; and a particular account of it was published in the Memoirs of the Academy for that year. This figure represents a flute-player, which was capable of performing various pieces of music by wind issuing from its mouth into a German flute, the holes of which it opened and shut with its fingers. The figure was about $5\frac{1}{2}$ feet high, placed upon a square pedestal $4\frac{1}{2}$ feet high, and $3\frac{1}{2}$ broad. The air entered the body by three separate pipes, into which it was conveyed by nine pairs of bellows, which expanded and contracted, in regular succession, by means of an axis of steel turned by clock-work. These bellows performed their functions without any noise, which might have discovered the manner by which the air was conveyed to the machine. The three tubes, which received the air from the bellows, passed into three small reservoirs in the trunk of the figure. Here they united, and ascending towards the throat, formed the cavity of the mouth, which terminated in two small lips, adapted in some measure to perform their proper functions. Within this cavity was a small moveable tongue, which, by its motion at proper intervals, admitted the air, or intercepted it in its passage to the flute. The fingers, lips, and tongue derived their proper movements from a steel cylinder turned by clock-work. This was divided into 15 equal parts, which, by means of pegs pressing upon the ends of 15 different levers, caused the other extremities to ascend. Seven of these levers directed the fingers, having wires and chains fixed to their ascending extremities, which, being attached to the fingers, made them to ascend in proportion as the other extremity was pressed down by the motion of the cylinder, and, *vice versa*; then the ascent or descent of one end of a lever produced a similar ascent or descent in the corresponding fingers, by which one of the holes of the flute was occasionally opened or stopped, as it might have been by a living performer. Three of the levers served to regulate the ingress of the air, being so contrived as to open and shut, by means of valves, the three reservoirs above mentioned, so that more or less strength might be given, and a higher or lower note produced as occasion required. The lips were, by a similar mechanism, directed by four levers, one of which opened them to give the air a freer passage, the other contracted them, the third drew them backward, and the fourth pushed them forward. The lips were projected upon that part of the flute which receives the air, and, by the different motions already mentioned, modified the tune in a proper manner. The remaining lever was employed in the direction of the tongue, which it easily moves so as to shut or open the mouth of the flute. The just succession of the several motions, performed by the various parts of this machine, was regulated by the following simple contrivance. The extremity of the axis of the cylinder terminated on the right side by an endless screw, consisting of twelve threads, each placed at the distance of a line and a half from the other. Above this screw was fixed a piece of copper, and in it a steel pivot, which, falling in between the threads of the screw, obliged the cylinder to follow the threads, and, instead of turning directly round, it was continually pushed to one side. Hence, if a lever was moved, by a peg placed on the cylinder, in any one revolution, it could not be moved by the same peg in the succeeding revolution, because the peg would be moved a line and a half beyond it by the lateral motion of the cylinder. Thus, by an artificial disposition of these pegs in different parts of the cylinder, the statue was made by the successive elevation of the proper levers to exhibit all the different motions of a flute-player, to the admiration of every one who saw it. Another figure, constructed by Vaucanson, played on the Provençal shepherd's pipe, held in its left hand, and with the right beat upon a drum, or tambour de Basque. Another automaton, of the ingenious contrivance of Vaucanson, was a duck of the natural size, which moved its wings, exhibited all the gestures of that animal, quacked like a duck, drank water, ate corn, and voided something like excrement. We may here observe, that the flute-player of Vaucanson was not the first of its kind. In the beginning of the 16th century, the anonymous author of the poem, entitled, "Zodiacus Vitæ," saw at Rome a figure made in like manner by a potter, but no account is given of its construction. The performances of Vaucanson were imitated, and even exceeded, by M. de Kempelen of Presburg, in Hungary. The androides constructed by this gentleman in 1769 was capable of playing chess. It was brought over to England in 1783 by its inventor, and remained here for more than a year. The figure is as large as life, in a Turkish dress, seated behind a table, with doors $3\frac{1}{2}$ feet long, 2 deep, and $2\frac{1}{2}$ high. The chair on which it sits is fixed to the table, which is made to run on four wheels. It leans its right arm on the table, and in its left hand holds a pipe; with this hand it plays after the pipe is removed. A chess-board of 18 inches is fixed before it. The table, or rather chest, contains wheels, levers, cylinders, and other pieces of mechanism, all of which are publicly displayed. The vestments of the figure are then lifted over its head, and the body is seen full of similar wheels and levers. There is a little door in its thigh, which is likewise opened; and with this, and the table also open, and the figure uncovered, the whole is wheeled about the room. The doors are then shut, and the automaton is ready to play; and it always takes the first move. At every motion the wheels are heard; the image moves its head, and looks over every part of the chess-board. When it checks the queen it shakes its head twice, and thrice in giving check to the king. It likewise shakes its head when a false move is made, replaces the piece, and makes its own move, by which means the adversary loses one. M. de Kempelen has exhibited his automaton at Petersburg, Vienna, Paris, and London, before thousands, many of whom were mathematicians and chess-players, and yet the secret by which he governed the motion of its arm was never discovered. He valued himself upon the construction of a mechanism, by which the arm could perform ten or twelve moves. It then needed to be wound up like a watch, after which it was capable of continuing the same number of motions. This automaton could not play unless M. de Kempelen, or his assistant, was near it, to direct its movements. A small square box was frequently consulted by the exhibitor during the game, and in this consisted the secret, which the inventor declared he could communicate in a moment. Any person who could beat M. de Kempelen at chess, was sure of conquering the automaton.

There have been many speaking machines, which seem to answer various questions proposed, sometimes in different languages, sing, and even blow a huntsman's horn. The figure, or perhaps only a head, is often placed upon a box, the fore part of which, for the better deception, is filled with a pair of bellows, a sounding board, a cylinder and pipes, supposed to represent the organs of speech. At other times the machine is only like a perruke-maker's block, hung round with a Turkish dress, furnished with a pair of arms, and placed before a table; and sometimes the puppet stands upon the table, or against a wall. The sounds are heard through a speaking trumpet, which the figure holds in its mouth. Some have pretended, that the voice of machines of this kind does not proceed from a man, but that it is produced by mechanism, like the music of an organ. Some affirm, that the voice issues from the machine itself; others, that the juggler answers, by speaking in the manner of ventriloquists,

triloquiſts, from the lower part of his belly, or by having the power to alter his voice; and ſome believe that the anſwers are given by a man ſomewhere concealed. It is, however, well known, that a child or a woman is concealed in the juggler's box; or that ſome perſon, in a neighbouring apartment, ſpeaks into the end of a pipe, which proceeds through the wall to the puppet, and which conveys the anſwer to the ſpectators. The invention of cauſing ſtatues to ſpeak, by this method, ſeems ſo ſimple, that one can ſcarcely forbear conjecturing, that it was anciently employed to ſupport ſuperſtition; and many have imagined that the greater part of the oracles were delivered in this manner. See Van Dale de Oraculis, 4to. Amſt. 1700. p. 222. Whether the head of Orpheus ſpoke in the iſland of Leſbos, or, as is more probable, the anſwers were conveyed to it by the prieſts, as was the caſe with the tripod at Delphi, cannot be now aſcertained. That the impoſtor Alexander, however, cauſed his Æſculapius to ſpeak in this manner is expreſsly related by Lucian. He took, ſays this author, inſtead of a pipe, the gullet of a crane, and tranſmitted the voice through it to the mouth of the ſtatue. In the fourth century, when Biſhop Theophilus broke to pieces the ſtatues at Alexandria, he found ſome which were hollow, and placed in ſuch a manner againſt a wall, that a prieſt could ſlip unperceived behind them, and ſpeak to the ignorant populace through their mouths. Theodoret, Eccl. Hiſt. lib. v. c. 22. p. 228. Ed. Valeſii. Beckman's Hiſt. of Inventions, vol. iii. p. 317, &c. See AUTOMATON.

ANDROLEPSY, formed of ἀνηρ, *man*, and λαμβανω, *capio, I take*, in *Antiquity*, an action againſt thoſe who protected murderers, by which if an Athenian were killed by a citizen of ſome other place, and ſuch city refuſed to deliver up the criminal to puniſhment, it was held lawful to take three inhabitants of that city, and to detain them, till the murderer had either ſurrendered himſelf, or ſatisfied the law. This the Greeks called *androlepſia*, and the Romans CLARIGATIO. Some authors alſo uſe *androlepſia* for REPRISALS.

ANDROMACHA, in *Entomology*, a ſpecies of PAPILIO (Parnaſſius) that inhabits New Holland. Wing above and beneath alike, dotted with black; anterior pair naked, poſterior pair yelloviſh. Fabricius and Gmelin.

ANDROMACHA, a ſpecies of SPHINX, (zygaena of Fabricius) that inhabits America. It is black, wings tranſparent, margin and band black, tail red. Gmelin. The ſphinx caunus of Cramer is ſuppoſed to be a variety of this ſpecies.

ANDROMACHE, in *Biography*, the wife of Hector, was the daughter of Aëtion, king of Thebes, in Cilicia. She lived in the happieſt conjugal union with her huſband till his death. At the ſiege of Troy ſhe had the affliction of witneſſing the precipitation of her ſon Aſtyanax from a high tower, and of being herſelf a captive ſlave to Pyrrhus, the ſon of Achilles, who was the deadly foe of Hector. She afterwards became the concubine of Pyrrhus, and had children by him. After the death of Pyrrhus, or, as ſome ſay, during his life, ſhe married her fellow-captive Helenus, a ſon of Priam, and brother of Hector; and ſhe reigned with him over part of Epirus, and perpetuated a race from whom Pyrrhus, king of Epirus, the antagoniſt of the Romans, is fabled to have ſprung. Several tragedies, ancient and modern, have been compoſed on the ſubject of Andromache; but the intereſt of the moſt pathethic poem probably ariſes from ſentiments foreign to her period and character. Gen. Dict.

ANDROMACHUS of *Crete*, was phyſician to the emperor Nero. He invented the compoſition, called after him, Theriaca Andromachi, which he dedicated to the ſervice of Nero, in a copy of Greek verſes that have been preſerved to the preſent time. Galen wrote two books in commendation of the medicine. It was given as an antidote againſt the poiſon of the viper, and was ſoon ſuppoſed to have equal power againſt all other poiſons, and to prevent or cure malignant and infectious fevers. The emperor Antonine is ſaid to have made daily uſe of the compoſition, and it was kept conſtantly prepared in the palace by ſeveral ſucceeding emperors. The formula, or proceſs for making it, is deſcribed by Aretæus and by Galen, as well as by the inventor in his verſes to Nero. The Venetians became ſo famous for making this medicine, which they ſent for ſale to all parts of Europe, that it is now more commonly known by the name of Theriaca Venetæ, Venice treacle, than by that of the inventor. Andromachus is ſaid to have been the firſt phyſician who was dignified with the title of Archiater. Haller, Bib. Med. Pract.

ANDROMEDA, in *Aſtronomy*, a conſtellation of the northern hemiſphere, repreſenting the figure of a woman almoſt naked, with her feet at a diſtance from each other, and her arms extended and chained.

It is ſuppoſed to have been formed in memory of Andromeda, daughter of Cepheus and Caſſiopeia, and wife of Perſeus, by whom ſhe had been delivered from a ſea-monſter, to which her father had expoſed her to be devoured, in order to preſerve his kingdom from the plague. Minerva tranſlated her into the heavens.

Dr. Hook thinks he has diſcovered the hidden meaning of the ſtory of Andromeda. Vide Poſt. Works, p. 401. Andromeda is ſometimes called in Latin, "Perſea," "Mulier catenata," and "Virgo devota;" and the Arabians have changed the figure of this conſtellation from that of a woman to that of a ſea-calf. Schickard has changed the name for that of "Abigail;" and Schiller calls it the "holy ſepulchre," and exhibits it under that figure. The ſtars in the conſtellation Andromeda, in Ptolemy's catalogue, are 23, in Tycho's 23, in Hevelius's 47, in Mr. Flamſteed's no leſs than 66. About 27 of theſe ſtars are viſible to the naked eye, of which the principal are, α Andromeda's head, β in the girdle, called mirach, or mizar, and γ on the ſouth foot, named alamak, and ſometimes alhamec.

Some of the ſtars of Andromeda have been reckoned among the changeable ſtars, whoſe brightneſs varies. Mr. Pigott and Dr. Herſchel have made obſervations on their relative brightneſs, for which ſee Phil. Tranſ. vol. lxxvi. p. 203. 212. vol. lxxxvii. p. 307. 321.

ANDROMEDA, in *Botany*, ledum of Mich. chamædaphne and poliifolia of Buxb. and erica of Tournefort, a genus of the *decandria monogynia* claſs and order, of the natural order of *bicornes* and *ericæ* of Juſſieu. Its characters are, that the *calyx* is a perianthium, five-parted, acute, very ſmall, coloured, and permanent; the *corolla* is monopetalous, campanulate, and quinquefid, clefts reflex; the *ſtamina* have ſubulate filaments, ſhorter than the corolla, and ſcarcely fixed to it, anthers two-horned and nodding; the piſtillum is a roundiſh germ, ſtyle cylindric, longer than the ſtamens, and permanent, ſtigma obtuſe; the *pericarpium* is a capſule, roundiſh, five-cornered, five-celled, five-valved, opening at the corners, partitions contrary, and the *ſeeds* are very numerous, roundiſh, and ſhining. *Obſ.* It differs from *erica* in number. In ſome ſpecies the corolla is ovate, in others perfectly campanulate. The anthers in ſome are awned, in others awnleſs.

Martyn enumerates 25, and Gmelin 21 ſpecies. 1. A. *tetragona*, with peduncles ſolitary and lateral, corollas bell-ſhaped, and leaves oppoſite, imbricate, obtuſe, and revolute. This reſembles the *paſſerina filiformis*, but the flowers are very different, and

and ſimilar to thoſe of the lily of the valley; the leaves are generally four-fold, whence its ſquare appearance, and the name tetragona. Linnæus firſt obſerved it growing very ſparingly in Lapland, in 1732; and Gmelin found it on the mountains of Siberia. 2. A. *hypnoides*, with peduncles ſolitary and terminal, corollas bell-ſhaped, and leaves crowded and awl-ſhaped. It has the appearance of a moſs, ſpreads over large tracts of ground in the Lapland Alps, and adorns them with its beautiful red flowers, the anthers are awned; it is alſo found in Denmark and Siberia. 3. A. *cerea*, with peduncles axillary, two-leaved, and one-flowered, and leaves alternate, ovate, and ſerrate; the leaves are on ſhort petioles, the corolla is bell-ſhaped, and the anthers oblong, yellow, two-horned at the back. It is brought from the iſland of Otaheite. 4. A. *cærulea*, erica folio abietis, flore arbuti of Buxb. with peduncles aggregate, corollas ovate, and leaves ſcattered, linear obtuſe, and flat; the anthers are without awns. It grows wild on the mountains of Lapland, more plentifully on thoſe of Dalecarlia and Jemtia, and is alſo found in Denmark and Siberia. 5. A. *Mariana*, Maryland A. with peduncles aggregate and branched, corollas ovate-cylindrical, and leaves oblong ovate, quite entire, and deciduous; the anthers are without awns; a native of North America; introduced here in 1736 by Peter Collinſon, Eſq. There are two varieties, α with oval leaves, and β with oblong leaves; the corollas are ſhaped like thoſe of arbutus, are of an herbaceous colour, appear in June and July, and are ſometimes ſurrounded by fruit, which ſeldom ripens in England. 6. A. *ferruginea*, ruſty A. with peduncles aggregate, axillary, corolla ſubgloboſe, and leaves elliptic, quite entire, and beneath ſcaly-ſcarioſe. This is a native of North America, was cultivated here by Mr. J. Gordon in 1776, and flowers in July and Auguſt. 7. A. *polifolia*, polifolia of Buxb. erica humilis, &c. of Pluken, rhododendron polifolium of Scop. ledum paluſtre noſtras arbuti flore of Ray, with peduncles aggregate and terminal, and leaves alternate, lanceolate, revolute, beneath glaucous. Martyn enumerates three varieties, *viz.* α A. pol. latifolia, broad-leaved marſh A. with leaves oblong, corollas ovate and fleſh coloured, ſegments of the calyx ſpreading, ovate, and white, ſometimes red at the tip. β A. pol. media, common marſh A. or wild roſemary; with leaves lanceolate, corollas oblong-ovate red, and ſegments of the calyx more erect. γ A. pol. anguſtifolia, narrow-leaved marſh A. with leaves lanceolate linear, and ſegments of the calyx oblong and red. This is an elegant little ſhrub, which riſes from ſix or eight inches to a foot in height, erect and branched; the flowers are fleſhy and nodding, the calyx is red, the corolla of a pink colour, the anthers awned, the capſule erect and five-furrowed, the ſtyle white, with a purple ſtigma, and the ſeeds very many and ſmall. It is a native of America and the northern countries of Europe on turf bogs; in Ruſſia, Sweden, Denmark, Germany, Swiſſerland, and in Britain, on the moſſes of Cheſhire, Lancaſhire, Weſtmoreland, Cumberland, Yorkſhire, and Scotland, as on Brigſten moſs, near Kendal, Middleton moſs, by Lancaſter, on Blackſtone-edge, between Halifax and Rochdale, upon Solway moſs in great quantities, and not unfrequent in peat-bogs in the lowlands of Scotland. It flowers in June, and is called mars chiſtus, wild roſemary, Poley mountain, moor-wort, and marſh holy roſe. There is ſome difference in the varieties as found in North America (α), in Europe (β), and in Newfoundland and Labrador (γ), as above ſpecified. 8. A. *bryantha*, bryanthus of Gmelin, with flowers corymbed, leaves elliptic, and proſtrate ſtem. This comes up in thick clumps, like wild thyme, on the rocks of Kamtſchatka. 9. A. *daboecia*, erica daboecii, erica Hibernica, &c. of Ray, Iriſh whorts, Cantabrian heath, or trailing Andromeda, with racemes pointing one way; flowers quadrifid, ovate, and leaves alternate, lanceolate, and revolute. This was formerly an erica, and wants one-fifth in the parts of fructification, and ought, perhaps, with droſeroides and cærulea, to be removed to that genus. This ſpecies has the habit or air of an andromeda, but the character of an erica. The ſeed-veſſel is a four-celled, four-valved capſule; it has been obſerved to grow only in the Iriſh bogs, and flowers in June and July. 10. A. *droſeroides*, erica glutinoſa of Berg. chamæcillus roris folis foliis of Pet. clammy A. with racemes pointing one way, and leaves linear, hairy and viſcid. The number of parts of fructification varies from 4 or 8 to 5 or 10; it is ſiſter to N° 9, and has all the habits of Andromeda; a native of the Cape of Good Hope. 11. A. *paniculata*, panicled A. with racemes terminal, panicled, corollas roundiſh, and leaves ovate, rather entire: the ſtem is about four feet high; the flowers grow in looſe ſpikes from the ends of the branches, being ſhaped like thoſe of arbutus, only a little longer, and appearing in July, but not producing ſeeds in this country; the anthers are awned: a native of Virginia, and cultivated here in 1748 by Archibald, duke of Argyle. 12. A. *japonica*, with racemes panicled, cylindric and bracted, and leaves elliptic, reflex, and ſerrate at the tip. This is a tree, a native of Japan, near Nagaſaki, and flowers in December. 13. A. *arborea*, tree—Andromeda, or ſorrel-tree, with panicles terminal, corollas rather downy, and leaves elliptic, pointed, and tooth-letted. This is in Virginia a ſhrub, growing 10 or 12 feet high, but in Carolina it riſes 20 feet; the branches are ſlender, and bend downwards; the flowers grow in long, naked ſpikes from the ſides of the branches, they are of an herbaceous colour, and ranged on one ſide of the ſtalk. Cultivated here in 1752 by Mr. Miller. 14. A. *racemoſa*, branching or Pennſylvania Andromeda, with racemes terminal, ſimple, and bracted, corollas cylindric, and leaves oblong-lanceolate, and ſerrate. This was found in Pennſylvania by Kalm, introduced here in 1736 by P. Collinſon; flowers in July. 15. A. *axillaris*, notch-leaved A. with racemes axillary and ſimple, corollas oblong, leaves ovate, acute, and ſerrulate. A native of Carolina, introduced in 1765, and flowering from May to Auguſt. 16. A. *coriacea*, thick-leaved A. with racemes axillary and ſimple, leaves ovate, very entire, very ſhining, and branchlets three-cornered; found in North America, introduced in 1765, and flowering in July and Auguſt. 17. A. *acuminata*, A. lucida of Jacq. acute-leaved A. with racemes axillary and ſimple, leaves ovate-lanceolate, acuminate and ſerrate. This is a ſhrub about four feet high, upright and ſmooth, with round branches, leafy to a conſiderable extent; the flowers ſmell like honey, the perianthium is green, the corolla ſnow-white. It is a native of North America, was introduced in 1765, and flowers in July and Auguſt. 18. A. *calyculata*, calycled A. with peduncles ſolitary, axillary, and pointing one way, two bractes, and leaves oval, ſcaly-dotted, and obſoletely ſerrulate. There are three varieties: α A. cal. ventricoſa, chamædaphne of Buxb. globe-flowered calycled A. with globoſe corollas, and oblong-lanceolate leaves; β. A. cal. latifolia, broad leaved calycled A. with corollas oblong-cylindric, and leaves oblong-oval, and obtuſe; γ. A. cal. anguſtifolia, narrow-leaved calycled A. with corollas oblong-oval, and leaves oblong-lanceolate. This is a low ſhrub, with leaves of ſimilar ſhape and conſiſtence to thoſe of the box tree, with ſmall punctures on them; the flowers grow in ſhort ſpikes at the extremes of the branches, ſingle, between two leaves, and white; the leaflets are oval on the racemes, and from the axil of each proceeds a ſolitary, pedicelled flower; the calyx is covered at the baſe, with two ovate leaflets; the anthers are oblong, bifid, and awnleſs; growing in Sweden, Ingria, Siberia, and North America, on moſſy land;

land; cultivated in 1748 by Archibald, duke of Argyle. There is ſome difference in the varieties from Ruſſia (α), Newfoundland (β), and North America and Siberia (γ). 19. A. *anaſtomozans*, with racemes crowded and leafy; leaves ovate, ſlighty ſerrate, anaſtomizing underneath; and dotted. This is a ſhrub with hairy branches, ovate corollas, two-awned anthers, and obtuſe capſules, gaping at the angles; found by Mutis in New Granada. 20. A. *rupeſtris*, with leaves oblong, alternate and ferrulate. A native of New Zealand. 21. A. *ſalicifolia*, willow-leaved A. with racemes pointing one way, and naked, corollas ſubcylindrical, and leaves lanceolate, acute, and quite entire; found by Commerſon in the iſland of Mauritius. 22. A. *buxifolia*, box-leaved A. with racemes pointing one way, and naked, corollas ſubcylindrical, and leaves cordate-ovate, quite entire, with a little dagger point. This and the former ſpecies differ ſcarcely at all in their fructification, or in the ſtructure of their leaves, and are diſtinguiſhable only by their form; this, however, has none of thoſe lines parallel to the midrib that are ſo conſpicuous in the other ſpecies. It is a native of the iſle of Bourbon where it was found by Commerſon. 23. A. *faſciculata*, with peduncles aggregate, leaves alternate, ovate-lanceolate, obtuſe, ſlightly crenulate and coriaceous. 24. A. *Jamaicenſis*, with peduncles aggregate, corollas ovate tranſparent, leaves alternate, broad-lanceolate, obtuſe, entire, beneath aſh-coloured and membranaceous. 25. A. *octandra*, with peduncles aggregate, corollas cylindric quadrifid, and leaves alternate, ovate-lanceolate, entire, and membranaceous. The three laſt ſpecies are natives of Jamaica. Gmelin enumerates the following ſpecies beſides ſeveral of thoſe above deſcribed, *viz.* A. *ferruginoſa*, with flowers aggregate, axillary, and terminal, leaves rounded at the margin, revolute, and beneath ferruginous; ſuggeſted not to be diſtinct from the A. *ferruginea*; A. *nitida*, with peduncles aggregate and axillary, leaves alternate, lanceolate-ovate, entire and permanent; A. *cateſkai*, with racemes ovate and axillary, leaves alternate, petiolate, ovate-lanceolate, ferrulate and permanent; A. *reticulata*, with racemes ovate and axillary, leaves ovate, acuminate, crenulate, alternate, petiolate, beneath reticulate and permanent.

Culture. Moſt of the ſpecies are hardy, deciduous ſhrubs, which delight in moiſt ground; they may be increaſed by their creeping roots, which put up ſuckers at a diſtance, that may be taken off with roots, and tranſplanted where they are to remain. Thoſe that are imported from America may be propagated by ſeed ſown in the ſpring in a bed of moiſt earth; they may be increaſed by layers in autumn. The 13th ſort muſt be ſheltered from froſt in winter, and in ſummer frequently watered. It grows naturally in boggy places, and requires greater heat than that of this climate. Martyn's Miller.

ANDROMEDA, in *Entomology*, a ſpecies of PAPILIO (Parnaſſius) found in India. The wings are roundiſh, tranſparent, white: poſterior pair red at the tip, with a ſingle eye-ſhaped ſpot on each ſide. Fabricius and Gmelin.

ANDROMEDA, in *Natural Hiſtory*, is likewiſe a ſpecies of MEDUSA amongſt the VERMES MOLLUSCA. It is hemiſphærical, without marginal arms; eight round, ramoſe, foliaceous arms on the under part. Forſk. Fn. Arab. Gmelin. This kind is extremely abundant on the coaſts of the Red Sea. The body is tranſparent, and of a pale browniſh colour with white rays; the margin is entire; in the middle is a black croſs: the arms are white, and rather thicker than a gooſe quill at their baſe. Gmelin, &c.

ANDROMEDA, in *Middle Age Writers*, denotes a kind of garment made of ram-ſkins.

ANDRON, or ANDRUM, in *Antiquity*, an apartment in houſes aſſigned for the uſe of the men. This was otherwiſe denominated *androna*, and *andronitis*. The andron ſtood oppoſed to the GYNECÆUM, or apartment of the women. The Greeks alſo gave their dining-rooms the title andron becauſe the women had no admittance to feaſts with the men.

ANDRONA, in *Ancient Writers*, denotes a ſtreet, or public place, where people met and converſed together. In ſome writers androna is more expreſsly uſed for the ſpace between two houſes. In which ſenſe the Greeks alſo uſed the term ἀνδρὼν, as for the way or paſſage between two apartments. The word is ſometimes alſo written *andra*, *andrion*, and *andronium*.

ANDRONA is alſo uſed, in *Eccleſiaſtical Writers*, for that part in churches deſtined for the men. Anciently it was the cuſtom for the men and women to have ſeparate apartments in places of worſhip, where they performed their devotions aſunder; which method is ſtill religiouſly obſerved in the Greek church. The ἀνδρὼν, or androna, was on the ſouthern ſide of the church, and the women's apartment on the northern.

ANDRONICUS I. COMNENUS, in *Biography* and *Hiſtory*, was the ſon of Iſaac and grandſon of Alexius Comnenus, and one of the moſt conſpicuous characters of the age, ſo that his genuine adventures might form the ſubject of a very ſingular romance. He was ſtrong and beautiful; the want of the ſofter graces was ſupplied by a manly countenance, a lofty ſtature, athletic muſcles, and the air and deportment of a ſoldier; and the preſervation of his health and vigour in old age, was the reward of temperance and exerciſe. Dextrous in arms, he was ignorant of fear; his perſuaſive eloquence could accommodate itſelf to every ſituation and character of life; and in every deed of miſchief, he had a heart to reſolve, a head to conceive, and a hand to execute. In his youth he followed the retreat of the Roman army, and in the march through Aſia Minor he wandered into the mountains, was taken by Turkiſh huntſmen, and became a captive to the ſultan. Both his virtues and his vices recommended him to the favour of his couſin, the emperor Manuel; and whilſt he lived in public inceſt with his niece Theodora, Andronicus openly maintained a licentious intercourſe with her ſiſter Eudocia, who gloried in the name of his concubine. She accompanied him in his military command in Cilicia, where he preſſed, with active ardour, the ſiege of Mopſueſtia; but he was ſurpriſed and thrown into diſorder by a ſally of the enemy. On his return to the Imperial camp in Macedonia, Eudocia attended his motions; and their tent was ſuddenly attacked at midnight by her brothers, who were impatient to expiate her infamy in his blood. Refuſing to aſſume a female habit, in compliance with her advice, he ſtarted from his couch, and cut his way through the aſſaſſins with his ſword. At this time he engaged in a treaſonable correſpondence with the king of Hungary and the German emperor; in conſequence of which he was arreſted, and ſtrictly confined in a tower of the palace of Conſtantinople. In this priſon he remained for more than 12 years; and after repeated and ineffectual attempts to eſcape, in which he manifeſted ſingular reſolution and dexterity, he at laſt ſucceeded, and retired to the court of the great duke of Ruſſia. Having gained this aſylum, he ſolicited the Ruſſian prince to join his arms to thoſe of Manuel in the invaſion of Hungary, and thus obtained forgiveneſs from the emperor; and, after a campaign on the Danube, he returned with Manuel to Conſtantinople. By refuſing the oath of allegiance, which he was required to take to the prince of Hungary, who became the preſumptive heir by marrying the emperor's daughter, he again incurred

curred his diſpleaſure; and he was puniſhed by an honourable exile to a ſecond command of the Cilician frontier, with the abſolute diſpoſal of the revenues of Cyprus. Here he engaged the affections of Philippa, ſiſter of the empreſs Maria, and daughter of Raymond of Poitou, the Latin prince of Antioch. In connection with her he purſued a courſe of diſſipation for ſome time, till Manuel's reſentment interrupted his pleaſures. His intercourſe with Philippa being obſtructed, he collected a band of deſperate adventurers, and undertook the pilgrimage of Jeruſalem. In this military undertaking he ſo far ſucceeded as to captivate the eſteem of the clergy and of the king, and to obtain the lordſhip of Berytus, on the coaſt of Phœnicia. In this neighbourhood reſided Theodora, great grand-daughter of the emperor Alexis, and widow of Baldwin the Third, king of Jeruſalem, who was young and beautiful, and a princeſs of his own family. Theodora became the third victim of his amorous ſeduction; and her ſhame was more public and ſcandalous than that of her predeceſſors. The emperor's reſentment ſtill purſued him; in Paleſtine he was no longer ſafe; and Theodora diſcloſed his danger, and accompanied his flight. Damaſcus was his firſt place of refuge; and having viſited ſeveral other parts of the eaſt, probably Bagdad and the courts of Perſia, he made a long circuit round the Caſpian Sea and the mountains of Georgia, and finally ſettled among the Turks of Aſia Minor, the hereditary enemies of his country. He made frequent inroads in the Roman province of Trebizond, and ſeldom returned without an ample harveſt of ſpoil and of Chriſtian captives. Theodora was at length ſurpriſed by the governor of Trebizond, and, together with her two children, was ſent to Conſtantinople; upon which Andronicus implored and obtained a final pardon; with leave to throw himſelf at the feet of his ſovereign, who was thus ſatisfied. He acted the part of a humble and conſtant penitent with ſuch ſucceſs, that his ſins were forgiven both by the church and ſtate; and he was ſent by the emperor to reſide at a diſtance from the court, namely, at Oenóe, a town of Pontus, ſurrounded with rich vineyards, and ſituate on the coaſt of the Euxine.

Soon after this event the death of Manuel in 1177, who was ſucceeded by his ſon Alexius Comnenus, at the age of 12 or 14 years, without vigour, wiſdom, or experience, opened a new career to his ambition. A civil war having been excited in Conſtantinople by the miſconduct of the empreſs dowager, the views of the people were directed to Andronicus. Urged to interpoſe for quelling the diſturbance that prevailed, and for reſtoring the public tranquillity, both by the patriarch and the patricians, he began his march from Oenóe towards Conſtantinople; his ſlender train inſenſibly ſwelled to a crowd and an army; and he ſoon reached the city, took poſſeſſion of the palace, ſaluted the emperor, confined his mother, puniſhed her miniſter, and re-eſtabliſhed the public order and peace. His wicked deſigns were for ſome time diſguiſed by his hypocriſy; but he haſtened to manifeſt the cruelty of his diſpoſition by putting to death many perſons whom he thought ill-affected towards him, and by cauſing the empreſs herſelf to be tried and executed on a charge of treaſon, in correſponding with Bela, king of Hungary. After the coronation of the young emperor, at which Andronicus ſolemnly attended and vowed fidelity, with the ſacrament in his hands, he found means to repreſent the neceſſity of committing the empire to the care of ſome perſon of experience, and to engage the people, as well as the emperor himſelf, to ſolicit the aſſociation of a colleague. Having ſucceſsfully conducted this part of the farce, his adherents unanimouſly exclaimed, "Long live Alexius and Andronicus, Roman emperors!" And the artful hypocrite was elevated, by acclamation, apparently againſt his own conſent, and merely to protect the young emperor and to ſupport his authority, to a partnerſhip in the empire. This partnerſhip, which was merely a preparatory ſtep to the ſole ſovereignty, he ſoon terminated by the death of Alexius, whom he cauſed to be ſtrangled with a bow-ſtring; and the tyrant, inſenſible to pity or remorſe, after ſurveying the body of the innocent youth, ſtruck it rudely with his foot: "Thy father," he cried, "was a knave, thy mother a whore, and thyſelf a fool!" Having thus attained to the dignity of ſole emperor, A. D. 1183, he ſwayed the ſceptre about three years and a half, as the guardian or ſovereign of the empire. His government exhibited a ſingular contraſt of vice and virtue: when he liſtened to his paſſions he was the ſcourge, and when he conſulted his reaſon he was the father of his people. In the exerciſe of private juſtice he was equitable and rigorous; the provinces, which had been neglected and oppreſſed, revived in proſperity and plenty; and millions applauded the diſtant bleſſings of his reign, while he was curſed by the witneſſes of his daily cruelties. The nobleſt families, eſpecially thoſe who claimed any alliance to the Comneni, were either maſſacred or exiled. At length his throne was ſubverted by a rival without merit, and a people without arms. Iſaac Angelus, a deſcendant, in the female line, from the great Alexius, being marked as a victim, defended his life and liberty, ſlew the executioner, and fled for refuge to the church of St. Sophia. The populace were rouſed, and Iſaac was inſtantly raiſed from the ſanctuary to the throne. Andronicus, who was indulging himſelf in the delicious iſlands of the Propontis, in the ſociety of a young wife and a favourite concubine, returned with all ſpeed to Conſtantinople; but he found, upon his arrival, that he was univerſally deſerted, and that no condition which he propoſed, however ſelf-denying and humiliating, would be accepted. Accordingly he attempted to make his eſcape; but he was purſued and taken in his flight, and brought back, loaded with fetters, and with a long chain round his neck, to the preſence of Iſaac Angelus. "His eloquence, and the tears of his female companions, pleaded in vain for his life; but inſtead of the decencies of a legal execution, the new monarch abandoned the criminal to the numerous ſufferers, whom he had deprived of a father, an huſband, or a friend. His teeth and hair, an eye and a hand were torn from him; and a ſhort reſpite was allowed, that he might feel the bitterneſs of death. Aſtride on a camel, without any danger of a reſcue, he was carried through the city, and the baſeſt of the populace rejoiced to trample on the fallen majeſty of their prince. After a thouſand blows and outrages, Andronicus was hung by the feet, between two pillars that ſupported the ſtatue of a wolf and a ſow; and every hand that could reach the public enemy, inflicted on his body ſome mark of ingenious or bloody cruelty, till two friendly or furious Italians, plunging their ſwords into his body, releaſed him from all human puniſhment. In this long and painful agony, 'Lord, have mercy upon me!' and 'Why will you bruiſe a broken reed?' were the only words that eſcaped from his mouth. His death, in the 73d year of his age, cloſed a reign of two years, and with him terminated the dynaſty of the Comneni. Anc. Un. Hiſt. vol. xv. p. 158, &c. Gibbon's Hiſt. vol. ix. p. 93—108.

Andronicus, Cyrrestes, or of Cyrrhus, was an Athenian aſtronomer, and celebrated as the inventor of weathercocks. He erected an octagon tower of marble, on each ſide of which he engraved figures repreſenting the eight winds mentioned by Vitruvius, under the names of

Solanus, Lunus, Auster, Aquilo, Favonius, Corus, Septentrio, and Apulo. A copper Triton, holding in its hand a flick, turned upon a pivot, and fhewed the direction of the wind. Salmafius gives the form of this tower in his commentary on Solinus. Aul. Gell. lib. vi. c. 22.

Andronicus, Livius, the oldeft of the Latin poets, is faid to have been a Greek flave, and to have been emancipated by Livius Salinator, whofe children he inftructed, and whofe name he aflumed. His performances were chiefly dramatic and comic, and he acted in his own pieces; and, it is faid, that when he became hoarfe, he caufed the words to be recited by a fervant, while he himfelf exhibited the gefticulation. He alfo wrote hymns to the gods, one of which, in honour of Juno, is faid, by Livy and Valerius Maximus, to have been fung through the city by girls. An odyffey is alfo attributed to him. Some lines, which are quoted by grammarians and critics, are the only relics of him, and they have been printed in the fragments of the other ancient Latin poets, in the "Comici Latini," and the "Corpus Poetarum." Andronicus repreſented his firſt piece on the ſtage, A. U. C. 514. B. C. 240, a year before the birth of Ennius. Voſſius.

Andronicus of *Rhodes*, a peripatetic philoſopher, came to Rome in the time of Cicero, and ſerved to revive and eſtabliſh the philoſophy of Ariſtotle. Andronicus collected the writings of Ariſtotle, by means of the library of Apellicon, ſent to Rome by Sylla, and Tyrannio's uſe of it, arranged, corrected, tranſcribed, and publiſhed them; and, according to Plutarch, he annexed indexes to them; ſo that he may be conſidered as a reſtorer of theſe writings. Andronicus wrote a paraphraſe of Ariſtotle's Categories and Phyſics, and probably of ſome other pieces, but none are extant, unleſs the paraphraſe of Ariſtotle's Ethics, publiſhed under his name by Heinſius, 8vo. at Leyden, in 1617, and at Cambridge in 1679, be his, which Salmaſius, Voſſius, &c. diſpute. It is doubted whether a ſmall treatiſe "On the Paſſions," publiſhed by David Hoeſchelius, in 1593, was written by this Andronicus. Plut. Vit. Sylla apud Oper. tom. i. p. 468. Gen. Dict.

Andronicus of *Theſſalonica*, flouriſhed in the 15th century, and among other learned men, who left Conſtantinople when it was taken by the Turks, contributed to the revival of letters. He taught Greek at Rome, and was entertained in the houſe of Beſſarion; but his ſalary was ſo inconſiderable that he was obliged to leave Rome and repair to Florence; whence he removed to Paris, where he died at an advanced age. His knowledge of the Greek language and of Greek authors exceeded that of any of his contemporaries; but he was diſqualified for public ſpeaking by a bad pronunciation. Gen. Dict.

ANDRONION, in *Phyſic*, the name of a paſtil, invented by an ancient phyſician named Andro, ſaid to have been of great efficacy againſt the carbuncle and herpes. Its ingredients, according to Ægineta's preſcription, are the *ſquamæ* of copper, *æs uſtum*, *ſal ammoniac*, *alumen rotundum*, ſhavings of verdegriſe, and frankincenſe, all wrought up with wine. Celſus gives another recipe, and Aetius a third.

ANDROPHAGI, from *ανηρ*, *man*, and *φαγω*, *I eat*, among *Ancient Geographers*, denoted man-eaters. Theſe were more uſually called *anthropophagi*. Herodotus and Pomp. Mela ſpeak of a nation of androphagi, in Scythia, who obſerved neither laws nor juſtice, and had nothing in common with the other inhabitants but their dreſs and occupation of feeding cattle.

ANDROPOGON, q. d. *man's beard*, in *Botany*, a genus of the *polygamia monoecia* claſs and order, and of the natural order of *gramina*, or graſſes. Its characters are, that the hermaphrodite flowers are ſeſſile, that their *calyx* is a glume, one-flowered, two valved, oblong, obtuſe, cartilaginous and awnleſs, the outer valve concave, flattiſh at the back, embracing the inner, which is narrower, with its edges; the *corolla* is a two-valved glume, leſs and more ſlender than the calyx; outer valve ſmaller, often very ſmall, within the inner valve of the calyx, ſharp or bifid at the end, in moſt of the ſpecies awned; awn terminating, or from the cleft of the glume, long, with a bent joint, and twiſted at bottom; the inner valve lanceolate, doubled at the edges; nectary two-leaved; leaflets thickiſh and diaphanous; the *ſtamens* have three filaments, capillary, very tender; anthers oblong, forked at both ends, and incumbent; the *piſtillum* is an oblong germ, ſtyles two, and capillary, ſtigmas oblong, and feathered; no *pericarpium*; glumes of the corolla and calyx involving, and incloſing the ſeed; the *ſeed* ſolitary, oblong, and covered, armed with the awn of the corolla, which eaſily falls off. The male flowers are peduncled, ſingle, or in pairs to each hermaphrodite; the *calyx*, *corolla*, and *ſtamens* as in the others, except that the corolla has no awn. Martyn enumerates 35, and Gmelin 38 ſpecies. 1. A. *caricoſum*, gramen caricotum of Rumph. with ſpikes ſolitary and imbricate, ſeeds ſhaggy, awns naked and contorted. A. native of Amboina and Japan. 2. A. *contortum*, Ægilops Maderas-patana, &c. of Scheuch. gramen fecalinum indicum, &c. of Pluk. and Mor. with ſpike ſolitary, male flowers awnleſs on the back of the ſpike, female flowers on the belly of it twice as long as the males, with twiſted approximating awns, longer than the whole ſpike. A native of the Eaſt Indies; introduced into Kew Garden in 1779 by Anthony Chamier, Eſq. 3. A. *crinitum*, with ſpikes ſolitary and ſhaggy; awns naked, jointed, and very long. A native of Japan; found by Thunberg. 4. A. *divaricatum*, lagurus humilior, &c. of Gron. Virg. &c. with ſpike oblong, flowers woolly, remote and divaricate; awn flexuoſe and naked. A native of Virginia. 5. A. *gryllus*, Ægilops bromoides ſpica purpuraſcente of Scheuch. gram. ſparteum feſtuceum, &c. of Barr. gram. avenaceum, &c. of Monti, with peduncles of the panicle entirely ſimple and three-flowered: the hermaphrodite floſcule ſeſſile, awned, ciliate, and bearded at the baſe. A native of Piedmont, Verona, Montpelier, Carniole, the Griſons, and Switzerland. 6. A. *ſaccharoides*, with branches of the panicle ſimple, florets in pairs, hermaphrodite awned ſeſſile, the other awnleſs, pedicelled, withering, pedicel and rachis woolly. A native of Jamaica. 7. A. *nutans*, with panicle nodding, awns twiſted and poliſhed, glumes of the calyx ſhaggy. A native of Virginia and Jamaica. 8. A. *ciliatum*, with panicle nodding, outer calyx many-flowered and ciliate, awns contorted and hairy. Found by Thunberg on the mountains of Nagaſaki in Japan; flowering in September. 9. A. *ſerratum*, with panicle looſe, one floſcule ſeſſile, villoſe at the baſe; the other pedicelled, with the pedicel villoſe, and ſhorter than the calyx. A native of Japan. 10. A. *cotuliferum*, with panicle ſpreading, villoſe, awn-twiſted, naked, pedicels clubbed or ſwelling at top, and hollowed like a ſaucer or diſh. A native of Japan. 11. A. *cymbarium*, with panicle ſcattered, bractes boat-form, flowers tranſverſe, awned, and threefold. A native of the Eaſt Indies. 12. A. *ſquarroſum*, A. *muricatum* of Retz, with panicle crowded, glumes awl-ſhaped and rugged. Koenig obſerved it in Ceylon, ſwimming on deep pools; it is uſed by the natives for its pleaſant ſmell; they alſo make fans of it. 13. A. *proſtratum*, with peduncles in five-flowered umbels, without calycles, the hermaphrodite floſcule awned. A native of the Eaſt Indies. 14. A. *faſtigiatum*, with ſpikes of the panicle ſolitary, pe-

duncles elongate ſubfaſtigate, rachis woolly, floſcules awned, and male fertile. A native of Jamaica. 15. A. *alopecuroides*, gram. dactylon, &c. of Sloane, with panicle looſe; rachis woolly, and a twiſted awn to each floſcule. A native of Jamaica and Virginia. 16. A. *diſtachyum*, with ſpikes two, terminal, and culm undivided. Linnæus ſays that it grows wild in Switzerland. Scheucher had it from Smyrna. 17. A. *ſchænanthus*, lagurus of Fl. Zeyl. gram. ad junceum accedens aromaticum majus ſyriacum of Mor. gram. dactylon aromaticum, &c. of Pluken. ſchænanthus of Bauhin and Ray, ſweet ruſh, or camel's hay, with ſpike of the panicle conjugate, ovate-oblong, rachis pubeſcent, floſcules ſeſſile, with a twiſted awn. It is brought over from Turkey and Arabia in bundles about a foot long, conſiſting of ſmooth ſtalks, in ſhape and colour reſembling barley ſtraws, full of a fungous pith like that of ruſhes. It has an agreeable ſmell, and a warm, bitteriſh, not unpleaſant taſte. Diſtilled with water it yields a ſmall quantity of a yelloviſh, fragrant, and pungent eſſential oil, and the remaining decoction is bitteriſh, and ſomewhat acrid. The ſpirituous extract is pleaſantly aromatic and bitteriſh. This plant was formerly employed as a warm ſtomachic, and deobſtruent; but in our country its uſe is ſuperſeded by more common aromatic vegetables. It is kept in the ſhops merely as an ingredient in the mithridate and theriaca; but theſe compoſitions being excluded from the pharmacopœias, the ſchænanthus, or juncus odoratus is left out of our materia medica. Lewis and Murray. 18. A. *Virginicum*, gram. dactylon bicorne tomentoſum minus of Sloane, with ſpikes of the panicle conjugate, peduncles ſimple, rachis woolly, floſcules awnleſs, the male one wanting. A native of America. 19. A. *bicorne*, lagurus of Linn. hort. cliff. and Gron. Virg. gram. dactylon bicorne tomentoſum maximum, ſpicis numeroſis of Sloane, with ſpikes of the panicle conjugate, peduncles branching very much, rachis woolly, awn caducous, male floſcule wanting. A native of the Eaſt Indies, on dry hills, and there called by the Engliſh fox-tail graſs. 20. A. *hirtum*, gram. dactylon ſpica gemina of Scheuch. gram. dactylon ſiculum, &c. of Pluk. with ſpikes of the panicle conjugate, and calyces ſhaggy. A native of Portugal, Italy, Sicily, and Smyrna. 21. A. *inſulare*, gram. avenaceum, &c. of Sloane, with panicle looſe and ſmooth, floſcules double and awnleſs, one pedicel ſhorter, calyces woolly. A native of Jamaica. See PANICUM *lanatum*. 22. A. *barbatum*, with ſpikes digitate, calyces permanent, and corollas ciliate. A native of the Eaſt Indies; introduced into Kew gardens, in 1777, by Dr. Solander. 23. A. *pubeſcens*, chloris ciliata of Swartz, with ſpikes digitate, calyces ſubtriflorous, outer petals awned, keel and edge of the hermaphrodite flower ciliate. A native of Jamaica; introduced at Kew in 1779, perennial, and flowering from July to September. 24. A. *nardus*, lagurus of Fl. Zeyl. with branches of the panicle ſuperdecompound and proliferous. See SPIKENARD. 25. A. *muticum*, with ſpikes digitate, moſtly three, and floſcules alternate, ſeſſile, and awnleſs. A native of the Cape of Good Hope. 26. A. *iſchæmum*, gram. dactylon, &c. of Scheucher, with many digitate ſpikes, ſeſſile floſcules, awned and awnleſs, and woolly pedicels. A native of the ſouthern parts of Europe, growing on mountains, hills, and other dry ſituations; introduced to Kew, in 1778, by Mr. Thomas Blackie. 27. A. *faſciculatum*, chloris radiata of Swartz, gram. dactylon, &c. of Mor. many-ſpiked andropogon, with ſpikes faſcicled, very many and ſmooth, calyces two-flowered, valves acute, ſmooth and even, the outer like petals, and awned, the inner floſcule barren. A native of Jamaica; introduced in 1779, and flowering from July to September. 28. A. *polydactylon*, cholris polydactyla of Swartz, gram. dactylon elatrus of Sloane, with ſpikes faſcicled, outer petals awned, thoſe of the lower floſcule ciliate-bearded. A native of Jamaica. 29. A. *glaucum*, with panicle leafy, involucles and calyces two-flowered, calyces of the ſeſſile flowers three-valved, of the peduncled ones two-valved. A native of the Eaſt Indies, whence it was ſent by Koenig. 30. A. *ſerratum*, with ſpike ſimple, imbricate, with two rows of awned ſeſſile flowers, and two of awnleſs pedicelled ones, calyces one-valved. A native of Bengal, where it was found by Koenig. 31. A. *incurvatum*, with ſpikes filiform, ſubdigitate, flowers twin, the female pedicelled and awned, the male ſeſſile and awnleſs, the calyces one-valved. Found by Koenig in Tranquebar near rivers. 32. A. *binatum*, with ſpikes twin, woolly, one valve of the calyces acuminate, the other truncate, three toothed, the larger petal-awned. Obſerved in the Eaſt Indies by Koenig. 33. A. *aciculatum*, with panicle contracted upright, peduncles three-flowered, male-flowers two, pedicelled, and acuminate, female ſeſſile and awned. A native of the Eaſt Indies in barren places. 34. A. *Bladhii*, with ſpikes about eight, hermaphrodite floſcule, ſeſſile, awned, neuter peduncled, ciliate, and awnleſs. A native of China, and ſent from thence by Bladh. 35. A. *provinciale*, with ſpikes faſcicled, ſmooth, floſcules alternate ſubſeſſile, directed one way, and awned. A native of the ſouth of France, where the ſeeds were ſent by Dahl. Gmelin has omitted the 23d, 27th, and 28th ſpecies above enumerated, and introduced the following, *viz.* A. *brevifolium*, with ſpikes lateral and ſolitary, floſcules alternate and remote, and ſtalk geniculated and compreſſed. A. *ramoſum*, with ſpikes terminal conjugate, with double ſpiculæ, the male awnleſs and pedicelled, with ramous ſtalk. A. *annulatum*, with ſpikes at the top of the ſtalk crowded and alternate, flowers adpreſſed and germinate, the male awnleſs and pedicelled, and an erect, ramous ſtalk. A. *undatum*, with an erect, ramous panicle, ſpikes alternate, floſcules by threes; the males inferior and later. A. *afer*, with ſpikes three and terminal, and floſcules all awned. Gmelin ſuggeſts that this is the Gir Gir, or Geſhe el Aube of Abyſſinia, deſcribed by Bruce in his Travels, vol. v. Appendix, p. 47. Gmelin makes a diſtinct ſpecies of the A. *muricatum* of Koenig, which is above referred to the A. *ſquarroſum*, and deſcribes it as having a contracted panicle, verticillated ſpikes, and calyces awnleſs and muricated.

Culture. Few of theſe graſſes have been cultivated in European gardens; as they are for the moſt part natives of the Eaſt or Weſt Indies, they would require the protection of a ſtove. Martyn's Miller.

ANDROPOGON. See SACCHARUM and STIPA.

ANDROS, in *Ancient Geography*, now ANDROS, one of the moſt fertile and delightful iſlands in the Archipelago Sea, lies near the ſouth end of Negropont. According to Pliny it was 93 miles in circumference, and had various names, *viz.* Cueros, Laſia, Nonagria, Epagris, Antandros, and Hydruſia. It is ſaid to have borrowed the name of Andros from one Andrius, who, according to Diodorus Siculus (lib. v.), was one of the generals whom Rhadamanthus appointed to govern the Cyclades, after their voluntary ſubmiſſion to him. Conon will have this Andrius to be the ſon of Anius, and grandſon of Apollo and Creuſa, and to have been the firſt who ſettled in this iſland. It received the name of Antandros, ſignifying "for one man," from its having been given as his ranſom by Aſcanius, the ſon of Æneas, when taken priſoner by the Pelaſgians. The territory of Andros is ſtill one of the moſt fertile and pleaſant countries in the Archipelago, producing all kinds of delicious fruit, and watered with numerous ſprings, whence it had

had the name of Hydruſia, from ὕδωρ, *water*. The Andrians were the firſt of all the iſlanders who joined the Perſians; and, therefore, Themiſtocles, after the victory at Salamis, reſolved to attack the city of Andros, and put it under large contributions for the maintenance of his fleet. Having landed his men in the iſland, he acquainted the magiſtrates, that the Athenians were come with two powerful divinities on their ſide, "Perſuaſion and Force;" and therefore they muſt part with their money, by either fair or foul means. The Andrians replied, that they likewiſe had two mighty deities, who were very fond of their iſland, "Poverty and Impoſſibility," and therefore could give no money. Herodotus, lib. viii. c. 1. Themiſtocles, diſſatisfied with the anſwer, laid ſiege to the town. The event is not known; but it is probable that the Athenian general made himſelf maſter of the place, ſince Pericles, as Plutarch (in Pericl. Oper. tom. i. p. 157.) informs us, a few days after, ſent thither a colony of 250 Athenians. It was not long after retaken by the Perſians, and in vain beſieged by Alcibiades, who, after having taken and fortified the caſtle of Gaurium, left Thraſybulus in it with a ſtrong garriſon, and retired, firſt to Rhodes, and thence to the iſland of Cos. (Diod. Sic. lib. xiii.) This, as well as the other Greek iſlands, ſubmitted to Alexander; after whoſe death it took part with Antigonus, who was driven out by Ptolemy; and his ſucceſſors held it to the Roman times, when Attalus, king of Pergamus, beſieged the metropolis at the head of a Roman army; and having taken it, the Romans granted him the poſſeſſion of the whole iſland; but upon his death Rome claimed this iſland, as well as his other dominions, in virtue of his laſt will. Livy, lib. xxxi. c. 43.

Andros is ſeparated from Tino by a channel of a mile in breadth, into which veſſels of burden are afraid to enter on account of the rocks and ſhoals which are there ſituated. Although it is lofty and mountainous like Tino, it has in proportion more lands fit for cultivation; its plains are ſomewhat more extenſive, equally fertile, and as well watered. Here are to be ſeen 50 villages, and yet its population does not exceed 12,000 ſouls. Andros is the appanage of a ſultana: a Turkiſh waiwode adminiſters the police, and watches over the peace of the iſland. It pays about 30,000 piaſtres, as well for the duties of the ſultana as for thoſe of the captain-pacha. The principal produce of its territory is ſilk, of which the quantity annually exported is eſtimated at 6000 okes. A conſiderable quantity of oranges and lemons is alſo exported for Salonica, Athens, and the Morea. The wheat, barley, wine, and oil, are generally ſufficient for the conſumption of the inhabitants. The iſland alſo produces legumes, herbage, various fruits, honey, wax, and cotton. It wants only a good harbour, and a better government. N. lat. 37° 50′. E. long. 25° 25′. Olivier's Travels in the Ottoman Empire, vol. ii. p. 105.

Andros, or Edros, a ſmall iſland in the Iriſh ſea, now called "Bardſey," about a mile from the coaſt of North Wales.

Andros, a town of Aſia Minor, in Galatia.

Andros was alſo a ſmall iſland ſituate upon the coaſt of Gallia Aquitania. It is now a heap of rocks, upon which is built the tower of Cordouan, at the mouth of the Garonne.

Andros *Iſlands*, in *Geography*, lie on the ſouth-weſt of Providence, in the Bahama iſlands, called by the Spaniards "Yllas del Eſpiritu ſanto." They extend from N. lat. 23° 30′ to 25° 0′, and from W. long. 77° to 77° 58′, and take up a ſpace of 30 leagues in length, and 4 or 5 broad, interſected by many very narrow paſſages.

ANDROSACE, Ἀνδρόσακες, the ſhield of a man, ſo called from the form of the calyx, which, in the common ſpecies, is large, in *Botany*, a genus of the *pentandria monogynia* claſs and order, of the natural order of *preciæ*, and *lyſimachiæ* of Juſſieu: its characters are, that the *calyx* is an involucre many-leaved, many-flowered, and very ſmall; the perianthium is one-leafed, five-cornered, ſemiquinquefid, acute, erect, and permanent; the *corolla* is monopetalous, and ſalver-ſhaped; tube ovate and involved in the calyx; border flat and five-parted; diviſions ovate-oblong, obtuſe, entire; throat beſet with glands; the *ſtamina* have very ſhort filaments within the tube; anthers oblong, erect, and included; the *piſtillum* is a globoſe germ, ſtyle ſubulate and very ſhort; ſtigma globoſe and included; the *pericarpium* is a globoſe capſule, ſitting on a flat calyx, one-celled, opening into five parts at the top; the *ſeeds* are very many, roundiſh, gibbous on one ſide, and flat on the other; the *receptacle* is erect and free. Martyn enumerates 7, Willdenow 10, and Gmelin 11 ſpecies. 1. A. *maxima*, oval-leaved A. with the perianths of the fruit very large. The flowers of this ſpecies appear in April or the beginning of May; the ſeeds ripen in June, and the plants ſoon after periſh. It grows naturally among corn, in Auſtria, Bohemia, and other parts of Germany, in the Valais, Piedmont, Carniola and Hungary; and was cultivated here, in 1596, by Gerard. 2. A. *elongata*, cluſter flowered A. with leaves lanceolate, toothed, fruiting umbel elongate, and corollas ſhorter than the angular calyx; a native of Auſtria, near Vienna, even in the ſuburbs; flowers in April, and perfects its ſeed in June; introduced, in 1776, by M. Thouin. 3. A. *ſeptentrionalis*, aretia of Haller, tooth-leaved A. with leaves lanceolate, toothed, and ſmooth, and perianths angular, and ſhorter than the corollas: a native of Lapland, Sweden, Denmark, Swiſſerland, Germany, Ruſſia, in mountainous ſituations; cultivated, by Mr. Miller, in 1755. 4. A. *villoſa*, aretia of Hall, ſedum of Cluſ. Chamæjaſme alpina of Bauhin, hairy A. with leaves hairy and perianths ſhaggy; common in the Swiſs Alps, Jura, &c. in the mountains of Auſtria and Carniola, in the Pyrenées, &c. introduced, in 1768, by profeſſor de Sauſſure. 5. A. *lactea*, A. obtuſifolia of Allion. aretia of Hall. ſedum alpinum, &c. of Bauhin and Ray, graſs-leaved A. with leaves lanceolate and ſmooth, and umbel many times larger than the involucres; a native of the mountains of Swiſſerland, Auſtria, and Carniola, flowering, like the foregoing, in July and Auguſt. 6. A. *carnea*, aretia of Hall. ſedum alpinum of Col. awl-leaved A. with leaves awl-ſhaped and ſmooth, and umbel equalling the involucres: a native of the Alps and Pyrenées, and introduced in 1768, by profeſſor de Sauſſure. 7. A. *filiformis*, with leaves ovate-toothed, petioled, rays of the umbel capillary, and corollas exceeding the bell-ſhaped calyx; a native of Siberia. 8. A. *brevifolia* of Gmelin, with leaves lanceolate, petioled, and hiſpid, and peduncles four times longer than the involucre. This Willdenow ranks as a variety of the next ſpecies. 9. A. *obtuſifolia*, with leaves ſmooth and lanceolate, calyxes angular, pubeſcent, and leſs than the corolla, and the folioles of the involucre very ſhort (G.) or with leaves lanceolate, narrow at the baſe and ſmooth, and the perianths angular and pubeſcent. It is found on the high mountains of Swiſſerland, Italy, and Styria. 10. A. *odoratiſſima*, with leaves triquetrous and ciliated, and perianths ſhaggy (G.) or with leaves triquetrous, lanceolate, and ciliated, the rays of the umbel ſhort, and the perianths angular, and ſhorter than the corolla; found in the high mountains of Cappadocia. 11. A. *pauciflora*, with leaves ſetaceous-linear, and ſmooth, two peduncles of the length of the ſtalk, and ſegments of the corolla emarginated.

Gmel.

Gmel. 12. A. *chamæjaſme*, A. villoſa of Jacy, chameejaſme of Bauhin, ſedum alpinum, &c. of Cluſ. with leaves lanceolate and narrow at the baſe, ciliate at the margin, and with ſhaggy perianths. It is found in the high mountains of Auſtria. Willd.

Culture. Theſe plants being low, and having ſmall flowers, without any great appearance, are preſerved only in botanic gardens. All, except the firſt, require a ſhady ſituation. The ſeeds ſhould be ſown ſoon after they are ripe; if permitted to ſcatter they will grow of themſelves; the annual ſorts periſh as ſoon as the ſeeds are ripe, but the others, by being merely kept clear from weeds, will live in an open border for ſeveral years. Martyn's Miller.

ANDROSACE. See ARETIA.

ANDROSACE, in *Natural Hiſtory*, a name given by ſome naturaliſts to the TUBULARIA ACETABULUM of Linnæus; this ſpecies is variouſly deſcribed by authors; it is corallina (androſace) tubuloſa ſimplex pelta terminali radiata of Pallas, androſaces cotyledon foliofum marinum of Lobel, androſaces petræ innaſcens of C. Bauh. pin. herba marina androſaces of Beſl. muſ. acetabulum marinum of Tournefort, plantula lapidea ſcutulata, and callopilophorum Matthioli of Donat. adr. Beſides this Brown deſcribes a variety, in which the target is not radiated. Vide Jamaica, p. 74. The Linnæan ſpecific character is, the ſtems filiform and terminating in a calcareous target or cup, which is ſtriated and radiated. Gmelin. This kind inhabits the Mediterranean and American ſeas, growing upon ſhells, ſtones, &c. it is white, ſoft, and fragile when dry: the tubes are ſimple, about the thickneſs of a ſtraw, and two inches in length. Gmelin. This ſubſtance, reduced into powder, has been uſed in France for deſtroying worms and for dropſies. Dr. Lewis obſerves, that it does not promiſe to be of uſe in either of theſe intentions, or to differ from the coralline, which has been uſed as a vermifuge with little ſucceſs. The dried androſace, when held in the flame of a candle, yields repeatedly for ſeveral times a dazzling brightneſs, which is a phenomenon exhibited alſo by the coralline.

ANDROSÆMUM, in *Botany*. See HYPERICUM.

ANDROSCOGGIN, or AMARISCOGGIN *River*, in *Geography*, a river of America, in the diſtrict of Maine, may be called the chief weſtern branch of the Kennebeck. Its ſources are north of Lake Umbagog, and it purſues a ſoutherly courſe till it approaches near the White Mountains, from which it receives Mooſe and Peabody rivers; afterward turning to the eaſt and ſouth-eaſt it paſſes within two miles of the ſea coaſt, and again turning north, and running over Pejapſkaeg falls into Merry-Meeting Bay, where it joins the Kennebeck, 20 miles from the ſea. The lands near this river are good.

ANDROSIA, in *Ancient Geography*, a town of Aſia Minor, aſſigned by Ptolemy to the Trocni.

ANDROTOMY, or ANDRATOMY, from ἀνηρ, *man*, and τεμνω, *I cut*, the anatomy or diſſection of human bodies. It is thus called in oppoſition to *zootomy*, which is uſed to denote that of brutes.

Anatomy is the genus, and comprehends all diſſections in general, whether of men, beaſts, or plants; and androtomy and zootomy are the ſpecies.

ANDROUET DU CERCEAU, JAMES, in *Biography*, a celebrated French architect, was born at Orleans, or, as ſome ſay, at Paris. He was ſent for acquiring perfection in his art to Italy, where he was chiefly ſtruck by the triumphal arch at Pola in Iſtria, to which there is a viſible reference in the ſtyle of his works. Upon his return, though he was a ſteady Calviniſt, he was made architect to Henry III. who employed him, in 1578, in the conſtruction of the pont neuf at Paris. Henry IV. employed him in enlarging the Tuilleries, and continuing the great gallery that connects it with the Louvre. But perſecution obliged him to quit his country in 1585; and the place of his retreat, and the time of his death are not known. He left two ſons, one of whom was eminent in his father's profeſſion. He was one of the principal improvers of architecture in France, and he publiſhed ſeveral books on the art; as his "Architecture," in 1560, comprehending deſigns of all the parts and ornaments of buildings; "Leſſons in Perſpective," in 1576; "The moſt excellent Edifices in France," in 1576 and 1607, 2 vols. folio, being a deſcription of 30 royal palaces and other buildings, with figures; "Architecture of Country-houſes and Manſions," 1582; and "Roman Edifices, or a Collection of Remains of Antiquity, drawn on the ſpot."

ANDRUM, in *Phyſiology*, a local diſeaſe, epidemical among the people of Malabar, being a peculiar ſpecies of *hydrocele*, or watery tumour of the *ſcrotum*. The andrum, in the language of the country, is alſo called *perical*; ſometimes paraphraſtically *andu wajaku*, q. d. a popular water rupture. Its origin is derived from the vicious quality of the country waters, impregnated with corroſive muriatic ſalts, the ſource of moſt other diſeaſes that affect the Malabarians. Its ſigns, or ſymptoms, are an eryſipelas of the ſcrotum, returning every new moon, by which the lymphatics being eroded, pour a ſerous ſaline humour into the cavity of the ſcrotum. The andrum is incurable; thoſe once ſeized with it have it for life; but it is not dangerous, nor very troubleſome, to thoſe uſed to it; though ſometimes it degenerates into a hydroſarcocele. The means of prevention is by a heap of ſand fetched from a river of the province Mangatti, and ſtrewed in the wells. This is practiſed by the rich. As to the cure, they have only a palliative one, which is by inciſion, or tapping and drawing off the water from the ſcrotum, once in a month or two.

ANDRUSA, in *Geography*, a town of European Turkey in the Morea, 20 miles north-eaſt of Navarin.

ANDRY, NICHOLAS, in *Biography*, born at Lyons in 1658, was made doctor in medicine at Rheims in 1693, having quitted the ſtudy of theology, in which he had been engaged ſeveral years. In 1697 he was admitted into the faculty of phyſic at Paris. In 1701 he was made profeſſor of medicine there, and the following year cenſor or examiner of intended publications in that ſcience. He died in 1742, aged 84 years. He was a conſiderable contributor to moſt of the medical and philoſophical journals of the time, and in 1702, one of the editors of the "Journal des Savans." He wrote alſo a variety of other works, of which the principal are, "Cleon and Eudoxe," 2 vols. 12mo. Paris; in which he ſtrenuouſly inſiſts on the ſubordination of the ſurgeon to the phyſician. "Acrum et ingenioſum ſcriptum," Haller ſays. "De la Generation des vers dans le Corps Humain," 12mo. Paris. This was afterwards augmented to two volumes. At the end is an engraving of a tape-worm, of an enormous length, that had been voided entire by one of his patients. "Orthopedie, ou l'Art de prevenir et de corriger, dans les enfans, les difformites du Corps," two vols. 12mo. Paris, 1741; that is, the art of preventing or redreſſing any defects or deformities in the bodies of children. This is directed to be effected by regimen, exerciſe, and by various mechanical contrivances, and contains the germ, at the leaſt, of every thing known on the ſubject at this time. The author compoſed this work, he ſays, as a ſupplement to the Callipædia, the art of getting handſome children, by Quillet; and the Pædotrophia, the art of rearing and nurſing children, by

Scævola da St. Martha, two beautiful and well known poems, of which he gives an analyſis in the preface to this work. The Orthopædia was ſoon tranſlated into our language, as well as into thoſe of moſt of the countries in Europe, and ſtill retains its popularity. For the titles of numerous other productions by this writer, ſee Eloy's Dict. Hiſtor. de la Medicine.

ANDRYALA, eriophorus of Vaillant, in *Botany*, a genus of the *ſyngeneſia polygamia æqualis* claſs and order, of the natural order of *compoſitæ ſemiflоſculæ*, and *cichoraceæ* of Juſſieu. Its characters are, that the common *calyx* is many-parted, ſhort, rounded, and villoſe; the ſcales are very many, ſubequal, and ſubulate (in a double row, G.); the compound *corolla* is imbricate and uniform; the corollules are hermaphrodite, numerous, and equal, each ligulate, linear, truncate, and five-toothed; the *ſtamina* have five filaments, capillary, and very ſhort, anther cylindrical, and tubuloſe; the *piſtillum* is an ovate germ, ſtyle filiform, of the length of the ſtamina, ſtigmas two, and reflex; no *pericarpium*, calyx converging and globoſe; the *ſeeds* are ſolitary and ovate, the down capillary, of the length of the calyx, (ſeſſile, G.); the *receptacle* is villoſe and flattiſh, (alveolate and hairy, G.) Martyn enumerates ſix, and Gmelin eight ſpecies. 1. A. *integrifolia*, ſonchus lanatus of Dalech. and Bauh. S. villoſus luteus major of Bauh. and Parkinſ. hieracium villoſum of Ray, hoary A. with lower leaves runcinate or notched, and upper ovate-oblong and tomentoſe. It is about a foot and a half in height; the flowers are in ſmall cluſters at the top of the ſtalk, yellow, and reſembling thoſe of ſow-thiſtle; flowers in July, and its ſeeds ripen in September. There is a variety *β*. A. *ſinuata*, which has the lower leaves indented and woolly, but thoſe on the ſtem are entire; it ſeldom riſes more than a foot high, and ſupports a few yellow flowers at top. Theſe are annual plants, growing naturally in the South of France, Spain, Italy, and Sicily; and cultivated in the Chelſea garden in 1711. 2. A. *cheiranthifolia*, A. glanduloſa of La Marck, A. tomentoſa of Scop. various-leaved A. with leaves runcinate, upper ones lanceolate and entire, down glanduliferous. It is perennial, three feet high, and full of milk. A native of the iſland of Madeira, and introduced by Mr. F. Maſſon, who obſerved it there in 1777. 3. A. *pinnatifida*, with leaves tomentoſe and pinnatifid, and calyces tomentoſe and hairy, hairs rather ſtiff. There are two varieties: *α*. tooth-leaved A. with leaves pinnatifid, and pinnas diſtant and toothed; a native of Madeira: and *β*. wing-leaved A. with leaves deeply pinnatifid, and pinnas ſhort and entire. A native of the Canary iſlands; found by Mr. F. Maſſon; flowering in July and Auguſt, and introduced in 1778. 4. A. *crithmifolia*, ſamphire-leaved A. with leaves pinnate, linear, and tomentoſe. A native of Madeira, found by Mr. F. Maſſon; flowering from June to Auguſt, and introduced in 1778. This and the laſt ſpecies are biennials. 5. A. *raguſina*, downy A. with leaves lanceolate, undivided, denticulate, acute, and tomentoſe, and ſolitary flowers. As it is very hoary it makes a pretty appearance intermixed with others, whoſe leaves are green; but it will not live abroad except in a dry ſoil and warm ſituation. It has been received from Spain, from the Cape, and from Algiers. Linnæus ſays, that it is a native of the iſlands of the Archipelago. This ſpecies has leaves ſtiffer, more acute, and more acutely toothed than the other ſpecies. 6. A. *lanata*, hieracium montanum tomentoſum of Dill. Hall. and Mill. woolly A. with leaves oblong-ovate, ſlightly toothed and woolly, and peduncles branching; biennial according to Miller, but according to others perennial; flowering in June, and ripening its ſeeds in Auguſt; the whole plant is white. A native of the ſouth of Europe; cultivated in 1732 by Dr. Sherard. 7. A. *nigricans*, with lower leaves lyre-ſhaped pinnated, peduncles ramoſe, and down blackiſh above. Poir. voy. en Barb. 8. A. *uniflora*, with leaves ſmooth, entire, dentated, oblong-acute, with a ſingle-flowered ſtalk. Schranch flor. bav.

Culture. All theſe plants may be propagated from ſeeds, ſowing thoſe of the hardy ſort in Spring, where they are to remain. They require no other attention but to be thinned and kept free from weeds; the 2d, 3d, 4th, and 5th require the protection of a green-houſe, in which they will flower all the Summer, often perfecting their ſeeds, by which they may be propagated. The perennial ſorts may be propagated by their creeping roots.

ANDRYALA. See LEONTODON.

ANDUC *Iſland*, in *Geography*, one of the group called the Maldives, on the eaſt ſide, in N. lat. 6° 25′. E. long. 73° 40′.

ANDUJAR, or ANDUXAR, a town of Spain, with a caſtle, ſituate on the Guadalquivir, in the confines of Jaen and Cordova, and built near the ſpot on which ſtood Illurgis, or Illiturgis, called by the Romans Forum Julium, and now Andujar el Viejo. Its principal commodity is ſilk. The adjacent country abounds with wine, oil, honey, and various ſorts of fruit and alſo game. It is 10 leagues eaſt of Cordova, and 9 weſt of Jaen.

ANDUINNA, in *Entomology*, a ſpecies of PAPILIO (Nymph. Phal.) found in Ruſſia. The wings are dentated, fulvous, with black ſpots; under ſide of the poſterior wings white, with two brown bands, and dotted behind with black. Fabricius and Gmelin.

ANDUZE, in *Geography*, a town of France, in the department of the Gard, and chief place of a canton, in the diſtrict of Alais, carries on a conſiderable trade in ſerges and other woollen ſtuffs; eight leagues north-weſt of Niſmes, and two ſouth-weſt of Alais.

ANECDOTES, ANECDOTA, a term uſed by ſome authors for the title of *Secret Hiſtories*; but it more properly denotes a relation of detached and intereſting particulars. It is now often uſed for a biographical incident or minute paſſage of private life.

The word is Greek, ἀνέκδοτα, q. d. *things not yet known*, or *hitherto kept ſecret*.

Procopius gives this title to a book which he publiſhed againſt Juſtinian and his wife Theodora; and he ſeems to be the only perſon among the ancients, who has repreſented princes ſuch they are in their domeſtic relation. Varillas has publiſhed anecdotes of the houſe of Medicis. We have had repeated attempts for arranging anecdotes under different heads; a "Dictionaire d'Anecdotes," in two volumes, was publiſhed at Paris in 1767; and a ſimilar work was publiſhed by Mr. D'Iſraeli in 1793, entitled, "Diſſertation on Anecdotes."

ANECDOTES is alſo an appellation given to ſuch works of the ancients as have not yet been publiſhed.

In which ſenſe M. Muratori gives the name *Anecdota Græca* to ſeveral writings of the Greek fathers, found in the libraries, and firſt publiſhed by him. F. Martene has given a *Theſaurus Anecdotarum Novus*, in folio. five vols.

ANE'E, otherwiſe called *aſnée*, in *Commerce*, denotes a corn-meaſure, uſed in ſome provinces of France, particularly in Languedoc and Maconnois.

The anee is not ſo properly a meaſure as the denomination or aſſemblage of a certain number of other meaſures. The *anee* at Lyons conſiſts of ſix *bichets*, equal to one *ſeptier* and three buſhels Paris meaſure. At Macon the *anee* is ſomewhat more.

ANÉE is alſo uſed for a quantity of wine ſuppoſed to be

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an aſs's load, and is fixed to eighty Engliſh quarts wine meaſure.

ANEGADA, in *Geography*, one of the Virgin Iſles, in the Weſt Indies, and dependent upon Virgin Gorda. It is about ſix leagues long, and ſo low as to be almoſt covered with water at high tides. On the ſouth ſide is Treaſure Point. N. lat. 18° 35′. W. long. 63°

ANEGADA *Bay* lies on the eaſtern coaſt of South America, and is formed by the mouth of the river Sauces, which falls into the South Atlantic ocean on the eaſt, in S. lat. 39° 45′, and W. long. 62° 30′.

ANEIO, a town of Italy, in the kingdom of Naples and province of Otranto, eight miles ſouth-weſt of Brindiſi.

ANEL, Dominic, in *Biography*, phyſician to the court of Savoy, publiſhed, in 1707, in 8vo. "L'art de ſucer les plaies ſans ſe ſervir de la bouche de l'Homme, &c." Among the inſtruments by which this was performed was a kind of ſyphon, "metuendæ magnitudinis," of a fearful ſize, Haller ſays. But his principal work, and which is ſtill reſpected, is his "Nouvelle Methode de guerir les fiſtules lachrymales," publiſhed at Turin, in 4to. 1713. He here deſcribes a ſound and a fine flexible tube, by which he was enabled to open the lachrymal duct, and by means of a ſyringe to waſh away the ſores, and finally heal the paſſage. This work gave riſe to numerous controverſial pieces, in ſome of which his method is cenſured, or the honour of the invention of it denied him. But the academy of ſurgery, at Paris, declared his method to be equally new and ingenious; and it has certainly led the way to all the improvements that have been ſince made in the method of treating this very troubleſome complaint. Haller Bib. Chirurg. Eloy. Dict. Hiſt.

ANELE, or Anil, in *Commerce*, the ſame with indigo. 23 Eliz. c. 9.

ANELLA, in *Entomology*, a ſpecies of phalæna, of the tinea tribe. The anterior wings are grey, with an obſolete brown ſtripe, and two central, ſub-ocellated ſpots. Fabricius. This ſpecies inhabits Auſtria, is large, and has a ferruginous abdomen.

ANEMIUS *furnus*, among *Chemiſts*, a wind-furnace, uſed to make fierce fires for melting, &c. The word is formed of ανεμος, *wind*.

ANEMO-CHORD, a name given to the Æolian harp. An inſtrument of this kind was conſtructed by John James Schnell, who was born at Wehingen, in the duchy of Wittemberg, in 1740, and having paſſed through ſeveral ſtages of mechanical employment, became at length muſical inſtrument-maker to the Counteſs of Artois at Paris. The ſounding of a harp, hung by accident in a paſſage admitting a breeze, ſuggeſted to him the idea of that inſtrument, which, in 1789, he firſt expoſed to ſale by the name of anemochorde.

ANEMOMACHIA, from ανεμος, *wind*, and μαχια, *fight*, in ſome *Ancient Writers*, denotes a whirlwind, or hurricane. In which ſenſe, we ſometimes alſo meet with *anemozale*, *anemotaraxis*, &c.

ANEMOMETER, compounded of ανεμος, *wind*, and μετρον, *meaſure*, in *Mechanics*, a machine wherewith to meaſure the force and velocity of the wind. The anemometer is variouſly contrived. The firſt of the kind ſeems to have been invented by Wolfius in 1708, and firſt publiſhed in his "Aerometry" in 1709, and alſo in the "Acta Eruditorum" of the ſame year; afterwards in his "Mathematical Dictionary," and alſo in his Elementa Matheſeos," vol. ii p. 319. In the Philoſophical Tranſactions we have one deſcribed, in which the wind being ſuppoſed to blow directly againſt a flat ſide or board, which moves along the graduated limb of a quadrant, the number of degrees it advances ſhews the comparative force of the wind.

This machine is moved by means of ſails, A, B, C, K, (*Plate* IX. *Pneumatics*, *fig.* 69.) like thoſe of a wind mill, which raiſe a weight L, that, ſtill the higher it goes, receding farther from the centre of motion, by ſliding along a hollow arm K M, fitted on to the axis of the ſails, becomes heavier and heavier, and preſſes more and more on the arm, till being a counterpoiſe to the force of the wind on the ſails, it ſtops the motion thereof. An index then, M N, fitted upon the ſame axis at right angles with the arm, by its riſing or falling, points out the ſtrength of the wind, on a plane divided like a dial-plate into degrees.

It is objected to this machine, however, that it requires a conſiderable wind to make it work. Leutmannus has contrived another, the ſails of which are horizontal, and are more eaſily driven about, and will turn what way ſoever the wind blows.

In the Philoſophical Tranſactions for the year 1766, Mr. A. Brice deſcribes a method which has been ſucceſsfully practiſed by himſelf, of meaſuring the velocity of the wind by means of that of the ſhadow of clouds paſſing over the ſurface of the earth.

Mr. d'Ons en Bray invented a new anemometer, which of itſelf expreſſes on paper not only the ſeveral winds that have blown during the ſpace of twenty-four hours, and at what hour each began and ended, but alſo the different ſtrength and velocities of each. Vide Mem. Acad. Scienc. an. 1734, p. 169. For other inſtruments of this kind, and their uſe, ſee Wind-*Gage*.

ANEMONE, formed from ανεμος, *the wind*, becauſe the flower is not ſuppoſed to open, except the wind blows, or becauſe it grows in ſituations much expoſed to the wind, anemone and pulſatilla of Tourn. anemonoides, anemone-ranunculus, hepatica of Dill. anemonoides of Vaill. *wind-flower*, in *Botany*, a genus of the *polyandria polyginia* claſs and order, of the natural order of *multiſiliquæ*, and *ranunculaceæ* of Juſſieu; its characters are, that it has no *calyx*; that the *corolla* has petals in two or three rows, three in a row ſomewhat oblong; the ſtamina have numerous filaments, capillary, half the length of the corrolla; anthers twin and erect; the *piſtillum* has numerous germs in a head, ſtyles acuminate, and ſtigmas obtuſe; no *pericarpium*; receptacle globular or oblong, hollowed, and dotted; the *ſeeds* very many, acuminate, retaining the ſtyle. Obſ. Hepatica of Dill. has a three-leaved perianthium, remote from the flower; an involucre. Pulſatilla of Tourn. has a leafy, multifid involucre, with the ſeeds tailed and hairy. Anemonoides and hepatica of Dill. have naked ſeeds, without a feathered tail. Martyn enumerates 28, Gmelin and Willdenow 29 ſpecies.

* *Hepatica*, with a ſubcalyculate flower. 1. A. *hepatica*, hepatica, with leaves three-lobed, quite entire. The flower lies a year complete in all its parts within the bud; the ſeeds are oblong-ovate, involved in a ſilky ſubſtance, and many of them abortive; the plant is a mild aſtringent and corroborant; and formerly uſed with theſe intentions, in an infuſion like tea, or in powder given to the quantity of half a ſpoonful at a time; but it is now expunged from the diſpenſaries, and its uſe does not extend beyond that of gargariſms; it is found wild in Sweden abundantly, in Denmark, Swiſſerland, France, Spain, Italy, and other parts of Europe, in woods and among buſhes, with blue, red, and white flowers, ſingle: cultivated here, in 1596, by Gerard. There are many varieties of hepatica, which are common in gardens, as ſingle and double blue, ſingle and double red or peach-coloured, ſingle and double white, ſingle and double variegated red and white, ſingle and double violet-coloured, and with ſtriped leaves. Parkinſon mentions a white, with red ſtamens. Theſe are ſome of the chief ornaments of the Spring; the

flowers are plentifully produced in February and March, before the green leaves appear, and make a very beautiful figure in the borders of the pleasure-garden, especially the double sorts, which commonly continue a fortnight longer in flower than the single ones, and the flowers are much fairer.

** *Pulsatillas*, with the peduncle involucred, and the seeds tailed. 2. A. *patens*, pulsatilla patens of Mill. pulsatilla polyanthes violacea, anemones folio of Breyn. and Helw. woolly-leaved A. with peduncles involucred, and leaves digitate and multifid. The corolla is white, villose underneath, and the stamens yellow; a native of Siberia, about Toboski, and also of lower Lusatia; cultivated here in 1759 by Mr. Miller. 3. A. *sulphurea*, with peduncle involucred, leaves triply-pinnate, hairy, flat, acutely gashed, and seeds tailed. 4. A. *halleri*, with biternate shaggy leaves, or with biternate leaves, tripartite folioles, trifid laciniæ, foliose involucre, and woolly seeds, with a very short permanent style, Willd. It is distinguished from the A. alpina, which it resembles, by its leaves and seeds; and grows wild about Aigle, &c. in Switzerland, Mont Baldo, M. Cenis, &c. 5. A. *vernalis*, pulsatilla vernalis of Miller, with peduncle involucred, leaves pinnate, folioles tripartite, obtuse and smooth, and erect flowers, Willd. The flower is red without, and white within, and blows earlier than our pasque-flowers. It grows in the woods, bordering on the mountains, in barren lands, in Sweden, Germany, and the high Alps of Switzerland. 6. A. *cernua*, with peduncle involucred, leaves pinnate, and flowers nodding. It differs from the last species in the nodding of the flowers, and in the leaves having more pinnæ finely cut. Thunberg found it near Jedo, in Japan, flowering early in Spring. 7. A. *pulsatilla*, pulsatilla folio crassiore et majore flore of Bauhin. Park. Mor. Ger. Helw. Camer. and Ray, pulsatilla vulgaris of Miller, A. pratensis of Sibth. and Wither. pasque-flower, with peduncle involucred, petals straight, and leaves bipinnate. It grows wild on open hills in dry soils, in Sweden, Denmark, Switzerland, France, Italy, Germany, Carniola, Siberia, &c. and in England on chalky downs, as Gogmagog hills, near Cambridge; Barnack heath, near Stamford, in the neighbourhood of Pontefract, near Cherlbury in Oxfordshire, Lexham, Bury, Newmarket, &c. It is perennial, and flowers in April and May. It has the Italian name *pulsatilla*, from the downy seed being beaten about by the wind. The plant is acrid, and will raise blisters; the distilled water will vomit; and it cannot be given with safety in disorders of the lungs. The juice of the petals stains paper green. Goats and sheep eat it; but horses, cows, and swine refuse it. There is a variety with double, and another with white flowers. 8. A. *pratensis*, pulsatilla pratensis of Miller, flore minore nigricante of Bauh. and Helw. p. vulgaris, saturatiore flore of Clusi. p. flore minore of Ger. p. flore clauso obsoleto, petalis reflexis of Helw. p. foliis decompositis pinnatis, flore pendulo, limbo reflexo of Hort. Cliff. &c. Meadow A. with peduncle involucred, petals reflex at the tip, and leaves bipinnate. It is very common in the barren stony fields of Oeland and Scania, also in Denmark, Piedmont, and in Germany, where it grows in the open fields and flowers in May. It was first cultivated in England by Mr. Miller in 1731, and in our gardens it very much resembles the A. pulsatilla, which would prove a good substitute to it; the principal distinctions between these species, as they grow naturally, are taken from the flower, which in this species is more pendulous, of a darker colour, and has the apices of the petals reflexed: the stem is also said to be less hairy and shorter than that of the pulsatilla; to which may be added, that the leaves of the pratensis are somewhat tomentose, while those of the pulsatilla are of a bright green. All the anemones have a considerable degree of acrimony; but this (says Dr. Lewis) seems to possess the greatest share. In its recent state the plant has scarcely any smell; but its taste is extremely acrid, and when chewed, corrodes the tongue and fauces; and the dried plant likewise retains a considerable share of acrimony. The root is milder than the other parts. The liquor, obtained by distilling the plant with water, is strongly impregnated with its virtues; and the remaining extract is considerably active. It also appears from some experiments to contain a camphoraceous matter, which was obtained in the form of crystals, of an unctuous taste, and very inflammable. This plant, as well as others of great activity, has been received into the Materia Medica of the Edinburgh pharmacopeia, upon the authority of Baron Stoerck, who recommends it as an effectual remedy for most of the chronic diseases affecting the eye, particularly amaurosis, cataract, and opacity of the cornea, proceeding from various causes. He likewise found it of great use in venereal nodes, nocturnal pains, ulcers, caries, indurated glands, suppressed menses, serpiginous eruptions, melancholy and palsy. Six cases of amaurosis, three of cataract, and seven of affections of the cornea, we are told, were either entirely cured, or greatly relieved, by this remedy. The sensible operation of the medicine was nausea and vomiting, particularly when the distilled water was used; and increased flow of urine; and sometimes gripes and looseness with increased pain at first in the affected part. The dose of the distilled water to adults is about half an ounce, twice or thrice a day; of the extract, reduced to powder with the addition of sugar, five or six grains. Many German physicians have tried the effects of this medicine in diseases of the eyes, with success; but several others, among whom is Bergius, bear testimony to its inefficacy in these diseases, though they increased the dose beyond that directed by Stoerck. Notwithstanding this, says Dr. Cullen, (Mat. Med. vol. ii. p. 216.) "I would still recommend it to the attention of my countrymen, and particularly to a repetition of trials in that disease, so frequently otherwise incurable, the amaurosis. The negative exception of Bergius, and others, is not sufficient to discourage all trials, considering that the disease may depend upon different causes; some of which may yield to remedies, though others do not." Every part of the plant, except its root, is ordered for medicinal use, and was prepared by Baron Stoerck for that purpose into an extract, or distilled water, and an infusion; but the first form seems to have been preferred, and was given from seven grains to three or four times that quantity, twice or thrice a day. The fluid preparations of the plant are likewise recommended for external use in ulcers and disorders of the skin. The manner of preparing the extract is given in the Edinburgh pharmacopeia. Murray's Mat. Med. vol. iii. p. 93.—101. Lewis's Mat. Med. p. 525. Woodville's Med. Bot. vol. iii. p. 400—403.

9. A. *alpina*, pulsatilla flore albo of Bauh. and Lob. alpina A. with stem-leaves ternate, connate, superdecompound, multifid, and seeds shaggy tailed. Willdenow mentions as a variety, A. alpina alba major of Bauh. and Burs. This species grows wild on the Alps, Jura, and in Austria, and was cultivated here by Mr. Miller in 1731. 10. A. *apiifolia*, pulsatilla lutea of Camer. and Gesn. p. tertia alpina of Dalech. sylvestris tertia of Clus. with stem-leaves ternate, connate, superdecompound, multifid, very slender, extremely hairy underneath. It has no smell, and is a native of the Leonese Alps. It is doubted whether it be a distinct species from the last.

*** *Anemones* with a leafy stem, and tailed seeds. 11. A. *coronaria*, pulsatilla foliis decompositis ternatis of Hort. Cliff.

Cliff. A. tenuifolia, ſimplici flore of Bauh. narrow-leaved garden A. with radical leaves ternate-decompound and involucre leafy, or with radical leaves ternate-decompound, mucronated teeth, leafy involucre and woolly ſeeds; according to Willdenow, who reckons as varieties A. tenuifolia multiplex rubra of Bauh. and A. anguſtifolia multiplex, mutata florum facie quotannis nova of Miller. This ſpecies grows naturally in the Levant, particularly in the iſlands of the Archipelago, where the borders of the fields are covered with it of all colours; but the flowers are ſingle and have been rendered double by culture. It was cultivated in France long before it was known in Holland or England: in our gardens, however, it was found in 1596. Parkinſon, in 1629, ſays, that ſome reckoned 30 ſorts with ſingle flowers; and of thoſe with double flowers he gives 12 varieties. Ray enumerates near 300 varieties of this and the broad-leaved ſort. The catalogues of our modern ſeedſmen have uſually about 150 or 200. The principal colours in anemones, according to Mr. Miller, are white, red, blue, and purple; and in ſome theſe are curiouſly intermixed; but the moſt prevailing colours amongſt our Engliſh raiſed anemones are white and red; though we have received from France a great variety of blues and purples, which are very fine flowers. The plain colours in the modern catalogues are red, crimſon, roſe-coloured, purple, lilac, clear and pale blue, aſh-coloured and white. The principal variegated ones are red and white ſtriped, roſe and white, blue and white, red, white, and purple; but there are innumerable ſhades of theſe and the other colours. A double anemone, in order to be fine, ſhould have a ſtrong upright ſtem, about nine inches high; the flower from two to near three inches in diameter, the outer petals firm, horizontal, except turning up a little at the end; and the ſmaller petals within theſe ſhould lie over each other gracefully, ſo as to form an elegant whole. The plain colours ſhould be brilliant and ſtriking; the variegated ones ſhould be clear and diſtinct. 12. A. *hortenſis*, pulſatilla foliis digitatis of Hort. Cliff. broad-leaved garden A. or hard-leaved A. or ſtar A. with leaves digitate and ſeeds woolly; or, according to Willd. with radical leaves digitate, laciniæ trifid, ſtem leaves ternate, lanceolate, connate, and ſubdivided, and woolly ſeeds. It is found wild, with ſingle flowers, in Italy, Provence, and Germany. There are ſeveral varieties of this with ſingle and double flowers; it was cultivated here by Gerard in 1597. 13. A. *palmata*, pulſatilla foliis palmatis of Hort. Cliff. A. latifolia flava of Bauh. or A. hortenſis latifolia of Cluſ. with leaves heart-ſhaped and ſublobate, and calyx ſix leaved and coloured. This ſpecies connects the hepaticas with the anemones by its ſix-parted calyx. It was found by Cluſius in Portugal, near the Tagus.

**** *Anemonoides*, with a naked flower, and tailleſs ſeeds. 14. A. *ſibirica*, with ſtem one-flowered, involucre leafy, and obtuſe; found by Gmelin in Siberia. 15. A. *ſylveſtris*, large white-flowered wood A. with naked peduncle and ſeeds roundiſh, ſhaggy and awnleſs; or with a ſtem two-flowered and leafy, leaves tripartite, laciniæ trifid and dentated, ſeeds roundiſh and woolly, and permanent ſtigma, according to Willdenow, who mentions as a variety, A. ſylveſtris alba minor of Bauhin, &c.; a native of many parts of Germany, found alſo in Sweden, Alſace, and Siberia; flowering in May, and ripening its ſeeds in June. 16. A. *fragifera*, with peduncle naked, ſeeds roundiſh, woolly, awnleſs, gaſhes of the leaves acute, and lanceolate; a native of Carinthia. 17. A. *virginiana*, virginian A. with peduncles alternate, very long, fruit cylindric, and ſeeds ſhaggy and awnleſs; or according to Willd. with many flowered leafy ſtem, tripartite leaves, laciniæ trifid acuminate and dentated, acute petals, ſhaggy ſeeds, and very ſhort permanent ſtyle; a native of North America, cultivated here in 1722, and flowering in May and June. 18. A. *decapetala*, ten-petalled A., with ſtem one-flowered, flower ten-petalled, leaves ternate, lobate and radical; a native of Brazil. 19. A. *penſylvanica*, penſylvanian A. with ſtem dichotomous, leaves ſeſſile, ſtem-claſping, the loweſt ternate, trifid, and gaſhed; reſembling the dichotoma, a native of Canada and Pennſylvania, and cultivated here in 1766 by Mr. J. Gordon. 20 A. *dichotoma*, with ſtem dichotomous, leaves ſeſſile, all oppoſite, ſtem-claſping, trifid and gaſhed. It flowers about Midſummer, and ripens its ſeeds; a native of Canada and Siberia, and ſent growing into Sweden by David de Gorter, phyſician to the empreſs of Ruſſia, in 1760. 21. A. *trifolia*, with leaves ternate, ovate, entire, ſerrate; and ſtem one-flowered; a native of France, Carniola, and Siberia, growing in woods and flowering at the end of April. 22. A. *quinqueſolia*, ranunculus nemorum, &c. of Pluk. with leaves quinate, oval and ſerrate, and ſtem one-flowered; a native of Virginia and Canada. 23. A. *nemoroſa*, wood A. ranunculus ſylvarum of Cluſ. A. nemorum alba of Ray and Ger. with ſeeds acute, leaflets gaſhed, and ſtem one-flowered. This grows in woods, among buſhes and in hedges, in moſt parts of Europe, and ſometimes in paſtures. In many of our woods the ground is almoſt covered with the flowers in March, April, and May. In fine clear weather, the bloſſoms are expanded and face the ſun; but in the evening and wet weather, they are cloſed and hang down. It is perennial, and flowers in April. This plant is acrid, and in ſome degree poiſonous. Linnæus ſays, that cattle brought from open to woody paſtures, and eating this plant, have been affected with the bloody flux, and have made bloody urine. Goats and ſheep eat it; but horſes, cows, and ſwine refuſe it. It is now diſuſed in medicine; but Chomel ſays, that the leaves bruiſed with the flowers, and applied twice a day to the head, have in a little while healed the tinea; and it is alſo ſaid that a bliſter prepared of theſe when recent ſerves to remove intermittent fevers, but it ſhould be cautiouſly uſed. This plant may be employed as a dye, becauſe Dr. Stokes ſays that the paper in which dried ſpecimens are preſerved is ſtained brown. This plant is ſometimes found with yellow dots on the under ſurface of the leaves, and has been miſtaken for a polypodium. Some have ſuppoſed theſe dots the work of an inſect, but without ſufficient proof. Mr. Relhan aſcribes this appearance to the Æcidium fuſcum; but Dr. Pulteney (in Linn. Tranſ. vol. ii. p. 305.) has rendered it probable, that they are formed by a minute ſpecies of lycoperdon, allied to the lycoperdon epiphyllum of Linnæus; though as they may be diſcovered in their younger ſtate under the outer cuticle of the leaf, it is not evident how the ſeeds could be introduced. The plants thus affected are in a feeble or morbid ſtate, of a yellow green, and do not bear flowers. When the flowers become double, the wood anemone is cultivated by the gardeners; if pains were taken with it, it might be much improved. 24. A. *apennina*, ranunculus nemoroſus, flore purpureo cæruleo of Park. Ray, Mentz, and Cluſ. blue mountain A. with ſcape involucred and one-flowered, involucre three-leaved petiolate and foliaceous, ſeeds tailleſs, and petals lanceolate and numerous. Smith. It bears ſome affinity in its foliage to the preceding, but the root is thicker, the petals much narrower; more than twice as many, and of a light pleaſant purpliſh blue; it is perennial and flowers in April; it grows in woods and ſhady places; a native of the Apennines, near Rome, and of ſome few places in England, as Lord Spencer's park at Wimbledon, near Harrow on the Hill, a wood near Luton Hoe in Bedfordſhire, and near Berkhampſtead in Herts.

It

It is a very ornamental plant, ſuitable to the flower-garden or plantation, and loves a light loamy ſoil. 25. A. *ranunculoides*, A. nemorum lutea of Ger. ranunculus nemoroſus luteus of Bauhin, yellow wood A. with ſcape involucred ſubbiflorous, involucre three-leaved ſubſeſſile and foliaceous, taillefs ſeeds, and petals elliptic and by fives, Smith; or with acute ſeeds, leaflets gaſhed, petals roundiſh, and ſtem moſtly one-flowered. It differs from the A. nemoroſa or wood A. in having a yellow corolla, two petals alternately outer, and two inner, and one having one ſide within and the other ſide without the next petal, whereas that has three outer and three inner petals; it differs alſo in the peduncles being accompanied with two leaflets, the latter of which is furniſhed with three at the baſe. This is perennial and flowers in April; grows wild in Sweden, Denmark, Swiſſerland, France, Germany, Auſtria, Carniola, Italy, and Siberia; and with us in ſhady places and hedges, near King's Langley, Herts, and near Wrotham, in Kent. 26. A. *narciſſiflora*, ranunculus montanus, &c. of Bauh. narciſſus-flowered A. with flowers umbelled (involucred Willd.), and ſeeds oval-depreſſed and naked (radical leaves palmated and gaſhed dentated, Willd.) This grows wild on the mountains of France, Swiſſerland, Auſtria, Sileſia, Siberia, and Cappadocia: introduced here in 1773 by John, earl of Bute. 27. A. *faſciculata*, ranunculus orientalis, &c. of Tourn. with flowers umbelled, collected, and leaves multifid. This was firſt obſerved by Tournefort, in the Levant, and is found on the mountains about the lake Baikal. Linnæus doubts whether it be a diſtinct ſpecies; Haller thinks it is only a variety of the laſt ſpecies, and Willdenow ſays, that it differs only in having ſhorter peduncles. 28. A. *thalictroides*, ranunculus nemoroſus, aquilegiæ foliis, &c. of Pluk. meadow rue-leaved A. with flowers umbelled, ſtem-leaves ſimple, and verticillate; and radical leaves biternate. It grows wild in Virginia and Canada, and was cultivated here in 1768 by Mr. Miller. 29. A. *Halleri*, with leaves ſhaggy and pinnate, the pinnæ acutely lobated, and the involucres multifid, Gmelin from Allion. flor. pedem., or with involucred peduncle, pinnated leaves, leaflets tripartite, acuminate, and villoſe, and flower ſomewhat erect, Willd.; a native of the Alps of Piedmont, &c. Willdenow has omitted the fragifera, faſciculata and ſulphurea, and inſerted the following ſpecies, *viz.* A. *triternata*, with leaves ternated, leaflets cuneated and ſlightly cut, and multifid involucres; a native of Braſil, and deſcribed by Vahl. A. *reflexa*, with ſtem ſubbiflorous, ſtem-leaves by threes and ternated, leaflets ſubtrifid, at the tip dentated, and petals lanceolate, obtuſe, and reflex; a native of Siberia, and very much reſembling A. ranunculoides. A. *umbellata*, ranunculus orientalis napelli folio lanuginoſo flore albo of Tourn. with flowers umbellate and involucred, radical leaves tripartite, and laciniæ trifid and entire; a native of Cappadocia.

Culture. The plants of this genus are moſtly hardy perennials, and may be increaſed both by ſeeds and by the roots. The *Hepaticas* are ſome of the chief beauties of the Spring; they produce flowers in February and March, before the green leaves appear; and the double ſorts eſpecially make a very handſome figure, continue a fortnight longer in flower than the ſingle ones, and afford much fairer flowers. The ſingle ſorts are eaſily propagated by ſeeds, which they produce every year. The beſt ſeaſon for ſowing them is the beginning of Auguſt, and they ſhould be ſown in boxes or pots of light earth, expoſed only to the morning ſun till October, and then removed to the full ſun during the whole Winter. In March, when the plants begin to appear, they ſhould be removed to a ſhady ſituation, and frequently watered in dry weather. In Auguſt they will be fit to be tranſplanted; for this purpoſe a border ſhould be prepared facing the eaſt, of good freſh loamy earth, in which the plants ſhould be ſet at about ſix inches diſtance every way, and the earth ſhould be cloſed firmly to the roots, to prevent their being injured by the worms; in the following Spring they will ſhew their flowers, but it will be an interval of three years before the flowers are ſtrong, and you are able to judge of their goodneſs. If at this time any double flowers, or any of a different colour from the reſt ſhould appear, they ſhould be tranſplanted into the borders of the flower-garden, where they ſhould continue at leaſt two years before they are taken up or parted. The double flowers, which never produce ſeeds, are propagated by parting their roots in March when they are in flower. The ſoil in which they delight is ſtrong and loamy, in an eaſtern ſituation expoſed to the morning ſun.

The *pulſatillas* (2—10.) may be propagated by ſeeds, in boxes or pots filled with light ſandy earth, and expoſed to the morning ſun till ten, and ſecured from it in the heat of the day, and in dry weather often refreſhed with water. The ſeeds are beſt ſown in July and Auguſt ſoon after they are ripe. The pots ſhould remain in a ſhady ſituation till October, and then expoſed to the full ſun during the Winter. About the beginning of March, when the plants appear, they ſhould only have the forenoon ſun, be refreſhed with water in dry weather, and kept free from weeds. When the leaves are decayed, which occurs uſually in July, all the roots ſhould be carefully taken up, and immediately planted in beds of light, freſh, ſandy earth, about three or four inches aſunder, and covered to the depth of about three inches with the ſame light earth. In the following Spring moſt of theſe plants will produce flowers, but they will be larger and fairer in the ſucceeding years, when the roots are larger.

The *garden anemones* (11, 12.) are natives of the eaſt, from whence their roots were originally brought; but culture has ſo improved them, that they are become the chief ornaments to our gardens in the Spring. To prepare the ſoil for theſe plants, take a quantity of freſh, light, ſandy loam, or hazel-earth, from a common or dry paſture, not dug above ten inches deep; mix this with a third part its quantity of rotten cow-dung, and lay it up in a heap; turn this over at leaſt once a month, for eight or ten months, and every time pick out the ſtones and break the clods. After this mixture has been twelve months made, it will be fit for uſe.

The beds of this earth muſt be prepared in September, and ſhould be made ſix or eight inches deep, in a wet ſoil; but in a dry one three inches will be ſufficient; lay this compoſt at leaſt $2\frac{1}{2}$ feet thick, with about four or five inches of rotten neat's dung, or the rotten dung of an old melon or cucumber bed at the bottom; in a wet ſoil let the beds be rounded, ſo that the water may run off; but in a dry ſoil let them be nearer to a level: three weeks after the compoſt has been laid in, ſtir it about ſix inches deep with a ſpade, and then with a ſtick draw lines each way of the bed, at ſix inches diſtance, ſo that the whole may be in ſquares; then make a hole three inches deep in the centre of each ſquare, and plant a root in each; and when all are planted, rake the earth of the whole bed ſmooth, ſo as to cover the roots two inches thick. The ſeaſon of planting theſe roots for forward flowers is the latter end of September, and for thoſe of a middle ſeaſon is October: this is beſt done at a time when there are gentle rains. Some roots ſhould alſo be ſaved to be planted after Chriſtmas, for fear of accidents to the former from very hard weather. Theſe uſually flower three weeks after thoſe planted in Autumn.

In the beginning of April the early planted roots will begin to flower, and they will keep in flower near a month, if the weather prove favourable, and they are properly ſhaded with mats, laid over hoops in the greateſt heat of the day: the ſecond, and laſt planted ones, will follow theſe; and, in the whole, there will be at leaſt two months fine flowering.

Toward the beginning of June the firſt planted roots will loſe all their leaves, and they muſt be then taken up and waſhed clean, and laid to dry on mats in the ſhade; after which they are to be put up in paper bags, and hung up till the time of planting them comes on again. The later planted ones are to be taken up alſo as ſoon as their leaves decay, and not ſuffered to remain to make new ſhoots, for then it is too late to remove them.

They are propagated two ways, either by dividing the roots or by ſowing. The roots are to be divided as ſoon as they are taken up out of the ground: they will ſucceed if broken into as many parts as there are eyes or buds in them; but they flower moſt ſtrongly, if not parted too ſmall.

The way, by ſowing, is this: chooſe firſt ſome good kinds of ſingle anemones, called by the gardeners *poppy anemones;* plant theſe early, and they will produce ripe ſeeds three weeks after the flower firſt blows. This muſt be carefully gathered, and in Auguſt it ſhould be ſowed in pots or tubs, or a very well prepared bed of light earth, rubbing it between the hands with a little dry ſand, to prevent ſeveral of the ſeeds from clinging together, and ſpreading them as even as poſſible all over the bed; after this a light hair-bruſh ſhould be drawn many times over the ſurface of the bed, to pull aſunder any lumps of ſeed that may yet have fallen together; obſerving not to bruſh off the ſeed, and as much as poſſible not to bruſh it into heaps. When this is done, ſome light earth, about a quarter of an inch deep, ſhould be ſifted over the bed. If the weather be hot, the bed muſt be at times covered with mats laid hollow, and gently watered.

In about ten weeks after ſowing, the plants will appear, if the ſeaſon has been favourable, and they are to be carefully defended from the hard froſts by proper covering, and from the heat of the ſun afterwards by a moveable reed-fence. As the Spring advances, if the weather be dry, they muſt be gently watered, and when their green leaves decay, there muſt be a quarter of an inch more earth ſifted over them, and the like again at Michaelmas; and the bed muſt be kept clear from weeds, and the following Spring they will flower.

The ſingle or poppy anemones will flower moſt part of the Winter and Spring, when the ſeaſons are favourable, and in a warm ſituation; and they require little culture, for it will be ſufficient to take up the roots every other year, and when they are taken up, they ſhould be planted again very early in the Autumn, or elſe they will not flower till the Spring. There are ſome fine blue colours among theſe ſingle anemones, which, with the ſcarlets and reds, form a beautiful mixture of colours; and as theſe begin to flower in January or February, when the weather is cold, they will continue for a long time in beauty, provided that the froſt is not too ſevere. The ſeeds of theſe are ripe by the middle or end of May, and muſt be gathered daily as they ripen, otherwiſe they will ſoon be blown away by the winds.

The roots of *wood anemone* (23, 24, &c.) may be taken up when the leaves decay, and tranſplanted into wilderneſſes, where they will thrive, and in the Spring have a good effect in covering the ground with their leaves and flowers. The *blue anemone* (24.) flowers at the ſame time with the foregoing, and intermixed with it, makes a fine variety. Double flowers of both theſe ſorts have been obtained from ſeeds. This, and moſt of the other wild anemones, may be propagated by offſets from the root, which they put out plentifully, and they will grow in moſt ſoils and ſituations. *Virginian anemone* (17.) and ſome others, produce plenty of ſeeds, and may be readily increaſed alſo that way. Martyn's Miller.

ANEMONE *pulſilla*. See DRYAS.

ANEMONE, in *Natural Hiſtory*, a ſpecies of HYDRA in Gmelin's arrangement, but which ſhould with more propriety be referred to the ACTINIÆ of Linnæus, as Ellis had placed it with other analogous ſpecies before. The body is fleſhy and flat, the diſk ſub-hexagonal, and ſurrounded with numerous tentacula. It is found in the Weſt Indian ſeas.

ANEMONE is likewiſe the trivial name given by ſome to the ACTINIÆ of Linnæus in general; hence the French author Dicquemarre calls the *actinia rufa* of Linn. Anemone de la prémiere eſpece, actinia craſſicornis, anemone de la ſeconde eſpece, &c. &c.

The ſingular reproductive properties of this kind of vermes is now ſufficiently aſcertained, yet it appears that we were in a conſiderable degree indebted to the accurate obſervations and experiments of M. Dicquemarre, in the firſt inſtance, for the intereſting diſcovery. This author conjectures that it is owing to the gelatinous texture of thoſe creatures that they poſſeſs the wonderful faculty of reproduction. He obſerves, that their limbs budded out ſucceſſively after ſeveral amputations; nay, ſome of them were diſſected through the body; and the baſis, together with that part of the ſtump which was left, ſurvived, projected new limbs, and the animal moved and eat bits of muſcles, which are its uſual nouriſhment. They appeared to bear a conſiderable degree of heat, and to live in a vacuum, at leaſt in a very rare air; and they require for a very conſiderable time no other food than what they find diſſeminated in ſea water.

Dicquemarre endeavours to prove that ſea anemones may be made uſe of for indicating the different changes of temperature in the atmoſphere; but certainly without ſucceſs, as the obſervations of later naturaliſts fully demonſtrate. His account of this new kind of barometers is thus related. The ſea-water, in which the anemones are placed, muſt be renewed every day, and this muſt be their only nouriſhment; and the obſervations ſhould be made at intervals equally diſtant from the renewals of the water. If the anemones be ſhut and contracted, there is reaſon to apprehend an approaching ſtorm; that is, high winds, and a rough agitated ſea. When they are all ſhut, but not remarkably contracted, they forebode a weather ſomewhat leſs boiſterous, but ſtill attended with gales and a rough ſea. If they appear in the leaſt open, or alternately and frequently opening and cloſing, they indicate a mean ſtate both of winds and waves. When they are quite open, tolerably fine weather and a ſmooth ſea may be expected. And, laſtly, when their bodies are conſiderably extended, and their limbs divergent, they ſurely prognoſticate fixed, fair weather, and a very calm ſea. The glaſs in which they are depoſited may be ſwung at ſea, in the ſame manner as the compaſs, ſo that the rolling of the ſhip, may agitate the water as little as poſſible. Theſe animals are viviparous; for ſeveral of them brought forth eight, ten, or twelve young ones in the hand.

The account of the ſpecies *ſociata*, as related by Mr. Ellis, in the Philoſophical Tranſactions, affords ſtill more accurate information concerning this tribe of creatures, their internal organization, economy, &c. than the reports of Dicquemarre. "This compound animal, which is of a tender fleſhy ſubſtance, conſiſts of many tubular bodies, ſwelling gently towards the upper part, and ending like a bulb,

bulb or very ſmall onion; on the top of each is its mouth, ſurrounded by one or two rows of tenticles, or claws, which when contracted look like circles of beads.

"The lower part of all theſe bodies has a communication with a firm fleſhy wrinkled tube, which ſticks faſt to the rocks, and ſends forth other fleſhy tubes, which creep along them in various directions. Theſe are full of different ſizes of theſe remarkable animals which riſe up irregularly in groups near one another.

"This adhering tube, that ſecures them faſt to the rock or ſhelly bottom, is worthy of notice. The knobs that we obſerve are formed into ſeveral parts of it by its inſinuating itſelf into the inequalities of the coral rock, or by graſping other pieces of ſhells, part of which ſtill remain in it, with the fleſhy ſubſtance grown over them.

"This ſhews us the inſtinct of nature, that directs theſe animals to preſerve themſelves from the violence of the waves, not unlike the anchoring of muſcles, by their fine ſilken filaments that end in ſuckers, or rather like the ſhelly baſis of the ſerpula, or worm-ſhell, the tree oyſter, and the ſhipper barnacle, &c whoſe baſes conform to the ſhape of whatever ſubſtance they fix themſelves to, graſping it faſt with their teſtaceous claws to withſtand the fury of a ſtorm.

"When we view the inſide of this animal diſſected lengthwiſe, we find a little tube leading from the mouth to the ſtomach, from whence there riſe eight wrinkled ſmall guts, in a circular order, with a yellowiſh ſoft ſubſtance in them; theſe bend over in the form of arches towards the lower part of the bulb, from whence they may be traced downwards to the narrow part of the upright tube, till they come to the fleſhy adhering tube, where ſome of them may be perceived entering into the papilla, or the beginning of an animal of the like kind, moſt probably to convey it nouriſhment till it is provided with claws; the remaining part of theſe ſlender guts are continued on in the fleſhy tube, without doubt for the ſame purpoſe of producing and ſupporting more young ones from the ſame common parent.

"The many longitudinal fibres that we diſcover lying parallel to each other, on the inſide of the ſemi-tranſparent ſkin, are all inſerted in the ſeveral claws round the animal's mouth, and are plainly the tendons of the muſcles for moving and directing the claws at the will of the animal: theſe may likewiſe be traced down to the adhering tube."

Another remarkable creature of this kind is deſcribed in Hughes's Natural Hiſtory of Barbadoes, and which, it is ſaid, was only found in a baſon in one particular cave.

"In the middle of the baſon," ſays that author, "there is a fixed ſtone, or rock, which is always under water. Round its ſides, at different depths, ſeldom exceeding 18 inches, are ſeen, at all times in the year, iſſuing out of little holes, certain ſubſtances that have the appearance of fine radiated flowers, of a pale yellow, or a bright ſtraw colour, ſlightly tinged with green, having a circular border of thick-ſet petals, about the ſize of, and much reſembling thoſe of a ſingle garden-marigold, except that the whole of this ſeeming flower is narrower at the diſcus, or ſetting on of the leaves, than any flower of that kind.

"I have attempted to pluck one of theſe from the rock, to which they are always fixed, but never could effect it; for as ſoon as my fingers came within two or three inches of it, it would immediately contract cloſe together its yellow border, and ſhrink back into the hole of the rock; but if left undiſturbed for about four minutes, it would come gradually in ſight, expanding, though at firſt very cautiouſly, its ſeeming leaves, till at laſt it appeared in its former bloom. However, it would again recoil with a ſurpriſing quickneſs when my hand came within a ſmall diſtance of it. Having tried the ſame experiment by attempting to touch it with my cane, and a ſmall ſlender rod, the effect was the ſame.

"Though I could not by any means contrive to take or pluck from the rock one of theſe animals entire, yet I once cut off (with a knife which I had held for a long time out of ſight, near the mouth of an hole out of which one of theſe animals appeared) two of theſe ſeeming leaves. Theſe, when out of water, retaining their ſhape and colour; but being compoſed of a membrane-like ſubſtance, ſurpriſingly thin, it ſoon ſhrivelled up and decayed."

The ſame author further adds, that many people coming to ſee theſe creatures, and occaſioning ſome inconvenience to a perſon through whoſe grounds they were obliged to paſs, he reſolved to deſtroy the objects of their curioſity, and that he might do ſo effectually, cauſed all the holes out of which they appeared to be carefully bored and drilled with an iron inſtrument, ſo as to cruſh their bodies to a pulp, and yet they again appeared in a few weeks from the very ſame places. It has been ſuſpected that this Barbadoes *anemone* may be a ſpecies of tubularia rather than actinia.

ANEMONOIDES, in *Botany*. See ANEMONE.

ANEMONOSPERMOS. See ARCTOTIS and GORTERIA.

ANEMOSCOPE, derived from *ανεμος*, *wind*, and *σκεπτομαι*, *I conſider*, is ſometimes uſed for a machine invented to foretel the changes of the wind. For this purpoſe it ſhould conſiſt of an index moving about a circular plate, like the dial of a clock, on which the 32 points of the compaſs are drawn inſtead of the hours. The index, pointing to the diviſions in the dial, is turned by an horizontal axis, having a handle-head at its outward extremity. This handle-head is moved by a cog-wheel on a perpendicular axis; on the top of which is fixed a vane, that moves with the courſe of the wind, and gives motion to the whole machine. The whole contrivance is very ſimple, and nothing is required in the conſtruction, but that the number of cogs in the wheel and rounds in the trundle-head be equal; becauſe it is neceſſary, that when the vane moves entirely round, the index of the dial ſhould alſo make a complete revolution. An anemoſcope of this kind is placed in one of the turrets of the Queen's palace. An account of an anemoſcope contrived by Mr. Pickering, may be ſeen in the Phil. Tranſ. vol. xliii. pl. II. p. 9; and another deſcribed by Mr. Martin, in his Philoſ. Britan., vol. ii. p. 211. See ANEMOMETER and WIND GAGE.

It has been obſerved, that hygroſcopes made of cat's-gut, &c. prove very good anemoſcopes; ſeldom failing, by the turning of the index about, to foretel the ſhifting of the wind.

The anemoſcope uſed by the ancients ſeems, by Vitruvius's deſcription of it, to have been intended rather to ſhew which way the wind actually blew, than to foretel into which quarter it would change.

Otto de Gueric alſo gave the title anemoſcope to a machine invented by him, to foretel the change of the weather, as to fair and rain. It conſiſted of a wooden little man, who roſe and fell in a glaſs tube, as the atmoſphere was more or leſs heavy.—Accordingly, M. Comiers has ſhewn, that this anemoſcope was only an application of the common BAROMETER. See WIND.

The anemoſcope of Væroe is famous. It is made of the bird *lunde*, whoſe feathers are picked, the ſkin ſtripped off, *viſcera* taken out, and the ſkin in this ſtate drawn a-new over the bones; this being hung up in the chimney, is ſaid always to direct its bill to the point from whence the wind

is

is like to blow. Ephem. Acad. N. C. Dec. 3. An. 9. App. 245.

AN-END, in *Sea-language*, denotes the poſition of any maſt, &c. when erected perpendicularly on the deck. The top-maſts are ſaid to be *an-end*, when they are hoiſted up to their uſual ſtation.

ANET, in *Geography*, a town of France, in the department of the Eure and Loire, and chief place of a canton, in the diſtrict of Dreux, near the Eure; eight miles north-north-eaſt of Dreux.

ANETHIFOLIUS, in *Botany*. See PROTEUS.

ANETHUM, derived from ἀνα θεω, becauſe it runs up quick or ſtraight, a genus of the *pentandria digynia* claſs and order, and of the natural order of *umbellatæ* or *umbelliferæ*: its characters are, that the *calyx* has an umbel univerſal and partial manifold, the involucre neither univerſal nor partial, the perianth proper obſolete; the *corolla* univerſal, uniform, floſcules all fertile; proper; five-petals, involute, entire and very ſhort; the ſtamina have capillary filaments and roundiſh anthers: the *piſtillum* is a germ inferior, ſtyles approximating, obſolete; ſtigmas obtuſe; no *pericarpium*, fruit ſubovate, compreſſed, ſtriated and bipartile; the ſeeds are two, ſubovate, margined, convex, and ſtriated on one ſide, flat on the other. There are three ſpecies, 1. A. *graveolens*, A. hortenſe of Bauh. Common dill, "with fruit compreſſed." Dill differs from fennel, which it moſt reſembles, in having an annual root, a ſmaller and lower ſtem, the leaves more glaucous, and of a leſs pleaſant ſmell, the ſeeds broader and flatter, ſurrounded with a membranaceous rim, and of a leſs pleaſant flavour than fennel ſeeds. This plant grows wild among the corn in Spain and Portugal, and alſo in Italy on the coaſt, and near Conſtantinople; it is annual, and was cultivated here in 1597; the ſeeds of dill are directed for uſe by the London and Edinburgh pharmacopeias; they have a moderately warm pungent taſte, and an aromatic ſmell, but not of the moſt agreeable kind. Water extracts very little of their virtues, either by infuſion or digeſtion for many hours. In boiling, their whole flavour exhales with the watery vapour, and may be collected by diſtillation. The diſtilled water, drawn off to the quantity of a gallon from a pound, is occaſionally made the baſis of carminative draughts or juleps. The ſimple water ariſes better than any in the ſhops. Along with the water ariſes a conſiderable portion of eſſential oil, in taſte moderately pungent, and ſmelling ſtrongly of the dill. Rectified ſpirit, digeſted in dill ſeeds, readily extracts both their ſmell and taſte; but, by diſtillation, it brings over very little of the flavour, the active part of the ſeeds remaining in the extract. The ſeeds and the plant itſelf were formerly much uſed in medicine, and, from the time of Dioſcorides, have been eſteemed for their carminative and hypnotic powers; and they have, therefore, been recommended in flatulent colics, and certain dyſpeptic ſymptoms proceeding from a laxity of the ſtomach. Foreſtus ſpeaks highly of their uſe in allaying vomiting and hickups. They are alſo ſaid to be more effectual than the other ſeeds of this claſs in promoting the ſecretion of milk. At this time, however, the ſeeds of dill are ſeldom employed, though a ſimple diſtilled water from them is directed both by the London and Edinburgh pharmacopeias. Allaine ſays, that the eſſential oil, rubbed on the abdomen, is uſeful in allaying flatulence and colic; and in a clyſter, as a carminative. Lewis. Murray. Woodville. 2. A. *ſegetum*, A. ſylveſtre minus of Bauhin, fœniculum luſitanicum minus annuum anethi odore of Tourn. "with three ſtem leaves, and oval fruits." It is annual, and a native of Portugal. 3. A. *fœniculum*, common fennel, or ſinckle, "with gibbous fruits, and ſtem leaves numerous and deflexed." It is a native of Germany, Spain, Italy, Madeira, China, &c.; it is biennial, and flowers in July and Auguſt, and the ſeeds ripen in Autumn. Linnæus diſtinguiſhes four varieties of fennel, viz. ſweet fennel; common fennel, F. vulgare germanicum of Bauh. Italian fennel, F. vulgare italicum of Bauh. and wild fennel, F. ſylveſtre of Bauh.; Miller enumerates three varieties, viz. F. vulgare, or common fennel, F. dulce, or ſweet fennel, and F. azoricum, or azorian fennel, or finochio. The common fennel runs from three to five feet high, blue green, with yellow flowers. It has a ſtrong fleſhy root, which penetrates deep into the ground, and will continue for ſeveral years; it has ſown itſelf in many places, and appears like a native in England; accordingly it is enumerated among our native plants by Hudſon, Withering, Smith, &c.; and is now common on chalk cliffs, as about Marazion in Cornwall, in Suſſex, about Graveſend and in other parts of Kent, Nottingham Caſtle, near Spetchly in Worceſterſhire, Burwell, and other places in Cambridgeſhire, and commonly on the weſtern coaſts. The ſweet fennel has been ſuppoſed to be a variety of the common ſort, but it has been cultivated in the ſame ground with the other and retained its differences; though botaniſts affirm, that it will return to its priſtine form and qualities. The ſeeds, which are longer, narrower, and of a lighter colour, are generally imported from Germany and Italy, and are reckoned ſuperior to thoſe of our own growth.

Dietetic and medical qualities of fennel. The tender buds of fennel are eaten in ſalads: the leaves boiled are uſed as ſauce for fiſh, particularly mackerel, and they are eaten raw with pickled fiſh. In Spain they put them up with olives and pickled pork. The ſeeds of ſweet fennel are admitted into the materia medica of the London and Edinburgh pharmacopeias, and the root of the common fennel in that of Edinburgh. Sweet fennel ſeeds are an uſeful ſtomachic and carminative, and are ſometimes given in powder, from a ſcruple to a dram; and ſometimes candied. Water extracts the virtue of theſe ſeeds very imperfectly by infuſion, but carries it off totally in evaporation. By diſtillation, they impregnate water with their flavour; a gallon of water receiving a ſtrong impregnation from a pound of the ſeeds. A large proportion of eſſential oil ſeparates in the diſtillation, and floats on the ſurface of the aqueous fluid; in colour yelloviſh, in ſmell moderately ſtrong and diffuſive, and exactly reſembling the fennel, in taſte mild and ſweetiſh, like the oil of aniſeeds, and like it alſo congealing, by a ſlight cold, into a white butyraceous maſs. Theſe ſeeds contain likewiſe a conſiderable quantity in groſs oil of the expreſſed kind, which, when freed from the eſſential oil, manifeſts no particular ſmell or taſte. This oil is extracted, with the aromatic matter of the fennel, by digeſtion in rectified ſpirit, but ſeparates and riſes to the ſurface upon inſpiſſating the filtered tincture. The ſpirit, gently diſtilled off, has very little of the flavour of the ſeeds; the oily matter retains a part both of their taſte and ſmell; but much the greateſt part remains concentrated in the extract. The ſeeds of the common fennel are warmer and more pungent, but leſs ſweet, and of a leſs grateful flavour than that of the preceding; and there is the ſame difference in the preparations from them; the ſpirituous tincture of the ſweet fennel is yelloviſh, but that of the common greeniſh. The leaves impregnate water by diſtillation with a grateful flavour, and yield a conſiderable portion of eſſential oil. An extract made from them by rectified ſpirit is no inelegant aromatic. The roots, taken up early in the ſpring, have a pleaſant ſweetiſh taſte, with a ſlight aromatic warmth. They are ranked among the aperient roots, and ſuppoſed by ſome to be equivalent in virtue to the celebrated ginſeng of the Chineſe, from which, however, they

differ in their ſenſible qualities. They are ſaid to be pectoral and diuretic, but now wholly diſregarded. The fœniculum of the Latins is ſuppoſed to be the *μαραθρον* of the Greeks, by whom it was highly eſteemed for promoting the ſecretion of milk; and this opinion has been confirmed by the experience of ſome modern authors. The ſtomachic, carminative, and other effects aſcribed to fennel, depending upon their ſtimulant and aromatic qualities, muſt be leſs conſiderable than thoſe of dill, aniſe, and caraway, though termed one of the ſame greater hot ſeeds. Lewis. Murray. Woodville. The finochio, ſuppoſed to have been originally brought from the Azores, has been long cultivated in Italy as a ſalad herb; and it is alſo cultivated in ſome few gardens in England.

Culture. Dill is propagated by ſowing the ſeeds in autumn ſoon after they are ripe, in a light ſoil, where they are to remain, at the diſtance of eight or ten inches aſunder. When the plants are come up, they ſhould be hoed, and left at the above diſtance, and kept clear from weeds. When the ſeeds begin to be formed, thoſe that are intended to be put into the pickle for cucumbers ſhould be cut up, and thoſe intended for ſeeds left till they are ripe; and then they ſhould be cut, ſpread upon a cloth to dry, and beat out for uſe. The beſt time to ſow the ſeeds of fennel is ſoon after they are ripe; the plants will come up in the autumn or following ſpring, and require no other care beſides being thinned and cleared from weeds; they will grow in any ſoil or ſituation. For the finochio, good ſeeds muſt be procured; and a good ſpot of light rich earth, neither dry nor very wet, ſelected, the firſt crop may be ſown about a fortnight in March, which, if it ſucceeds, will be fit for uſe in July; and, by ſowing it ſeveral times, a ſupply may be had for the table till the froſt puts a ſtop to it. When the ground has been well dug and levelled, a hollow drill muſt be formed by a line and the ſeeds thinly ſcattered in it, about two inches apart; the drills ſhould be 18 inches aſunder, that there may be room to clean the ground and earth the plants. The plants will uſually come up about three weeks or a month after ſowing; and then with a ſmall hoe the weeds ſhould be cut between them, and the plants thinned; and thus ſucceſſively till they are at the diſtance of ſeven or eight inches. The ſtems of the plants, which riſe above the ſurface of the ground, ſhould be earthed for blanching, about a fortnight or three weeks before they are uſed, and they will thus be rendered very tender and criſp. The ſecond crop ſhould be ſown about three weeks after the firſt; and theſe crops ſhould be continued in ſucceſſion at ſuch intervals till the end of July. In April, May, and June, the ſoil ſhould be moiſter than the firſt; and in July it ſhould be drier and in a warm ſituation, and the beds at this ſeaſon ſhould be watered and ſhaded. In autumn, if ſharp froſts ſhould occur, the plants ſhould be covered with peas-haum, or ſome light covering; and thus they may be preſerved for uſe till the middle of winter. Martyn's Miller.

ANEURIN, *in Biography*, one of the moſt eminent of the ancient bards of Britain, who was a chieftain of the Otodini, and bore a conſpicuous part in the battle of Cattraeth, about A. D. 530, the ſubject of a noble heroic poem compoſed by him; and which is printed in the Archaiology of Wales, with another compoſition by the ſame perſon, entitled Odes to the Months. About the year 540, Aneurin is ſuppoſed to have loſt his territories in the north, in conſequence of the growing power of the Saxons; and eventually, ſome old documents and traditions ſay, that he took refuge in the famous monaſtery of Iltutus, in the country of the Silures, where he died, about A. D. 570.

ANEURISM, or ANEURYSM (from *ανευρυνω*, *dilato*), in *Surgery*, a preternatural dilatation of an artery, or a collection of blood in the cellular membrane, occaſioned by the rupture or puncture of an artery. The firſt caſe has been called the *true*, or *genuine* aneuriſm; the ſecond, the *falſe* or *ſpurious* aneuriſm. The true aneuriſm is again diſtinguiſhed into the *true circumſcribed aneuriſm*, in which the artery is only dilated in one ſmall part, and the tumour is circumſcribed; and *the true diffuſed aneuriſm*, when the tumour produced by the dilatation of the artery is of conſiderable extent, and, as it gradually loſes itſelf in the ſurrounding parts, its boundaries cannot be accurately defined.

The ſpurious aneuriſm is again divided into the *circumſcribed ſpurious aneuriſm*, in which the blood is collected in a ſac in ſome part of the cellular membrane, forming a diſtinctly circumſcribed tumour; and the *diffuſed ſpurious aneuriſm*, where the blood is effuſed into the adjacent cavities of the cellular membrane, forming an unequally elongated tumour.

Beſides theſe two principal ſpecies of aneuriſm, a third, the *mixed aneuriſm* is reckoned; which conſiſts in a combination of the true and falſe aneuriſms with each other. The *firſt* ſubdiviſion of this ſpecies occurs when the external membrane of an artery has been injured by puncture, cutting, laceration with the ſplinter of a bone, or any other accidental cauſe, whilſt the internal membrane remains untouched. The internal membrane, which is unable of itſelf to reſiſt the impetus of the blood, is protruded through the orifice in the external membrane, ſo as to form a tumour, partly by laceration, partly by dilatation of the artery, and conſequently by a combination of both cauſes. The *ſecond* ſubdiviſion occurs, when the ſac of the true aneuriſm burſts, and the blood, penetrating into the adjacent cellular membrane, ſurrounds the ſac. As the true circumſcribed aneuriſm may be produced wherever arteries exiſt, and conſequently as well in the internal as the external parts of the body; it is divided into the *internal* and *external* true circumſcribed aneuriſm. Of the internal, that of the aorta, and of the external, that in the ham or hollow of the knee, is the moſt frequent.

The true circumſcribed external aneuriſm may be known when the patient remarks an unuſual pulſation in any part of his body; when, upon cloſe examination, he diſcovers a ſmall pulſating tumour on the part, which diſappears on being preſſed with the finger, and, as ſoon as the preſſure is removed, returns. It alſo will often diſappear when the artery is ſtrongly compreſſed at ſome part above it, and returns again as ſoon as the preſſure is removed.

This tumour is not painful, neither is the external ſkin diſcoloured. When it has once been produced, it generally goes on increaſing with an uninterrupted progreſs. The larger it grows, the leſs the pulſation is perceived, which may at length entirely ceaſe when the tumour has become very large. When the ſac is of conſiderable ſize, and the pulſe under the tumour weak and ſmall, the limb frequently becomes cold, collapſed, pale, weak, or oedematous. The danger is the greateſt when the ſac burſts, which it does either in ſuch a manner as to leave the external ſkin, that covers it, entire, in which caſe the *true* aneuriſm is changed into the *mixed*; or, the ſac burſts, together with the external ſkin, in which caſe a violent hæmorrhage enſues, that proves fatal, unleſs ſpeedy aſſiſtance can be procured. The rupture of the ſac is ſometimes produced by concuſſion, or any other external cauſe, and ſometimes ſpontaneouſly; in which caſe it may generally be foreſeen for ſome time before it happens, by the place, which before was particularly dilated and elevated, becoming thin, ſoft, red, or bluiſh.

The internal true aneuriſm is only to be diſcovered by an unuſual, conſtant, and violent pulſation in one part, which cannot be diſtinctly perceived till the tumour has attained a conſiderable

conſiderable magnitude; for whilſt it is ſtill ſmall, this pulſation is very indiſtinct. When theſe tumours have attained to a conſiderable ſize, they ſometimes at length appear externally, in which caſe they may eaſily be aſcertained.

It now and then happens, however, that pulſation combined with dilatation does not certainly characterize this diſeaſe. (See Deſſault's Obſ. Chir. and Medical Communicat.) We have known the moſt careful obſervers deceived both in tumours of the extremities as well as internally, by forming their diagnoſis from the pulſation alone. It is therefore neceſſary in theſe caſes to take all the circumſtances into conſideration, from the earlieſt period of the diſorder to its complete formation. When a ſoft tumour lies immediately upon an artery, the pulſation of the veſſel may be felt through the tumour; and when the coagula of a real aneuriſm have become firm, the pulſation may be obſcure or imperceptible.

The proximate cauſe of the true aneuriſm is indiſputably a preternatural debility of the artery in ſome part, whereby it is rendered unable to reſiſt the impetus of the blood, in conſequence of which it yields, and is dilated into a ſac. This may happen from a local injury; for example, a bruiſe; which may particularly be the caſe in thoſe parts of the body where the artery has but few muſcular parts to cover it, and is ſituated near a bone. Probably a ſudden and violent elongation or ſtretching of the artery may occaſion this topical weakneſs; at leaſt we ſometimes ſee true aneuriſms ariſe after violent ſtretching of a limb, in fractures, diſlocations, violent bodily exertions, convulſions, &c. Sometimes, probably, the cauſe may conſiſt in a violent and inordinate motion of the blood: the artery may alſo be deprived of its ſupport, by an abſceſs in any part of the body, and weakened in ſuch a manner as to be unable to reſiſt the impetus of the blood. In all theſe, and other ſimilar caſes, the aneuriſm deſerves the name of a topical diſeaſe. Frequently, however, and perhaps in the majority of caſes, the aneuriſm is the conſequence of a general diſeaſe of the whole arterial ſyſtem. According to the experience of Morgagni and others, aneuriſms are ſaid to be ſometimes produced by the venereal, rheumatic, ſcorbutic, and other conſtitutional taints in the ſyſtem. Sometimes theſe tumours ariſe ſpontaneouſly, without any occaſional cauſe; frequently ſeveral of them are produced at the ſame time in different external and internal parts: we alſo find in diſſecting the bodies of perſons who have been affected with aneuriſm, that the arterial ſyſtem is in many parts, nay, even univerſally, extremely feeble, and eaſily lacerated. This ſpecies of the diſeaſe, DIATHESIS ANEURYSMATICA, is, in the preſent ſtate of our knowledge, to be conſidered as altogether incurable, as we cannot determine its cauſe with certainty.

The falſe or ſpurious aneuriſm conſiſts in a rupture of the artery, the blood being effuſed through the orifice into the ſurrounding cellular membrane. As this ſpecies, like the true aneuriſm, may be produced both in internal and external parts, it is likewiſe ſubdivided into the *internal* and *external*. The cauſes by which a preternatural orifice may be made in an artery, are numerous: *e. g.* ſudden violent exertion of a limb or of the whole body, the lifting of heavy burdens, violent ſpaſms, vomiting, &c. The moſt frequent cauſe, however, is a leſion of the artery by ſome foreign ſubſtance, as by the ſplinter of a bone; and particularly by the lancet, when blood-letting is performed in an unſkilful manner, at the bend of the fore-arm, of which we therefore ſhall treat more minutely than of the other kinds.

In letting blood at the arm, the artery may be diſcovered to have been wounded, by the blood being thrown out with unuſual force, in an uninterrupted but unequal ſtream, as it were by jerks; alſo by its florid red colour; and, which is the moſt certain ſign, by the blood flowing out in an even ſtream, with leſs force, when preſſure is applied to the artery above the wound. In theſe caſes the diffuſion of the blood forming a ſpurious aneuriſm is generally owing to the fault of the ſurgeon, in attempting to ſtop the hæmorrhage too ſuddenly, either by preſſing his fingers upon the wound, or by applying a bandage. The aneuriſm is produced either in conſequence of the orifice in the external ſkin being diſplaced in ſuch a manner that the blood can no longer be diſcharged through it, and muſt conſequently diffuſe itſelf in the cellular membrane; or by the preſſure, which is haſtily applied, being too weak, ſo as merely to cloſe the orifice in the ſkin and vein, but not that in the artery, which conſequently diſcharges the blood into the ſurrounding cellular membrane. The tumour produced in this manner is commonly of a red, bluiſh, and, finally, of a black colour.

The falſe diffuſed aneuriſm, ariſing from this cauſe, increaſes in ſize as long as the internal hæmorrhage continues; and if this be not ſpeedily ſtopped, it produces violent pain and immobility of the limb, nay, at length, inflammation, ſuppuration, and gangrene. The moſt recent caſe of this kind, with which we are acquainted, is related in the ſixth volume of the Medical and Phyſical Journal, by Dr. Adams, of Madeira; and in this caſe a perfect cure was effected, by long continued preſſure on the artery, at the ſuperior part of the arm.

The circumſcribed ſpurious aneuriſm is produced, when the hæmorrhage has at firſt been ſtopped by the application of a proper preſſure, but the bandages have been removed too early, and before the orifice of the artery has been cloſed, ſo that the blood is effuſed through the wound, ſtill left, or newly torn open, into the ſurrounding cellular texture; but, on account of the adheſion of the cellular membrane, produced by the preſſure previouſly applied, cannot penetrate into its cavities, and conſequently collects itſelf into a maſs, near to the orifice in the artery, dilating the cellular membrane into a ſac. Sometimes, however, though rarely, this kind of aneuriſm is produced immediately after the artery has been wounded; namely, when on account of the ſmallneſs of the puncture in the artery, the hæmorrhage takes place ſo ſlowly, that the blood firſt diſcharged becomes coagulated, ſo as to ſtop the apertures through which the ſucceeding diſcharge might paſs into the cavities of the cellular membrane, and prevent its diffuſing itſelf. Sometimes alſo the artery is covered with a membrane, aponeuroſis, &c. which prevents the diffuſion of the blood, and compels it to collect into a maſs.

The circumſcribed falſe aneuriſm conſiſts therefore of a ſac, formed out of the cellular texture, and filled with blood, which is ſituated cloſe to the artery, and communicates with the artery itſelf by means of the wound in it. In the falſe aneuriſm a pulſation can almoſt always be perceived, and that the more diſtinctly, the ſmaller the tumour is. The larger this ſac becomes, the more it loſes its elaſticity, the greater becomes the accumulation of coagulated blood within it, and the weaker conſequently becomes the perceptible pulſation, which in very large aneuriſms of this kind entirely diſappears. At firſt the tumour is ſmall, and vaniſhes entirely under the preſſure of the finger; but as ſoon as the preſſure is removed it appears again. It vaniſhes in the ſame manner, when preſſure is applied to the artery above the tumour, and re-appears when that preſſure is removed. As ſoon as coagulated blood has accumulated in the ſac, the tumour can no longer be made entirely to diſappear by preſſure, but it becomes hard. It is without pain, and the integuments that cover it, preſent the natural appearance. When

once produced, it increaſes with a conſtant and regular progreſs, and at laſt becomes enormouſly large. The flow of the blood into the limb below the tumour is always impeded, the pulſation of the arteries in it becomes feeble and ſmall, and the limb itſelf is cold, collapſed, torpid, pale, or oedematous. A caries of the neighbouring bones frequently takes place. This aneuriſm may alſo at length burſt, and produce a fatal hæmorrhage, unleſs ſpeedy aſſiſtance can be procured. The part where it burſts previouſly grows thin, ſoft, and bluiſh, or of a gangrenous aſpect.

Notwithſtanding the great reſemblance which exiſts between the phænomena of the true and thoſe of the falſe aneuriſm, they may however in general be eaſily diſtinguiſhed from each other, eſpecially after the firſt period of their exiſtence. The true aneuriſm yields to the preſſure of the finger very quickly, and reappears as quickly, when the preſſure is removed; the falſe aneuriſm, on the contrary, yields only in a gradual manner, and appears again in the ſame manner, as the blood contained in the ſac cannot be wholly preſſed through the orifice of the artery, nor again be effuſed, except by ſlow degrees. Sometimes a whizzing ſort of noiſe may be diſtinctly heard, when the blood is preſſed into the orifice, and again poured through it. The pulſation in the falſe aneuriſm is always weaker; and, as the tumour increaſes in ſize, diminiſhes much more rapidly than in the true aneuriſm, in which, even though it have attained a very conſiderable ſize, a ſtrong pulſation can always be felt. The falſe aneuriſm becomes ſooner hard than the true one, and cannot then be made entirely to diſappear by preſſure, as coagulated blood is very readily accumulated within it. Moreover, any miſtake that may be occaſioned by the difficulty of the diagnoſis between the two ſpecies, cannot often be attended by any bad conſequences, as they both require pretty much the ſame method of treatment. The internal falſe aneuriſms are, on account of the pulſation being much weaker and imperceptible, and vaniſhing much ſooner, than in the true aneuriſms, as difficult, nay more difficult to be diſtinguiſhed than theſe, though in other reſpects they excite ſimilar ſymptoms.

When, in letting blood at the arm, the ſurgeon diſcovers, by the ſigns which we have already mentioned, that an artery has been wounded, he muſt immediately apply a TOURNIQUET to the upper part of the arm, in order firſt to ſtop the hæmorrhage, and obtain time for applying his bandages with the requiſite care and accuracy. The hæmorrhage from the vein is to be ſtopped with the common bandage. But, in order permanently to arreſt the hæmorrhage and cloſe the wound of the artery, he muſt apply a compreſs with great exactneſs, which muſt be ſufficiently tight entirely to prevent the hæmorrhage, and not eaſily to be removed from its ſituation; it ought alſo to cloſe merely the artery itſelf, without affecting the lateral branches and the veins, leſt a ſwelling and mortification might enſue from want of circulation. A pledget, or firm compreſs, is to be applied, the inner ſurface of which muſt be ſomewhat broader than the opening in the veſſel, immediately upon the external wound, otherwiſe the pledget might eaſily miſs the orifice of the artery. All now depends upon this compreſs being ſufficient to ſtop the wound, its being applied with an uniform preſſure, and in ſuch a manner as not to prevent the motion of the blood through the lateral branches and veins. The common bandage uſed in blood-letting does not anſwer theſe purpoſes ſo conveniently as by means of Plenks' apparatus, which, however, muſt be applied with great exactneſs. (Joſ. Jac. Plenks Sammlung von Beobachtungen ueber einige Gegenſtænde der Wundarzneiwiſſenchaft. Vienna, 1775. 8. p. 195. Alſo: Richters Anfangſgruende der Wundarzneyk. B. i. § 531. tab. iv. f. 7.) Should a ſmall tumour ariſe cloſe to the point of the pledgit, the apparatus ſhould firſt be ſcrewed ſomewhat tighter, as the preſſure was poſſibly not ſufficiently ſtrong. If nevertheleſs the tumour ſhould grow ſtill larger, we may be certain that the compreſs does not lie upon the wound of the artery; the tourniquet muſt therefore be immediately applied, and the dreſſings removed; after which they muſt be again applied with as great exactneſs as poſſible; but firſt the extravaſated blood muſt be preſſed back into the artery, by gently rubbing and ſqueezing the tumour. If at any ſubſequent time it ſhould become neceſſary to remove the apparatus from the limb, the tourniquet muſt be employed in the ſame manner.

The apparatus being properly applied, the arm ſhould be ſuſpended, moderately bent, in a ſling, and kept as much as poſſible at reſt during the whole courſe of the cure. Should any ſwelling appear in the fore-arm, we ought to endeavour to diſcuſs it by diligent friction with ſpirituous and aromatic remedies. Moreover, the ſurgeon ſhould daily examine whether the bandages remain firm and unmoved in their ſituations, and as ſoon as he diſcovers any tumour, he ſhould proceed as above recommended. The length of time during which the compreſs ought to remain in its ſituation, in order to preclude the poſſibility of a future hæmorrhage, cannot be accurately determined: if, therefore, we wiſh to examine whether it may be ſafely removed, we ought firſt to apply the tourniquet, and then take off the apparatus: this being done, we ſhould gradually looſen the tourniquet, and carefully obſerve whether any tumour is produced at the place of the wound. Should no ſuch tumour appear, we need not uſe theſe bandages any longer; it will, however, be proper, for ſecurity's ſake, (as in ſome inſtances the wound of the artery has been known to burſt open afreſh) to apply gentle preſſure, by means of a compreſs, to the artery, immediately after the bandages have been entirely removed, in order to diminiſh the flow of blood through it, and prevent its burſting. Every other motion of the limb ſhould be avoided for ſome time after.

When a circumſcribed falſe aneuriſm has already been produced, we may alſo in that caſe employ compreſſion, provided the tumour be ſtill ſoft, and can be made entirely to diſappear by preſſure. For, as experience has proved, that the efforts of nature alone may, in ſuch circumſtances, ſometimes effect a perfect cure of the aneuriſm, (Repertorium Medicin. u. Chirurg. Abhand. &c. b. i. Leipzig. 1792. 8vo. p. 107.) we have the greater reaſon to expect a favourable event from the employment of compreſſion. The ſurgeon ought, therefore, after having applied a tourniquet to the arm, as in the former caſe, to return the blood into the artery, by means of repeated preſſing and ſtroking of the part, and then apply the compreſs. But when there is already coagulated blood in the ſac, and the tumour can no longer be made to diſappear under preſſure, compreſſion can be of no uſe. Should there, however, be but a ſmall quantity of coagulated blood, we may ſtill attempt compreſſion; for it may ſometimes ſucceed: and when it does not, it produces the advantage of compelling the blood to flow with greater force into the lateral branches, by the diſtention of which a favourable iſſue of the operation is ſecured.

Mr. Theden (in Neue Bemerkungen u. Erfahrungen zur Berinherung der Wundarzneik. u. Arzneygelehrſaml. th. i. Berlin. 1792. p. 20. & th. ii. p. 52.) recommends another method for curing aneuriſms, which is applicable even where there is already a very conſiderable quantity of extravaſated and coagulated blood. When, in performing the

the operation of blood-letting, we have wounded an artery, we are to ſuffer more than the proper quantity of blood, nay even ſo much as to induce ſyncope, to be diſcharged, and in the mean time prepare whatever is requiſite for bandaging the limb. Three or four compreſſes, into the lowermoſt of which we may introduce a ſmall piece of money, are then to be applied in ſuch a manner as to fill up the cavities in the angle of the elbow, which, till the reſt of the bandages are ready, is to be preſſed by an aſſiſtant ſo tight upon the orifice of the artery, that no blood can be diſcharged from it. The bandaging muſt then be performed ſpirally, a longuette of the thickneſs of a finger's breadth muſt be laid upon the trunk of the artery, and incloſed in the bandage. When the hæmorrhage has been ſtopped in this manner, a quantity of Theden's *aqua traumatica* is to be poured upon the whole of the bandages, ſo as to wet them through and through. The bandages ſhould not be applied too tight at firſt, if we intend to ſoak them with the liquid, as it is well known that moiſture cauſes them to contract and compreſs the limb with greater force, by which means obſtruction, tumour, and pain might be produced. Should we, however, have applied them tight, on account of the hæmorrhage, we muſt not wet them till after they have become ſomewhat looſe. As our ſucceſs depends upon the bandage lying equally cloſe in every part, each turn of the bandage ought to cover half of the former, ſo that no part of the limb remain uncovered, or not incloſed within the bandage; neither ought any one turn of the bandage to be drawn tighter than the reſt.

The firſt bandages may be ſuffered to remain on the limb for the ſpace of three or four days, unleſs they ſhould grow looſe at an earlier period, as generally happens when there is a large quantity of extravaſated blood, and this ſoon begins to be ſeparated and re-abſorbed. In applying the bandages the ſecond time, we proceed in the following manner. The roller is taken off from the fingers, hand, and fore-arm, and theſe parts are bandaged anew before the bandages and compreſſes are removed from the joint and humerus. The roller is then applied over the elbow, and upwards to the axilla. The end of the fillet is carried round the neck, in order to prevent the bandages from ſliding downwards, and, as an additional ſecurity againſt this accident, the turns of the roller are ſewed to each other from the elbow to the arm-pit; the whole is ſoaked with Theden's vulnerary, and kept continually wet. Theſe dreſſings may remain in this condition for three or more days, provided the bandage becomes neither too tight nor too looſe, and applies to the limb in an uniform manner. If, ſays Mr. Theden, all theſe meaſures are adopted immediately after the accident, the cure may certainly be effected in the ſpace of eight days, only we muſt examine very attentively whether, at the place where the artery has been wounded, a new tumour or effuſion takes place. Should this happen, we muſt ſtill continue to apply the bandages for ſome time; but if the blood has been effuſed from the beginning into the cellular ſubſtance, as ſometimes happens, the bandages muſt be worn till the whole has been re-abſorbed, and the wound properly cicatriſed. The utility of this method of Theden's has been confirmed by ſeveral practitioners, eſpecially by the ſucceſsful cure of a remarkable caſe, related by Mr. Schmalz. (Seltene Chirurg. u. Mediciniſche Vorfælle. Leipzig. 1784. 8vo. p. 59.)

But when there is a great deal of extravaſated blood in the ſac, when the tumour is very large, ſo as not to admit of compreſſion or bandaging, and there is reaſon to apprehend that the tumour may burſt open, an operation muſt be performed without delay. The tourniquet being applied to the humerus, the ſkin which covers the tumour is laid open by an inciſion, made according to the direction of the artery, and carried acroſs the middle of the tumour, ſo as to extend from one of its extremities to the other. The ſac, which is generally ſituated immediately under the ſkin, is opened in the ſame manner. The whole of the extravaſated blood contained in the ſac is then taken out, upon which the wounded artery becomes diſtinctly viſible at the bottom, and ſhould be tied. But in order completely to ſtop the hæmorrhage and prevent its recurrence, the artery muſt be tied not only above, but alſo below the orifice. Sometimes the ſurgeon is obliged to apply even three or more ligatures; for when, in the vicinity of the wound of the artery, between the two principal ligatures, any lateral branches proceed from the trunk of the artery, theſe muſt be tied cloſe to the trunk.

Since, after the operation has been performed, every thing depends upon the reſtoration of the circulation in the limb, by means of the diſtenſion of the lateral branches in conſequence of the increaſed impetus of the blood in them; the ſurgeon muſt be particularly attentive in performing the operation, not to injure theſe branches. For this purpoſe the two ligatures muſt be applied as near the wound of the artery as can be done with ſafety, leſt any lateral branch ſhould happen to be included between them, whereby it would neceſſarily be rendered uſeleſs. On this account alſo we muſt not uſe a very broad two-edged needle for applying the ligatures. Mr. Deſſault uſed an elaſtic needle of his own invention. It is needleſs, after having tied the veſſels, to apply another tourniquet or other bandage to the humerus, with a view to prevent the recurrence of the hæmorrhage; for if the ligatures have been ſkilfully applied this precaution will be ſuperfluous. In caſes where the ligatures become looſe, and ſucceſſive hæmorrhages are produced, the method of Mr. Deſſault has been recommended. At the third hæmorrhage, which took place on the eleventh day after the operation had been performed on the femoral artery, he firſt applied new ligatures above and below, ſecured them properly, and renewed the bandages. But in order to prevent a recurrence of the hæmorrhages, which might have ſupervened in conſequence of the collapſe of the artery and the ligatures growing looſe, he applied, four days afterwards, over the ligatures, and at the ſides of the artery, ſmall flat pieces of ſoft wood, fifteen lines long and three broad, which were ſecured by winding them round with ſeveral turns of waxed thread, and were made to compreſs the artery at the ſides with more or leſs force, by introducing under their upper extremity ſmall wedges of the ſame wood. By this means the impetus of the blood was reſtrained, and a new effuſion prevented. Suppuration took place in the wound, and on the 38th day after the operation, the ſmall pieces of wood fell off, the ligatures having come away ſome days earlier.

If it can be avoided the ſurgeon muſt take care not to include the nerve in the ligature. Sometimes the extravaſated blood, which frequently penetrates behind the artery, ſeparates the nerve from the artery; and in this caſe we may, in order to avoid incloſing it in the ligature, bend the patient's arm, before applying it, and by means of a ſomewhat crooked probe, introduced into the open ſpace, raiſe up the artery, and remove it from the bone, and then introduce the needle, to which the thread is attached, cloſe under the artery. We muſt, however, not raiſe up the artery with too much force, leſt we ſhould tear ſome of the lateral branches. Moreover, it is always adviſeable not to draw the ligature tighter than is neceſſary for ſtopping the hæmorrhage, leſt we ſhould cut through the coats of the veſſel,

or

or compreſs the nerve too forcibly, in caſe it ſhould happen to be incloſed. Frequently the artery is ſo much detached from all the neighbouring parts, that the thread may eaſily be drawn through below it, by means of a common needle with the eye foremoſt. But when the artery is not detached from the ſubjacent parts, we muſt make uſe of a pointed needle having an eye near its point, taking care always not to puncture the nerve, or any tendinous parts, or to incloſe them in the ligature. The ligature ſhould be ſecured with a double knot, and the ends of the threads ſuffered to hang out about two inches long. The tourniquet may then be immediately looſened, in order that we may ſee whether the ligature be ſufficiently tight; after which the wound is to be dreſſed lightly with lint, and the proper bandages applied; and the patient ſhould be directed to carry his arm in a ſling.

The wound is treated after the uſual manner till the ligatures have come away. In order to reſtore the natural heat to the fore-arm, and to diſcuſs the tumour in it, it may frequently be rubbed with ſpirituous, ſtimulant, and aromatic applications. M. Pouteau aſſures us, that no remedy has ſucceeded ſo well with him, in reſtoring the natural warmth and ſenſibility of the fore-arm, as dry heat applied by means of hot aſhes or ſand. The remaining debility may, in general, be ſpeedily removed by uſing the ſhower-bath, and external tonic applications.

When in conſequence of an aneuriſm in a limb, the neighbouring parts are deſtroyed, when ſuppuration or caries have taken place in a high degree, or when the limb remains lifeleſs after the operation, ſo as to threaten the production of gangrene, amputation becomes neceſſary. We ought, however, not to be too haſty in proceeding to this operation, ſince even in caſes where gangrene has ſeemed to be unavoidable, the limb has ſtill ſometimes been preſerved; frequently after the lapſe of ſeveral weeks the pulſe has again become perceptible. We ſhall here ſubjoin an account of the method employed with ſucceſs by Dr. Adams. (Med. and Phyſ. Jour. vol. vi. p. 535.)

On the 4th of February, 1797, a young baronet was blooded in the vena mediana baſilica, and from his having worn a tight flannel ſleeve, it was not immediately obſerved that the blood came alſo from an artery. The orifice having been cloſed in the uſual manner, bled again in the evening, but was ſtopped before Dr. Adams could ſee the patient. On the following morning a conſiderable extravaſation of blood took place. In a few days, however, the gentleman was not thought in need of further attendance, although the arm did not recover its ordinary ſize. Six weeks afterwards a ſmall circumſcribed tumour had ariſen in the arm, below the original cicatrix; and, on preſſure, a very obſcure pulſation might be felt; it was firmly bound by the faſcia, and not at all diſcoloured or painful. The tumour increaſed ſuddenly towards the end of March, with the ſame circumſcribed appearance and an evident ſurrounding extravaſation. Strong preſſure was now applied by means of a roller to the upper part of the fore-arm, exactly upon the trunk of the artery, ſo as to leſſen its pulſation; but the bandage was kept hollow, except over the artery, by ſeveral pieces of cane applied along different parts of the limb. Although this degree of preſſure was had recourſe to with the view of obliterating the large trunk of the artery, an increaſe of the ſwelling took place in about ten days, accompanied with ſlight pain.

The mechanical preſſure on the veſſel itſelf was then augmented, until but little pulſation could be felt in the radial artery. Painful ſenſations near the wriſt, along the lower arm, and under the aneuriſm, were now complained of as intolerable. The fingers were without ſenſation, the whole arm was enlarged, the veins became turgid, and the pulſe remained very feeble. This proceſs being perſevered in, Dr. Adams had at length the ſatisfaction to obliterate the main trunk of the brachial artery, and to effect a complete cure. The maſs of coagulated blood, however, was diſcharged by a gangrenous ſore at the bend of the arm, about two inches in diameter, which was cicatrized before the end of July, 1797; and in January, 1798, every unpleaſant ſymptom had diſappeared. This plan of treatment, by *compreſſion*, was adopted by the author without his having known that it had been ſeveral times practiſed with ſucceſs, in different parts of the continent, for other caſes of aneuriſm.

The treatment of the true external aneuriſm is in moſt reſpects the ſame as that of the falſe. If it be ſmall in ſize, and not of long ſtanding, external aſtringent applications, as alſo ice, have been uſed with very good effect. In trying ſuch an experiment we may, at the ſame time, apply a tourniquet to the artery, above the ſwelling, in order to diminiſh the quantity and momentum of blood flowing into the ſac. Compreſſion has likewiſe been recommended in this ſpecies of aneuriſm, but only at the commencement. Mr. Bruckner, however, (D. Juſt. Chr. Loder Journal fuer die Chirurgie, &c. b. i. ſt. 2. Jena 1797. p. 248.) has uſed it in a caſe of a very large and old aneuriſm in the hollow of the knee, in combination with the remedies before mentioned, together with Theden's bandage applied from the toes upwards, and the concurrence of other favourable circumſtances, with complete ſucceſs. When compreſſion is applied, it ought to be to every part of the ſurface of the tumour, as well as in the courſe of the artery; and it will act with greater ſafety and efficacy, if we combine it with Theden's manner of bandaging, as was done by Mr. Bruckner.

When none of theſe remedies are applicable, we muſt proceed to the operation, which (if we follow the old mode) is in no eſſential circumſtance different from that performed in caſes of falſe aneuriſm. It is, however, to be obſerved, that it is not adviſable to cut through the poſterior part of the ſac, as in that caſe the ends of the artery eaſily contract themſelves under the fleſh; and if the firſt ligature ſhould grow looſe, they cannot eaſily be tied again. It appears from experience, that the operation has been far more rarely attended with a ſucceſsful event in the true than in the falſe aneuriſm; it being frequently followed by violent pain, fever, ſwelling, gangrene, and death. Only in thoſe true aneuriſms which are ſmall, and originate from external cauſes, the ſurgeon is able to operate with expectations of a ſucceſsful event. Sometimes, however, theſe aneuriſms require amputation to be performed, and that, under the ſame circumſtances by which the operation is indicated in the falſe aneuriſm. But as this operation, as well as the application of the ligatures, very frequently miſcarries, all the precautions with reſpect to the application of the ligatures, that have juſt been mentioned, are here alſo to be recommended.

Internal aneuriſms, both true and falſe, are incurable: all that we can do is to retard the progreſs of the diſeaſe, by frequent blood-letting, ſpare diet, and the careful avoiding of every thing by which the blood may be heated, or its motion accelerated. Moreover, it is very adviſable to cover the tumour well, as ſoon as it appears externally, and to defend it againſt all external violence, by friction, blows, &c. whereby its burſting might be haſtened.

To the cure of the diffuſed falſe aneuriſm two things are requiſite; namely, to cloſe the wound of the artery, in order to ſtop the hæmorrhage, and to diſcuſs the extravaſated blood. The firſt is performed by compreſſion with a pledgit, and the ſecond by applying bandages to the whole limb, according to Theden's method, and keeping them conſtantly

ſtantly wet, either with Theden's vulnerary, or a ſolution of ſal ammoniac in vinegar and water. But if the extravaſation ſpreads farther, and the hæmorrhage continues, the operation muſt be performed without delay.

The mixed aneuriſm, produced by a laceration of the outer and a diſtenſion of the inner coat of the artery, is rare, and exhibits no external ſymptoms by which it can be diſtinguiſhed from the true aneuriſm. This, however, makes no difference; for we endeavour to remove it, like a true aneuriſm, by compreſſion; and when this either does not ſucceed, or cannot be applied, the operation is performed in the ſame manner as in the true aneuriſm. The ſecond ſpecies of the mixed aneuriſm is more frequent. This conſiſts at firſt of a true aneuriſm, in which the ſac, by occaſion of violent motion, concuſſion, a bruiſe, or even ſpontaneouſly, in conſequence merely of too great diſtenſion, has burſt, and produced an effuſion of blood, which ſurrounds the true aneuriſm. The change of a true into a mixed aneuriſm may in general be eaſily diſcovered. The ſwelling, which before was circumſcribed, ſuddenly ſpreads; the ſtrong pulſation, which before was diſtinctly perceptible in the tumour, ſuddenly grows weak and indiſtinct, or even becomes altogether imperceptible; and the tumour, which formerly was ſoft, ſuddenly becomes hard to the touch. The mixed aneuriſm, on account of the continual effuſion of blood, and the increaſe of the falſe aneuriſm, generally requires that the operation ſhould be ſpeedily performed. The moſt common mode of doing this (perhaps not the moſt eligible) we have already deſcribed; but it is a fact worthy of notice, that the Greeks were acquainted with the practice lately recommended, of tying and dividing the trunk of the artery high above the tumour, as will appear from the following extract (Ætii Tetr. iv. Serm. iv. cap. 10.) "At vero quod in cubiti cavitate fit aneuriſma, hoc modo per chirurgiam aggredimur: Primum arteria ſuperne ab ala ad cubitum per internam brachii parte ſimplicem ſectionem, tribus aut quatuor digitis infra alam, per longitudinem facimus, ubi maximè ad tactum arteria occurrit; atque ea paulatim denudata, deinceps incumbentia corpuſcula ſenſim excoriamus ac ſeparamus, *et ipſam arteriam cæco uncino attractam duobus fili vinculis probe adſtringimus, mediamque inter duo vincula diffecamus*; et ſectionem polline thuris explemus, ac linamentis inditis congruas deligationes adhibemus." Afterwards we are directed to open the aneuriſmal tumour at the bend of the elbow, and when the blood has been evacuated, to tie the artery twice, and divide it again. If the ancients had only omitted the latter part of their operation, they would abſolutely have left nothing to be diſcovered by the moderns. What a ſtriking example of the bold manner in which our forefathers have acted without being guided by the lights of anatomy and phyſiology! But there are two or three paſſages in Galen, Celſus, and Hippocrates, from which we may ſuſpect that even Ætius himſelf was not the inventor of this operation of tying the trunk of an artery, &c. See alſo Paul. Ægin. lib. vi. cap. 37.

The operation of tying the large trunk of an artery, above the aneuriſm, ſeems to have been regarded by Dr. Wm. Hunter as "a propoſal which a modern ſurgeon would think of with horror" (Med. Obſ. & Inq. vol. i. p. 335.); and Mr. Bromfeild calls it a "moſt extravagant propoſition." (Chir. Obſer. vol. i. p. 306.) But we are now fully convinced, by the evidence of incontrovertible facts, that this operation "may be done with a fair proſpect of preſerving the limb." Mr. Bromfeild relates, that he "once ſaw an attempt of this kind in a true aneuriſm, ſituated in the ham;" on which, however, he makes "no further remark, than that the patient died," and that he believes "the embarraſſments which occurred, as well as accidents in the operation, will deter the operator from making a ſecond attempt." We have reaſon to ſuppoſe that moſt of the caſes of aneuriſm on record, in which patients recovered, after long enduring compreſſion upon the artery, have in reality been caſes where the veſſel was totally *obliterated* by the preſſure; although the opinion of ſurgeons has uſually been, that the orifice of the artery had previouſly coaleſced and healed like a common wound, ſtill allowing the blood to circulate as before. Caſes are likewiſe recorded in which a ſpontaneous cure of aneuriſm has been effected; and in theſe we may alſo conclude, that the veſſels were obliterated as completely as they would have been by a ligature in the modern operation.

In the former part of this article we ſaid, that a popliteal aneuriſm was one of thoſe which occurred the moſt frequently. And its ſituation being ſuch as to afford a full command of the veſſel affected, this ſpecies of the diſeaſe has obtained a conſiderable degree of attention among ſurgeons, in hopes of their ſaving the limb as well as the life of the patient. After having made various trials, it is aſcertained that the collateral branches of the femoral artery, of thoſe of the profunda femoris, inoſculating with the arteries of the leg, are generally ſufficient to keep up the circulation in the lower extremity; and that the inoſculating blood veſſels of the arm, in like manner, will dilate and nouriſh the limb when the humeral artery has been tied; ſo that in moſt aneuriſms of the extremities, we have a very conſiderable chance of preſerving both the member and the life of the patient.

Paulus Ægineta, and after him the Arabian phyſicians, uſed to make two ligatures, one above and the other below the aneuriſm; after which they let out the coagulated blood found within the tumour, and healed up the wound according to the common principles of ſurgery. But Guillemeau, one of the diſciples of Ambroſe Paré, pointed out a more ſimple operation in the caſe of an aneuriſm at the bend of the arm: he laid bare the tumour, paſſed one ligature under the artery above the diſeaſed part, then emptied the ſac, and cloſed the wound. He directs the ſame plan to be adopted in other caſes of aneuriſm: "Si en quelque autre partie exterieure, il ſe preſente au chirurgien pareil aneuriſme, il peut ſeurement decouvrir le corps de l'artere vers ſa racine et partie ſuperieure, et la lier de meſme façon, ſans autre ceremonie." (Les Oper. de Chir. liv. x. c. vi.)

In the year 1714, M. Anel, of Paris, publiſhed an improvement on Guillemeau's method; which conſiſted in making a longitudinal inciſion over the aneuriſm, without wounding it, then making a ſingle ligature upon the veſſel, cloſe above the tumour, and leaving the reſt to nature. It is almoſt needleſs to mention, that in all theſe operations the ſurgeon applied a tourniquet upon the affected limb, ſo as to obtain an entire command of the artery. By little and little Anel found the tumour diſappear, until the whole was abſorbed. This practice did not meet the approbation of ſurgeons in general, although it was often followed by Heiſter and ſome few later operators. Indeed that author thinks it doubtful "whether or no this method will ſucceed ſo as to ſave the limb in wounds of the large crural artery;" Syſtem of Surgery, part ii. ſect. 1. chap. xiii. § 22.) and it has therefore been reſerved for our contemporaries, to determine the point by actual experiment. We do not wonder, however, at the doubt expreſſed by Heiſter, as he frankly confeſſes, that "he cannot conceive in what manner the blood is circulated through the lower parts of a limb, after this operation." How would he then have been ſurpriſed to learn, that it is even poſſible for a patient to recover of his limb,

limb, when the inguinal, or the ſubclavian artery, has been ſurrounded by a ligature!

During the month of June, 1785, M. Deſſault, of Paris, performed the following operation for a popliteal aneuriſm (See Journ. de Medecine, tome lxv. p. 452—471. Encycl. Methodique, Particle Aneuriſm, p. 135, and Sabatier de la Med. Operatoire, tome iii. p. 275): he made an inciſion about two inches above the aneuriſmal tumour in the patient's ham; and, when he had expoſed the artery, he ſeparated it from the adjacent nerve, and paſſed a ligature around it, leaving the aneuriſm untouched. The wound was dreſſed in a ſimple manner, with a looſe ligature caſt around the former one, as an additional ſecurity againſt future bleeding. The ſymptoms for the firſt ſix days were mild, and promiſed a favourable event; but M. Deſſault thought it prudent to tie the ſecond ligature faſt, on the ſixth day after the operation. The ſwelling diminiſhed rapidly; the ligatures fell off on the eighteenth day, and there was a plentiful diſcharge of bloody matter on the day following, which cauſed nearly the entire diſappearance of the aneuriſm. In ſhort, the external opening was ſoon healed, and the cure ſeemed complete; which, unfortunately, the patient died of another complaint.

During the month of December, in the ſame year, an operation, ſomewhat ſimilar to that of Deſſault, was performed by Mr. John Hunter. (See Lond. Med. Journal, vol. vii. p. 391. and Tranſact. of a Society for the Improv. of Med. and Chir. Know. vol. i. p. 138.) Mr. Hunter's patient was a coachman, 45 years of age: he was admitted into St. George's hoſpital with a popliteal aneuriſm, which he had firſt perceived three years previouſly to his admiſſion, and had obſerved it gradually increaſe during the whole of that period. It was ſo large as to diſtend the two ham-ſtrings laterally, and make a very conſiderable riſing between them; the pulſation was very diſtinct, and to be felt on every ſide of the tumour. The leg and foot of that ſide were ſo ſwelled as to be much thicker than the other, and were of a mottled brown colour; the ſwelling was not of the œdematous kind, but felt firm and brawny, probably from the extravaſation of coagulable lymph; the leg retained its natural ſhape, excepting that it was larger. Previouſly to performing the operation, a tourniquet was applied upon the upper part of the thigh, but not tightened, that the parts might be left as much in their natural ſituation as poſſible.

The operation was begun by making an inciſion on the anterior and inner part of the thigh, rather below its middle, which inciſion was continued obliquely acroſs the inner edge of the ſartorius muſcle, and made large, to give room for the better performing of whatever might be thought neceſſary in the courſe of the operation. The faſcia which covers the artery was then laid bare about three inches in length, after which the artery itſelf was plainly felt. A ſlight inciſion, about an inch long, was then made through this faſcia, along the ſide of the veſſel, and the faſcia diſſected off; by this means the artery was expoſed. Having diſengaged the artery from its lateral connections by the knife, and from the other adhering parts by the help of a thin ſpatula, a double ligature was paſſed behind it, by means of an eyed probe. The doubling of the ligature brought through by the probe, was cut ſo as to form two ſeparate ligatures. The artery was now tied by both theſe ligatures, but ſo ſlightly, as only to compreſs the ſides together. A ſimilar application of ligature was made a little lower. The reaſon for having four ligatures, was to compreſs ſuch a length of artery as might make up for the want of tightneſs, it being wiſhed to avoid great preſſure on the veſſel at any one part. The ends of the ligature were carried directly out at the wound, the ſides of which were now brought together, and ſupported by a ſticking plaſter and a linen roller, that they might unite by the firſt intention.

The limb was found, ſome hours after the operation, not only to retain its natural heat, but even to be warmer than the other leg. The ſecond day after the operation, the brawny firmneſs of the leg was conſiderably diminiſhed, it was become ſoft, looſe, and a good deal ſmaller, and the aneuriſmal tumour had loſt more than one third of its ſize.

Nothing could ſhew more plainly the action of the abſorbents, than the change the leg had undergone in ſo ſhort a time; the diminution of the tumour probably ariſing from the ſtaid blood which it contained having paſſed into collateral branches, or into the tibial artery.

The fourth day, on the removal of the dreſſings, the edges of the wound were found united through its whole length, excepting where prevented by the ligatures; there was neither pain nor tumefaction in the part; but the aneuriſmal tumour was the ſame as on the ſecond day.

On the ninth day after the operation there was a conſiderable diſcharge of blood from the part where the ligatures paſſed out; a tourniquet was therefore applied on the artery above, which ſtopped the bleeding; and, although the tourniquet was taken off a few hours after, no blood followed. The head of a roller was then placed upon the wound, in the direction of the artery, and over that the tourniquet, which was not, however, tightened more than was thought ſufficient to take off the impetus of the blood in that portion of the artery.

On the tenth day appearances were much the ſame, only that between the compreſs and the knee there appeared a little fullneſs, like beginning inflammation. On the eleventh day this was gone off, and on the fifteenth ſome of the ligatures came away, followed by a ſmall diſcharge of matter, the tumour in the ham being leſſened. On the ſeventeenth day the parts ſurrounding the aneuriſmal tumour were more reduced and pliable, ſo that it was diſtinctly to be felt.

About the latter end of January, 1786, ſix weeks after the operation, the patient went out of the hoſpital, the tumour at that time being ſomewhat leſſened, and rather firmer to the feel. He was ordered to come to the hoſpital once every week, and, in the mean time, to make ſome degree of preſſure, by application of a compreſs and bandage, with a view to excite the abſorbents to action, which in moſt caſes has a good effect.

About the middle of February the tumour had decreaſed, and was become ſtill firmer. March the 8th, the wound, which had cicatrized, broke out again, and the patient was taken into the hoſpital. About the 8th of April, ſome of the remaining thread of the ligature came away, and an inflammation appeared upon the upper part of the thigh. In the middle of May, a ſmall abſceſs broke at ſome diſtance from the old cicatrix, at which opening ſome matter was diſcharged, but no pieces of ligature were obſerved. Several ſmall threads were, at different times, diſcharged from the old ſore, and the ſwelling ſubſided; but the thigh ſoon ſwelled again to a greater ſize than before, attended with conſiderable pain. In the beginning of July, a piece of ligature, about one inch in length, came away, after which the ſwelling went off entirely, and he left the hoſpital the 8th of July, at which time there remained no appearance of tumour in the ham, he being in every reſpect well.

After leaving the hoſpital, the man returned to his uſual occupation of driving a hackney-coach; and being, from the nature of his employment, much expoſed to cold, in March, 1787, he was ſeized with a fever of the remittent kind, which carried him off. He had not made any com-

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plaint of the limb on which the operation had been performed, from the time of his leaving the hoſpital.

He died on the 1ſt of April 1787, fifteen months after the operation; and leave was procured, with ſome trouble and conſiderable expence, to examine the limb, ſeven days after death, at which time it was entirely free from putrefaction.

The cicatrix on the anterior part of the thigh was ſcarcely diſcernible, but the parts under it felt hard. The ham had no appearance of tumour, and was to the eye exactly like that of the other limb; there was, however, a ſolid tumour perceptible to the touch, filling up the hollow between the two angles of the thigh bone.

The femoral artery and vein were taken out above the giving off the branch called profunda, and a little below the diviſion into the arteriæ tibiales and interoſſeæ. The arteries and veins that were pervious being injected, the whole was carefully diſſected.

The femoral artery was impervious from its giving off the arteria profunda as low as the part included in the ligature, and at that part there was an oſſification for about an inch and an half along the courſe of the artery, of an oval form, the rim of which was ſolid, becoming thinner towards the centre, and not bony, but ligamentous. Below this part the femoral artery was pervious down to the aneuriſmal ſac, and contained blood, but did not communicate with the ſac itſelf, having become impervious juſt at the entrance.

What remained of the aneuriſmal ſac was ſomewhat larger than an hen's egg, but more oblong, and a little flattened, extending along the artery below for ſome way; the blood preſſing with greater force in that direction, and diſtending that part ſo as, in ſome meaſure, to give the appearance of a ſeparate bag. The ſac was perfectly circumſcribed, not having the ſmalleſt remains of the lower orifice into the popliteal artery: whether this aroſe from the artery being preſſed upon by the inferior portion of the ſac, as appears to be the caſe in common, or was in conſequence of the ſac contracting after the operation, I will not pretend to determine; but it contained a ſolid coagulum of blood, which adhered to its internal ſurface. A ſection made of this coagulum, appeared to be compoſed of concentric lamellæ, uniform in colour and conſiſtence.

The popliteal artery, a little way below the aneuriſmal ſac, was joined by a ſmall branch, very much contracted, which muſt have ariſen either from the profunda, or the trunk of the femoral artery. About two inches below the ſac, the popliteal gave off, or divided into, the tibiales.

The profunda was of the uſual ſize, but a good deal oſſified, for ſome length after leaving the femoral artery; the two tibials, where they go off from the popliteal, were in the ſame ſtate.

The trunk of the femoral vein, where it paſſed along the ſide of the tumour, muſt have been obliterated; for at this part it appeared to ſend off three equal-ſized branches, paſſing over different parts of the aneuriſmal ſac: theſe muſt have been dilated branches, none of them having the courſe which the trunk of the vein ſhould have purſued.

Theſe appearances throw ſome light upon the changes which took place in the limb after the operation. The ligature upon the femoral artery impeded the paſſage of the blood into the ſac ſo much, as to allow its contents to coagulate, and render the opening into it from the artery impervious. By this a ſtop was only put to the increaſe of the tumour, its reduction to the ſize met with in the dead body, muſt have been the effect of abſorption.

The concluſion to be drawn from the above account, appears a very important one, *viz.* that ſimply taking off the force of the circulation from the aneuriſmal artery, is ſufficient to effect a cure of the diſeaſe, or at leaſt to put a ſtop to its progreſs, and leave the parts in a ſituation from which the actions of the animal œconomy are capable of reſtoring them to a natural ſtate.

We have given the hiſtory of this caſe at full length, becauſe the method adopted by Mr. Hunter has been ſince followed, with ſome ſlight variations, in almoſt every part of Europe. There is no reaſon, we believe, for ſuſpecting that Mr. Hunter took the hint of this operation from any of his predeceſſors: but, as Mr. Home has ſtated, this practice was the reſult of an opinion entertained by Mr. Hunter that the artery in aneuriſmal caſes is generally diſeaſed ſome way above the ſac, and therefore that the common cauſe of failure aroſe from tying an unſound artery, not diſpoſed to coaleſce before the ſeparation of the ligature.

The femoral and popliteal arteries are portions of the ſame trunk, preſenting themſelves on different ſides of the thigh, and are readily come at in either ſituation; but where the artery is paſſing from the one ſide to the other, it is more buried in the ſurrounding parts, and cannot be expoſed without ſome difficulty. In performing the operation for the popliteal aneuriſm, eſpecially when the tumour is large, the ligature was commonly applied on the artery at that part where it emerges from the muſcles. This mode of performing the operation will be found inadequate, if the diſeaſe of the artery extends above the ſac; for if the artery ſhould afterwards give way, there will not be a ſufficient length of veſſel remaining, to allow of its being again ſecured in the ham. To follow the artery up through the inſertion of the triceps muſcle, to get at a portion of it where it is ſound, becomes a very diſagreeable part of the operation: and to make an inciſion upon the fore-part of the thigh, to get at and ſecure the femoral artery would be breaking new ground; a thing to be avoided, if poſſible, in all operations.

Mr. Hunter, from having made theſe obſervations, was led to propoſe, that in this operation the artery ſhould be taken up in the anterior part of the thigh, at ſome diſtance from the diſeaſed part, ſo as to diminiſh the riſk of hæmorrhage, and to admit of the artery being more readily ſecured, ſhould any ſuch accident happen. The force of the circulation being thus taken off from the aneuriſmal ſac, the progreſs of the diſeaſe would be ſtopped: and he thought it probable, that if the parts were left to themſelves, the ſac, with its contents, might be abſorbed, and the whole of the tumour removed; which would render any opening into the ſac unneceſſary.

Numerous trials have lately been made in the different public hoſpitals which confirm the truth of Mr. Hunter's reaſoning. He had ſeveral opportunities of performing this operation before he died, and generally with perfect ſucceſs: but reiterated experience has ſhewn that it is beſt to ſecure the artery with only one ſtrong ligature, without ſeparating the veſſel from its attachments. Some attempts have been made, both in London and Paris, to improve on this method, by giving a greater latitude for preſſure on the artery, (either by the interpoſition of extraneous ſubſtances between the ligature and the veſſel, or by employing a broad piece of tape;) but ſuch attempts have been always attended with manifeſt diſadvantages. The only conſiderable deviation from Mr. Hunter's mode, which we think deſerves particular attention, is that of making two firm ligatures, about an inch diſtant from each other, and then dividing the artery between them; after the manner recommended by Ætius, thirteen centuries ago, for brachial aneuriſms.

In comparing this procedure with that which has formerly been had recourſe to in popliteal aneuriſms, every

perſon muſt be ſtruck with its decided ſuperiority. The operation is in itſelf ſimple; it requires but a ſhort time in the performance, and produces little, if any, affection of the conſtitution; but its advantages are more clearly ſeen by contraſting it with the common mode of operating for the popliteal aneuriſm. This is, by expoſing the ſac in the ham through its whole extent, laying it open, ſcooping out the blood, ſearching for the two orifices leading into it, and taking up the artery with a ligature both above and below the ſac. When this operation is over, there remains a large deep ſeated ſore, compoſed of parts not perfectly in a natural ſtate, and in a moſt diſadvantageous ſituation; which ſore is to ſuppurate, granulate, and heal; a proceſs that is not ſoon performed, and which muſt leave a ſtiff knee for ſome time afterwards. Yet this is conſidering the operation in the moſt favourable view, ſince there is always a riſk, from the artery being diſeaſed ſo cloſe to the ſac, of the patient dying from a ſecondary bleeding; and when that does not happen, there is ſtill ſome danger of not being able to ſupport the conſtitution during the healing of a large ſore, under circumſtances ſo very unfavourable.

It muſt not be diſſembled, however, that there are ſometimes very embarraſſing circumſtances attending the new operation, and that patients are not always free from the danger of hæmorrhage, even ſo late as the third or fourth week after the ligature of the artery. 1ſt. We can never be certain, in caſes of ſpontaneous aneuriſm, that the veſſel is not diſeaſed along its courſe, above the part on which the ligature was made. 2dly. We have no poſitive ſecurity againſt the occurrence of an ulceration juſt under the ligature, from which a fatal bleeding may at any time enſue. 3dly. We cannot always effect an adheſion of the ſides of the artery, ſo as to produce a perfect obliteration of its cavity, by any means within our power. Beſides which, the firſt ſurgeons may poſſibly fail in their endeavours to include the naked veſſel within a ligature; and at length may be compelled to make a freſh incision, or to amputate the patient's limb, in order to ſave his life. But, with all theſe diſadvantages, ſome of which indeed muſt apply to any kind of operation for aneuriſm, we are fully perſuaded that Mr. Hunter's plan is, on the whole, the moſt eligible and ſucceſsful. It therefore cannot but ſtrike us with ſurprize to find Mr. Benjamin Bell, in the laſt edition of his ſurgery (vol. iii. 1801.), declaring it to be doubtful "whether this operation, or that of amputating the limb *at the upper part of the thigh* will fall to be preferred." It only remains for us now to point out ſome of the principal rules to be obſerved, in caſes where this operation is indicated.

No ſkill or precaution can avert the ill conſequences which may enſue from a diſpoſition in the trunk of an artery to form aneuriſms: the objection, therefore, againſt tying the artery in this caſe, is not greater than it would be againſt amputating the limb "at its upper part." If an aneuriſm have formed ſpontaneouſly, the chance of recovery is not equal to that in which the diſeaſe aroſe from an accidental cauſe; but ſtill, we conceive, the ſpontaneity of the complaint is not alone a ſufficient objection againſt the method we are recommending. Suppoſe, then, we have determined on performing the operation; it is firſt neceſſary to reduce the quantum of blood in the vaſcular ſyſtem, if the patient be plethoric and young. He ſhould alſo be prepared, by giving him a few doſes of laxative medicine, and by a previous courſe of abſtemiouſneſs, eſpecially if there be any tendency to an inflammatory diatheſis. All things being in readineſs for the operation, let a tourniquet be placed on the limb; or let an aſſiſtant compreſs the artery in the beſt poſſible manner, where a tourniquet cannot be applied with advantage. Make your firſt inciſion through the ſkin and adipoſe ſubſtance; diſſect ſteadily and cautiouſly down to the trunk of the veſſel you are ſeeking for; clear away with the ſcalpel, or with your finger, all the cellular membrane which lies looſely in your way; open the faſcial covering peculiar to the artery; then ſeparate the vein and nerve accompanying it, without unneceſſarily tearing the veſſels from their ſurrounding attachments; and paſs a moderate ſized common ligature around the artery, with a ſufficient degree of tightneſs to ſtop the circulation entirely.

Theſe are the ordinary ſteps of this operation. But it is probably the ſafeſt way to make a ſecond ligature, about an inch below the former, and then to cut between them, as was practiſed by the ancients, ſo that the divided extremities of the artery may retire into the adjacent muſcular ſubſtance. This method has been approved by ſome of our beſt ſurgeons, and ſeemed to leſſen the danger of a ſecondary hæmorrhage. In addition, however, to this ſecurity, a new mode of faſtening the ligatures has been propoſed and practiſed at Guy's hoſpital (ſee Med. & Phyſ. Journal for July, 1802.) "An eyed probe, armed with a double ligature, having a curved needle at each end, was conveyed under the femoral artery, and the probe cut away. The ligature neareſt the groin was firſt tied; the other was ſeparated an inch from the firſt, and tied alſo; then the needles were paſſed through the coats of the artery cloſe to each ligature, and between them; the thread they carried was tied into the knot of the ligature which had been already ſecured around the veſſel; and thus a barrier was formed in the artery, beyond which the ligature could not paſs. The wound was united by the firſt intention, except where the ligature projected: one of the threads ſeparated on the 14th, the other on the 15th day." This mode of ſecuring the ligatures was found to be ſo effectual, that Mr. Aſtley Cooper was unable, in an experiment made on a dead ſubject, to remove the thread from its ſituation, even by injecting water into the artery with all his force. The ſuggeſtion was originally given to him by Mr. Cline, jun. and was put in practice in conſequence of two caſes having occurred, one to Mr. Cline (the father), and one to Mr. Cooper, in which the ligature ſlipped off the divided extremity of the blood veſſel, after an operation for aneuriſm.

We have directed the artery to be tied alone; and not to be wantonly *detached* from the circumjacent cellular membrane, which gives ſupport to the vaſa vaſorum nouriſhing the artery. For the ſame reaſon, we highly diſapprove of all compreſſes, pads or inſtruments propoſed to be laid in contact with the veſſel; as theſe, we are of opinion, contribute to produce inflammation and ulceration of the artery, with all their dreadful conſequences. The wound ſhould be cloſed with adheſive plaſters as accurately as poſſible, the ligatures hanging out, and a ſoft roller then paſſed over the limb for its further ſupport. By this ſimple method, we have found the operation extremely ſucceſsful; and there is but little comparative hazard of a ſecondary bleeding. Nay, it is even certain that ligatures may be made with complete ſucceſs upon the great artery of the thigh, above Poupart's ligament; and of the arm above the axilla. (See the caſes publiſhed by Mr. Keate, Mr. John Bell, and Mr. Abernethy.)

Other methods have been recommended by ingenious men in caſes of aneuriſm; ſuch as that of Mr. Lambert (Med. Obſ. and Inq. vol. ii. p. 360.), who propoſes to ſtitch the artery by means of the hare-lip ſuture, a plan which has been once imitated, without ſucceſs, by Mr. John Bell; and likewiſe a contrivance of Mr. Deſchamps (La Médecine eclairée, tome iii. p. 67.), for compreſſing the arterial tube,

tube, without ſurrounding it with a ligature. But, in our opinion, theſe methods promiſe to be leſs uſeful than they ſeem to be ingenious, and have not been generally approved by medical practitioners.

We have mentioned the *mixed* aneuriſm as a diſtinct ſpecies of this diſeaſe, becauſe it is noticed as ſuch by reſpectable authors. Dr. Monro, ſenior, we believe, was the firſt who deſcribed it (Edinb. Med. Eſſays and Obſerv. vol. ii. xvi.), and afterwards Dr. Wm. Hunter (Med. Obſ. and Inquiries, vol. i. xxvi.); but the diſtinction is not well eſtabliſhed, and is of very little practical importance. A much more valuable diſtinction has been introduced by Dr. Hunter, between common aneuriſms and thoſe which ſometimes ariſe from bleeding: the latter has been denominated VARICOSE *aneuriſm*, or with more propriety the *aneuriſmal* VARIX; and it ariſes from an artery having been wounded through a vein, ſo that a communication or anaſtomoſis is afterwards kept up between theſe two veſſels, which cloſely unite by a lateral adheſion. This varicoſe tumour is not near ſo dangerous as the true or the ſpurious aneuriſm; for the veins alone become much dilated, and it can ſcarcely ever be neceſſary to have recourſe to the ligature. Since Dr. Hunter publiſhed his account of this diſorder, its true nature has been aſcertained by the obſervations of various practitioners.

The aneuriſmal varix was firſt deſcribed by that anatomiſt with ſome degree of diffidence; but in a ſubſequent memoir, Dr. Hunter communicated to the world a further hiſtory of this curious diſeaſe, in the following terms:

"If ever this caſe happens, we are to ſuppoſe, that in the operation of bleeding the lancet is plunged into the artery through both ſides of the vein, and that there will be three wounds made in theſe veſſels, *viz.* two in the vein and one in the artery; and theſe will be nearly oppoſite to one another, and to the wound in the ſkin. This is what all ſurgeons know has often happened in bleeding; and the injury done the artery is commonly known by the jerking impetuoſity of the ſtream whilſt it flows from the vein, and by the difficulty of ſtopping it when a ſufficient quantity of it is drawn.

"In the next place we muſt ſuppoſe, that the wound of the ſkin, and of the adjacent or upper ſide of the vein, heal up as uſual; but that the wound of the artery, and of the adjacent or underſide of the vein, remain open (as the wound of the artery does in a ſpurious aneuriſm), and by that means the blood is thrown from the trunk of the artery directly into the trunk of the vein. Extraordinary as this ſuppoſition may appear, in reality it differs from the common ſpurious aneuriſm in one circumſtance only, *viz.* the wound remaining open in the ſide of the vein as well as in the ſide of the artery. But this one circumſtance will occaſion a great deal of difference in the ſymptoms, in the tendency of the complaint, and in the proper method of treating it; upon which account the knowledge of ſuch a caſe will be of importance in ſurgery.

"It will differ in its ſymptoms from the common ſpurious aneuriſm principally thus. The vein will be dilated or become varicoſe, and it will have a pulſatile jarring motion, on account of the ſtream from the artery. It will make a hiſſing noiſe, which will be found to correſpond with the pulſe, for the ſame reaſon. The blood of the tumour will be altogether, or almoſt entirely fluid, becauſe kept in conſtant motion. The artery, I apprehend, will become larger in the arm, and ſmaller at the wriſt, than it was in the natural ſtate; which will be found out by comparing the ſize and the pulſe of the artery in both arms at theſe different places: the reaſon of which I ſhall ſpeak of hereafter. And the effects of ligatures and of preſſure upon the veſſels, above the elbow and below it, will be what every perſon may readily conceive, who underſtands any thing of the nature of arteries and veins in the living body.

"The natural tendency of ſuch a complaint will be very different from that of the ſpurious aneuriſm. The one is growing worſe every hour, becauſe of the reſiſtance to the arterial blood; and if not remedied by ſurgery muſt at laſt burſt. The other in a ſhort time comes to a nearly permanent ſtate, and, if not diſturbed, produces no miſchief, becauſe there is no conſiderable reſiſtance to the blood that is forced out of the artery.

"The proper treatment muſt therefore be very different in theſe two caſes; the ſpurious aneuriſm requiring chirurgical aſſiſtance as much perhaps as any diſeaſe whatever; whereas, in the other caſe, I preſume it will be beſt to do nothing.

"If ſuch caſes do happen, they will, no doubt, be found to differ among themſelves in many little circumſtances, and particularly in the ſhape, &c. of the tumefied parts. Thus the dilatation of the veins may be in one only, or in ſeveral, and may extend lower or higher in one caſe than in another, &c. according to the manner of branching, and to the ſtate of the *valves* in different arms: and the dilatation of the veins may alſo vary on account of the ſize of the artery that is wounded, and of the ſize of the orifice in the artery, and in the vein.

"Another difference in ſuch caſes will ariſe from the different manner in which the orifice of the artery may be united or continued with the orifice of the vein. In one caſe, the trunk of the vein may keep cloſe to the trunk of the artery, and the very thin *ſtratum* of cellular membrane between them, may, by means of a little inflammation, and coagulation of the blood among its filaments, as it were, ſolder the two orifices of theſe veſſels together, ſo that there ſhall be nothing like a canal going from one to the other; and then the whole tumefaction will be more regular and more evidently a dilatation of the veins only. In other inſtances the blood that ruſhes from the wounded artery, meeting with ſome difficulty of admiſſion and paſſage through the vein, may dilate the cellular membrane between the artery and vein, into a bag, as in a common ſpurious aneuriſm, and ſo make a ſort of canal between theſe two veſſels. The trunk of the vein will then be removed to ſome diſtance from the trunk of the artery, and the bag will be ſituated chiefly upon the underſide of the vein. The bag may put on an irregular form, from the cellular membrane being more looſe and yielding at one place than at another, and from being unequally bound down by the *faſcia* of the *biceps* muſcle. And if the bag be very large, eſpecially if it be of an irregular figure, no doubt coagulations of blood may be formed, as in the common ſpurious aneuriſm."

As no ſurgical operation is required in this caſe, or but very rarely indeed, we need not dwell further on the ſubject of aneuriſmal VARIX. The diſeaſe has, in different inſtances, continued during the ſpace of twenty or thirty years without getting worſe, or demanding eſpecial attention. See VARIX and VARICOCELE.

ANEWOLONDANE, in *Geography*, a ſmall iſland of the Indian ſea, near the coaſt of Ceylon.

ANFANT, a town of Perſia, 30 miles north-weſt of Zareng.

ANFELDTHYDE, or ANFEALTHYLE, in *Law*, a ſimple accuſation; for the Saxons had two ſorts of accuſation, *viz. ſimplex* and *triplex*. That was called ſingle, when the oath of the criminal, and of two more, were ſufficient to diſcharge him: but his own oath, and the oaths of five more, were required to free him *a triplice accuſatione*.

ANFOSSI, *Paſquale*, of Naples, in *Biography*. See PASQUALE ANFOSSI.

ANGADD, a barren defert of Africa, in the kingdom of Algiers, 28 leagues long, and 18 wide, formerly the weft part of the province of Tremecen, in the road to Fez: it contains a few villages inhabited by Arabs, the chief of which were Guagida, Tenzegezet, and Zezil.

ANGALA-DIAN, in *Natural Hiftory*, a name given by Buffon to a fpecies of certhia, called lotenia by Gmelin. See CERTHIA LOTENIA.

ANGAMALA, a town of the Eaft Indies, in Malabar, on the river Aicota.

ANGARA, a river of Ruffia, which rifes in the lake Baikal, and runs into the Eniffey, not far from Eniffeifk.

ANGARAEZ, a province of South America, in the empire of Peru, fubject to the archbifhop of Lima, 20 leagues north-weft by weft of the city of Guamanga. It abounds in all kinds of grain and fruits, befides vaft droves of cattle both for labour and fuftenance.

ANGARI, or ANGARII, in *Antiquity*, denote public couriers, appointed for the carrying of meffages.

Αγγαροι is derived from a word, which, in the Perfian language, fignifies a fervice rendered by compulfion. Hence the Greeks borrowed their verb αγγαρευω, *compellere*, or *cogere*, and the Latins *angariare*.

The ancient Perfians, Budæus obferves, had their αγγαρειον δρομημα, which was a fet of couriers on horfeback, poffed at certain ftages or diftances, always in readinefs to receive the difpatches from one, and forward them to another with wonderful celerity, anfwering to what the moderns call poffs, q. d. *pofiti*, as being poffed at certain places or ftages. This invention of couriers is afcribed to Cyrus. As the Perfian empire, after its laft conquefts, was of a vaft extent, and Cyrus required that all his governors of provinces, and the chief commanders of his troops fhould write to him, and give an exact account of every thing that paffed in their feveral diftricts or armies: in order to render that correfpondence the more fure and expeditious, and to put himfelf into a condition of receiving fpeedy intelligence of all occurrences and affairs, and of fending his orders with expedition, he caufed poft-houfes to be built, and meffengers to be appointed in every province. Having computed how far a good horfe, with an active rider, could go in a day, without injury, he had ftables built at equal diftances from each other, and furnifhed them with horfes, and grooms to take care of them. At each of thefe places he appointed likewife a poft-mafter to receive the packets from the couriers as they arrived, and to give them to others, and to take the horfes that performed their refpective ftages, and to find freth ones. Thus the courier went continually night and day with extraordinary fpeed; nor did either rain or fnow, heat or cold, or any inclemency of the feafon interrupt his progrefs. Herodotus (lib. viii. c. 18.) fpeaks of the fame fort of couriers in the reign of Xerxes. The fuperintendency of the poffs became a confiderable employment; Darius, the laft king of the ancient Perfians, enjoyed it before he came to the crown. Xenophon takes notice, that this eftablifhment fubfifted in his time; and this perfectly agrees with what is related in the book of Eftber concerning the edict publifhed by Ahafuerus in favour of the Jews; which edict was carried through that vaft empire with a rapidity that would have been impoffible without thefe poffs erected by Cyrus. See POST.

The *angari* were alfo called by the Perfians *aftandæ*; by the Greeks ημεροδρομοι, on account of the long journies they made in one day, which, according to Suidas, amounted not to lefs than 1500 ftadia.

ANGARI is alfo applied figuratively to porters, and others employed in laborious offices, as bearing burdens.

ANGARI, in *Geography*, a fmall river of Abyffinia, which gives name to a diftrict in the province of Siri, not far from HAUZA. It rifes in a plain near Montefegla, and joins the Bowiha.

ANGARIA is ufed, in a general fenfe, for any burden, or incumbrance, forcibly impofed on perfons.

Some define *angariæ* by perfonal fervices, which a party is compelled to difcharge in his own perfon, or to ferve at his own expence; or fuch fervices impofed on lands whereby a perfon is obliged to work for another, either with his horfe, his afs, or the like.

ANGARIA, in the *Civil Law*, denotes a duty required of the fubjects to furnifh out horfes and carriages for conveying of corn for the foldiers, and fuch things as belonged to the *fifcus*.

This duty goes by the name of *curfus publicus*, *angariæ*, *parangariæ*, *tranflatio*, and *avectio*. The horfes ufed in this fervice are particularly called *paraveredi*, and *equi curfuales*.

Angariæ are generally underftood as exclufive of fhips; though, on fome occafions, thefe were preffed into the fervice for tranfporting provifions and the like.

Angariæ differ from *parangariæ*, in this, that the former are confined to public or main roads, the latter to oblique or crofs roads.

In the Book of Feuds, the performance of angariæ and parangariæ are ranked in the number of royal fervices. Lib. ii. tit. 56.

The clergy were exempted from this fervice by two laws of Conftantius; but he revoked this privilege in 360. The privilege was reftored in 382, and confirmed by Honorius in 412; but was taken away again in 440. Bingh. Orig. Eccleſiæ, lib. v. c. 3. § 10.

ANGARIA, is alfo ufed, in *Ancient Military Writers*, for a guard of foldiers poffed in any place for the fecurity of it. Veget. lib. i. c. 3. lib. ii. c. 19. lib. iii. c. 8.

ANGARKA, in *Geography*, a river of Siberia, in the country of the Tfchuktikes, which falls into the great river of Anuy.

ANGARO PORTO lies on the coaft of Brafil, and is one of thofe good harbours and bays for which the coaft between Point Negro, near Rio Grande, and Point Lucena, near Dou or Dulu, otherwife called Trieſte-watering river, is famous.

ANGAXOS *Iſland*, or ANGOXAS, lies on the eaftern coaft of Africa, in S. lat. 16° 30′, E. long. 38° 35′.

ANGAZYA, or ANGAZIZA, one of the Comorro iflands, lying between the north end of Madagafcar and the coaft of Zanquebar. It is inhabited by Moors, who trade with various parts of the continent, and all the iflands to the eaftward, in cattle, fruits, and the other commodities of the ifland, exchanging them for calicoes, and other cotton cloths, for their own wear. Their bread is chiefly made of the kernel of the cocoa-nut, boiled or broiled, and fpread over with honey; their drink is palm wine, or a juice extracted from the fugar-cane, and fuffered to ferment, or the milk of the cocoa-nut. They never allow their women to be feen by ftrangers without permiffion from the fultan. Their houfes are built of ftone and lime, made of calcined oyfter-fhells, with which the walls and roofs are elegantly plaiftered, and the roofs and windows are covered with palm leaves, ferving as a defence againft the rain and the fun. The ifland is under the government of ten lords, the conftitution being an ariftocracy. S. lat. 17°. E. long. 58° 10′.

ANGE, ST. or ANGELO *Cape*, lies in the Morea, and has its fouth-eaft point projecting confiderably into the fea. N. lat. 36° 27′. E. long. 33° 33′.

ANGE,

ANGE, DE ST. JOSEPH, his true name was La Broſſe, in *Biography*, a Carmelite monk, born at Toulouſe, was ſent to Iſpahan as a miſſionary. After reſiding ſeveral years in Perſia, he returned to Europe, and was made provincial of his order in Languedoc. Having acquired a knowledge of the Perſian language, he publiſhed, in 1681, Pharmacopœia Perſica, ea idiomata Perſica in Latinum tranſlata, 8vo. and, in 1684, Gazophylacium Linguæ Perſarum, a Treaſury of the Perſian Language, fol. at Amſterdam. This work is in great eſteem, containing, beſides an explanation of Perſian words and terms, many entertaining hiſtorical anecdotes and obſervations.

ANGEIOGRAPHIA, compounded of αγγειον, *vas, veſſel*, and γραφω, *ſcribo, I deſcribe*; the knowledge or deſcription of all kinds of ancient inſtruments, veſſels, and utenſils, both domeſtic, military, and nautical.

Angeiography alſo includes the conſideration of the WEIGHTS, MEASURES, &c. uſed by the ſeveral nations.

ANGEIOLOGY, in *Anatomy*, derived from αγγειον, *a veſſel*, and λογος, *a diſcourſe*, the hiſtory or deſcription of the veſſels of the body, which are thoſe concerned in the circulation of the blood, and in abſorption. See ARTERIES, VEINS, and ABSORBING VESSELS. The eſſential ſtructure of veſſels is the ſame in all. They are compoſed of thin ſkins or membranes, the inner part of which has a highly poliſhed and ſecreting ſurface, allowing the contained fluids to glide along it without impediment, whilſt the outer ſurface is rough and cellular, by which the veſſel is connected to the ſurrounding parts. This eſſential part of the veſſel is ſtrong and unyielding, preventing it from rupture, and preſerving it of an unvarying circular figure.

ANGEIOTOMY, formed of αγγειον, *veſſel*, and τεμνω, *ſeco, I cut*, in *Surgery*, is uſed by ſome to denote an artificial ſection of the veſſels, as in bleeding.

In this ſenſe angeiotomy may be divided into PHLEBOTOMY and ARTERIOTOMY.

ANGEL, a ſpiritual intelligent ſubſtance, the firſt in rank and dignity among created beings.

The word *angel*, αγγελος, is not properly a denomination of nature but of office; denoting as much as *nuncius, meſſenger*, a perſon employed to carry one's orders, or declare his will. Thus it is St. Paul repreſents angels, Heb. i. 14. where he calls them *miniſtering ſpirits*; and yet cuſtom has prevailed ſo much, that angel is now commonly taken for the denomination of a particular order of ſpiritual beings, of great underſtanding and power, ſuperior to the ſouls or ſpirits of men. Some of theſe are ſpoken of in Scripture in ſuch a manner, as plainly to ſignify that they are real beings, of a ſpiritual nature, of high power, perfection, dignity, and happineſs. Others of them are diſtinguiſhed as not having kept their firſt ſtation (Jude vi.). Theſe are repreſented as evil ſpirits, enemies of God, and intent on miſchief. The devil as the head of them, and thoſe as his angels, are repreſented as the rulers of the darkneſs of this world, or ſpiritual wickedneſſes or wicked ſpirits, τα πνευματικα της πονηριας εν τοις επουρανιοις, (Epheſ. vi. 12. Locke's Paraphr.) which may not be unfitly rendered, the ſpiritual managers of oppoſition to the kingdom of God.

The exiſtence of angels is ſuppoſed in all religions, though it is incapable of being proved *a priori*. Indeed, the ancient Sadducees are repreſented as denying all ſpirits; and yet the Samaritans and Caraites, who are reputed Sadducees, openly allow them: witneſs Abuſaid, the author of an Arabic verſion of the Pentateuch; and Aaron, a Caraite Jew, in his comment on the Pentateuch; both extant in manuſcript in the king of France's library.

In the Alcoran we find frequent mention of angels. The Muſſulmen believe them of different orders or degrees, and to be deſtined for different employments both in heaven and on earth. They attribute exceedingly great power to the angel Gabriel, as to be able to deſcend in the ſpace of an hour from heaven to earth; to overturn a mountain with a ſingle feather of his wing, &c. The angel Aſrael, they ſuppoſe, is appointed to take the ſouls of ſuch as die; and another angel, named Eſraphil, they ſay, ſtands with a trumpet ready in his mouth to proclaim the day of judgment.

The heathen philoſophers and poets were alſo agreed as to the exiſtence of intelligent beings, ſuperior to man; as is ſhewn by St. Cyprian in his treatiſe of the vanity of idols, from the teſtimonies of Plato, Socrates, Triſmegiſtus, &c. They were acknowledged under different appellations; the Greeks calling them dæmons, and the Romans genii, or lares; and Epicurus ſeems to have been the only one among the old philoſophers who abſolutely rejected them.

Authors are not ſo unanimous about the nature as about the exiſtence of angels. Clemens Alexandrinus believed they had bodies; which was alſo the opinion of Origen, Cæſarius, Tertullian, and ſeveral others. Athanaſius, St. Baſil, St. Gregory Nicene, St. Cyril, St. Chryſoſtom, &c. hold them to be mere ſpirits. It has been the more current opinion, eſpecially in later times, that they are ſubſtances entirely ſpiritual, that can, at any time, aſſume bodies, and appear in human or other ſhapes.

Eccleſiaſtical writers make an HIERARCHY of nine orders of angels. Others have diſtributed angels into nine orders, according to the names by which they are called in Scripture, and reduced theſe orders into three hierarchies; to the firſt of which belong ſeraphim, cherubim, and thenes; to the ſecond, dominions, virtues, and powers; and to the third, principalities, archangels, and angels. The Jews reckon four orders or companies of angels, each headed by an archangel; the firſt order being that of Michael, the ſecond of Gabriel, the third of Uriel, and the fourth of Raphael. But though the Jews believe them to be but four, yet it ſeems, from ſome intimation in Scripture, that there were ſeven. Rev. iv. v. viii. 2.

By the ancient councils men are forbidden to frame or give particular names to angels; the only names owned by the church are Michael, Gabriel, and Raphael, to which is ſometimes added Uriel. Du-Cange.

Before the Babyloniſh captivity, the Jews did not know the name of any angel; at leaſt we find none mentioned in the books written before this event. Calmet. Dict. Bib. Authors are divided as to the time of the creation of angels; ſome will have it to have been before the creation of our world, or even before all ages, that is from eternity; this is Origen's opinion, who, according to Leontius, held that all ſpirits, angels, devils, and even human ſouls, were from eternity.

Others hold angels to have been created before the world, yet not from eternity; of which opinion are Nazianzen, and others. Others again maintain that they were created at the ſame time with our world, but on what day is diſputed. Theodoret and Epiphanius fix their date from the firſt day.

Good *angels* are called *angels of light*, and *guardian angels*; and thoſe on the contrary, who are the *devil's* miniſters, *angels of darkneſs*, and *fallen angels*.

That angels are divine meſſengers employed on particular occaſions for executing the divine will, has been a very prevalent opinion; but what is their ſphere of action, and how far it extends, it is not eaſy to determine. Amongſt the Jews it ſeems to have been a firm belief and tradition, that every man had a tutelary or guardian angel from his

birth; and our Saviour ſeems to refer to this opinion in Matth. xviii. 10. The heathens were alſo of the ſame perſuaſion, and thought it a crime to neglect the admonitions of ſo divine a guide. Socrates publicly confeſſed himſelf to be under the direction of Sufet, an angel or daemon, as did alſo Plotinus and others; on this tutelar genius of each perſon, they believed his happineſs and good fortune depended. The ancient Perſians ſo firmly believed the miniſtry of angels, and their ſuperintendence over human affairs, that they gave their names to their months, and the days of their months, and aſſigned them diſtinct offices and provinces; and it is from them the Jews acknowledge that they have received the names of the months and angels, which they brought with them when they returned from the Babyloniſh captivity: after which we find they alſo aſſigned charges to the angels, and, in particular, the patronage of empires and nations; Michael being the prince of the Jews, as Raphael is ſuppoſed to have been of the Perſians. Hyde Rel. Vet. Perſ. c. 19 and 20.

As to the fallen angels, it is not known at what time and for what offence they incurred the diſpleaſure of the Almighty, and plunged themſelves into an abyſs of wickedneſs and miſery. The time in which this event took place is generally imagined to have preceded the creation of the world; and ſome have accounted for it by the ſuppoſition, that the angels, being informed of God's purpoſe to create man after his own image, and to dignify his nature by Chriſt aſſuming it, and thinking their glory to be thus eclipſed, envied the happineſs of man, and ſo revolted; and with this opinion that of the Mahometans has ſome affinity, who are taught that the devil, who was once one of thoſe angels who are neareſt to God's preſence, and named Azazil, forfeited Paradiſe for refuſing to worſhip or pay homage to Adam at the command of God. But whatever was the occaſion, or the mode by which it was manifeſted, pride ſeems to have been the leading ſin of the angels, and it ultimately terminated in rebellion and apoſtacy. Of theſe fallen angels there is ſuppoſed to have been a great number; and it is apprehended that there was ſome kind of gradation or ſubordination among them; one being conſidered as their prince, and called by ſeveral names, Belzebub, Satan, or Sammach, by the Jews; Aharimian by the Perſians; and Eblis by the Mahometans.

The Scripture uſes the term angel to denote other beings, or agents, beſides thoſe ſpirits that occupy a rank and dignity ſuperior to man. Accordingly it has been a concurrent opinion of the Hebrew and Samaritan ſchools, that the word angel does not only mean a ſpirit, but ſometimes alſo all ſorts of powers or inſtruments which God is pleaſed to uſe, and by means of which he acts. So that the elements of the world, fire, air, winds, and ſtorms, in particular viſion, and, in the language of Scripture, are called "angels of the Lord, which do his will." In this ſenſe is to be underſtood the expreſſion of the Pſalmiſt (Pſ. civ. 4.), who maketh his angels ſpirits, his miniſters a flame of fire," *i. e.* who maketh winds his angels, and lightnings his meſſengers. Moreover the Scriptures call a dream, a viſion, a voice from heaven, a plague, a burning wind, "Angels of God:" and whatſoever God is pleaſed to do by them is ſaid to be done by an "Angel of the Lord." For whatever declares God's will, or performs his pleaſure, is "his angel." In the New Teſtament we find mention of an angel, by which God puniſhed the blaſphemous pride of Herod. Acts, xii. 23. We find another mention of an angel moving at certain ſeaſons the pool of Bethesda. John, v. 4. In the Old Teſtament we have alſo mention of an angel deſtroying the numerous army of Sennacherib. 2 Kings, xix. 35. The puniſhment inflicted on David for his ſin in numbering the people, is deſcribed (1 Chron. xxi. 15.), by God's ſending an angel to Jeruſalem to deſtroy it, &c. Daniel alſo aſcribes his deliverance in the lion's den to an angel. Dan. vi. 22. By the angel, in Acts, xii. 23. interpreters have underſtood the extraordinary diſtemper which proved fatal to him. In the caſe of David the peſtilence inflicted upon Iſrael was the angel of God. See 2 Sam. xxiv. 15, 16. Thus the deſcent of the angel at the pool of Bethesda (John, v. 4.) may ſignify the extraordinary motion of the waters, which was the ſign of the miraculous virtue that attended them: although ſome interpreters conceive that the angel, in this caſe, was an officer or meſſenger deputed from the temple to ſtir the pool, and that the warm entrails caſt into it communicated the healing virtue to the waters. The angel of the Lord which went out and ſmote the camp of the Aſſyrians, ſeems to be explained by the promiſe of the prophet Iſaiah. 2 Kings, xii. 6, 7. In the account of Daniel's preſervation, "God ſent his angel," ſeems immediately explained in this ſenſe; "and hath ſhut the lions' mouths, that they have not hurt me." Dan. vi. 22. The effect was ſtopping the mouths of the lions; and in what way ſoever this was produced, under God's ſpecial direction and influence it may be ſaid to be done by his angel, though a ſeparate ſpirit had no concern at all in it. Thus alſo the Schechinah, or material ſymbol of glory, and the oracle from thence, may in this ſenſe be called the angel of the Lord, and it is ſo called in Scripture; and though the true God himſelf was the only ſpirit, or intelligent agent, who acted and manifeſted himſelf on the occaſion.

According to the opinion of thoſe who maintain the fall of angels, they are repreſented as being caſt out of heaven, abandoned to iniquity, and making it their buſineſs to ſeduce mankind, and taking pleaſure in doing them all kinds of injury. Others, however, among whom we may reckon Dr. Prieſtley, conſider the fall of angels as very problematical; and though it cannot be ſaid that the thing is abſolutely impoſſible, yet they conceive that it ſeems, upon the face of it, to be very improbable. Beſides, if ſuch exalted beings as theſe are ſuppoſed to have ſinned, and to have thereby become obnoxious to the divine diſpleaſure, what end, they aſk, could it anſwer to them to be ſo aſſiduous in ſeducing mankind? Indeed, upon the ſuppoſition that their exiſtence and torments were to be everlaſting, it may be conceived to give them a kind of gloomy ſatisfaction to have "brethren in iniquity," for their companions in their ſufferings. Prieſtley's Inſtitutes, vol. ii. p. 433. Bekker, of Amſterdam, maintains, that the word tranſlated "angels" in Jude, v. 6. and alſo 2 Pet. ii. 4. ſhould be "meſſengers;" adding, that here is no reference to fallen angels, but to the hiſtory of the perſons ſent out by Moſes to ſpy out, and make report of the land of Canaan; and to their falſe and wicked account, ſo as to diſcourage their countrymen from obeying the divine command.

Angel is more particularly applied to a perſon who ſuſtained any particular character or commiſſion. Accordingly there was an officer of the Synagogue, among the Jews, ſays Prideaux (Conn. vol. ii. 513.), who officiated in offering up the public prayers to God for the whole congregation, and who, as the mouth of the congregation, delegated as its repreſentative, meſſenger, or angel, ſpeaks to God in prayer for them, was therefore in the Hebrew language called "Sheliach Zibbor;" that is, "the angel of the church." He was alſo, according to Dr. Lightfoot, called פקיד, or *epiſcopus*, becauſe he overlooked the reader of the law.

In the Apocalypſe, the denomination *angel* is alſo given to

to the paſtors of ſeveral churches: who are called the *angel* of the church of Epheſus, the *angel* of the church of Smyrna, &c. This name, according to Prideaux (*ubi ſupra*), was borrowed from the ſynagogue. For as the Sheliach Zibbor, in the Jewiſh ſynagogue, was the prime miniſter to offer up the prayers of the people to God, he was alſo the biſhop who preſided over the church, the prime miniſter to offer up the prayers of the people to God in the church of Chriſt. Du-Cange adds, that the ſame name was anciently given to certain popes and biſhops, by reaſon of their ſingular ſanctity, &c.

Angel is alſo uſed, in *Commerce*, for an ancient gold coin ſtruck in England; ſo called, from the figure of an angel impreſſed upon it. It weighed 4 pennyweights, and was 23½ carats fine.

Its value in 1 Hen. VI. was 6*s*. 8*d*., in 1 Hen VIII. 7*s*. 6*d*., in 34 Hen. VIII. 8*s*. in 6 Edw. VI. it was 10*s*., in 2 Eliz, it was 10*s*. and in 23 Eliz. the ſame. And the *half angel*, or, as it was ſometimes called, the *angelot*, was the moiety of this; and the *quarter angelot* proportionable.

The angel now ſubſiſts no otherwiſe than as a money of account, denoting 10*s*.

The French have alſo had their *angels*, *demi-angels*, and *angelots*; but they are now diſuſed.

Angel-*fiſh*, in *Ichthyology*, the Engliſh name of the ſqualus ſquatina of Linnæus; the French call it *ange*. See Squatina.

Angel, or Angles *Road*, in *Geography*, lies on the ſtarboard ſide of Milford Haven, within the rocks, in the mid-channel of the haven to the eaſt.

ANGELA, or Onguela, a town of Africa, in the kingdom of Barca, ſituate towards Egypt. Its territory, though moſtly deſert, hath good water, and produces dates.

ANGELIC, or Angelical, ſomething belonging to, or that partakes of the nature of *angels*.

We ſay an *angelical* life, &c. St. Thomas is ſtyled the *Angelical Doctor*. The *angelical* ſalutation is called by the Romaniſts *Ave Maria*; ſometimes ſimply *angelus*.

Angelic *garment*, Angelica *veſtis*, among our *Anceſtors*, was a monkiſh garment which laymen put on a little before their death, that they might have the benefit of the prayers of the monks.

It was from them called *angelical*, becauſe they were called *angeli*, who by theſe prayers *animæ ſaluti ſuccurrebant*. Hence, where we read the phraſe *monachus ad ſuccurrendum* in our old books, it muſt be underſtood of one who had put on the habit when he was at the point of death.

ANGELICA, in *Botany*, a genus of the *pentandria digynia* claſs and order, and of the natural order of *umbellatæ*, or *umbelliferæ*. Its characters are, that the *calyx* has an univerſal umbel, manifold, and roundiſh, and partial, when flowering, exactly globular; the univerſal involucre three or five-leaved, ſmall; partial, eight-leaved, and ſmall; proper, perianth five-toothed, ſcarcely obſervable; the *corolla* univerſal uniform, floſcules all fertile; partial, petals five-equal, lanceolate, flattiſh, incurved, and caducous; the *ſtamina* have ſimple filaments, larger than the corolla, and ſimple anthers: the piſtillum has a germ, inferior ſtyles reflex, and ſtigmas obtuſe, no *pericarpium*; fruit roundiſh, angular, ſolid, and bipartile; *ſeeds* two, ovate, flat on one ſide, and margined; convex on the other, ſcored with three lines. Martyn enumerates ſix, and Gmelin ſeven ſpecies. 1. A. *archangelica*, ang. ſativa of Miller, garden angelica, with the odd leaflet of the leaves lobed. The root is thick, fleſhy, and reſinous; the ſtalk is erect, about the height of five feet, ramous, hollow, round, ſmooth, and furrowed; the leaves are ternate and pinnated, leaflets are ovate-lanceolate, acute, gaſhed, and acutely ſerrated, ſmooth, ſubdecurrent, with the odd one tripartite; the petiole at the baſe is membranaceous, nervous, very much dilated and ventricoſe; the umbels globoſe and multiradiate; the umbellules denſe and hemiſpherical; the involucres conſiſting of a few linear deciduous leaflets; the involucella ſuboctophyllous, linear-lanceolate and ſhort; the calyx ſmall, the petals ovate, inflex, and whitiſh-green; the fruit elliptic-roundiſh, compreſſed, and acutely ribbed. It is a native of the northern parts of Europe, and was cultivated here in 1568. With us it is found at Broadmoore, about ſeven miles north-weſt from Birmingham, is biennial, and flowers in September. In a cultivated ſtate, ſays Withering, this is ſuppoſed to be the garden angelica, which is uſed in ſome diſtilled waters, and candied by the confectioners.

Mr. Miller makes a diſtinct ſpecies of the angelica, which grows naturally in Hungary, and ſome parts of Germany; about twice the ſize of the common ſort, with much larger leaves, more deeply ſawed on the edges, with the umbels much larger, and the flowers yellow. 2. A. *ſylveſtris*, water A. or wild A. with leaflets equal, ovate-lanceolate and ſerrate; the ſtem erect, about four feet high, round, ſmooth, and folioſe; the leaves bipinnate, and ſubglaucous, with leaflets ovate, diſtinct, acutely ſerrated, and ſerratures mucronate; the umbels hemiſpheric and multiradiate; the umbellules denſe; the involucres ſubdiphyllous, and very narrow, and ſometimes none; the involucels polyphyllous and ſetaceous; the calyx ſcarce viſible; the petals ovate, inflex, and fleſhy, and the fruit ſmall: it is perennial, found in moiſt woods and hedges, and by the ſides of rivers, and flowers in July. 3. A. *verticillaris*, with leaves very much divaricate, leaflets ovate and ſerrate, and ſtem verticelled, with peduncles; a native of Italy and Sileſia, introduced in 1774 by M. Richard. 4. A. *atropurpurea*, purple A. with the outermoſt pair of leaves coadjoined, and the terminal leaf petioled; a native of North America, and cultivated by Mr. Miller in 1759. 5. A. *lucida*, ſhining A. with leaflets equal, ovate, and gaſh-ſerrate; a native of Canada, flowers in June, and the ſeeds ripen in Auguſt. 6. A. *Razulii*, panax alpina, &c. of Bocc. with leaves bipinnate, leaflets lanceolate, ſerrate, and decurrent; a native of the Apennines and Piedmonteſe mountains, found on the former by M. Raſouls, an apothecary at Perpignan, whence its trivial name. 7. A. *lobata*, with the inferior leaves biternate; the leaflets petiolate, ovate, and ſerrate; the ſuperior ternate. 8. A. *integrifolia*, with the leaflets entire and petiolate. Martyn's Miller. Gmelin. Willdenow. Smith. Flor Brit.

Culture. All the ſorts may be increaſed by ſeeds. The common angelica delights in a moiſt ſoil, in which the ſeeds ſhould be ſown ſoon after they are ripe; and when the plants are about ſix inches high, they ſhould be tranſplanted at a large diſtance, about three feet aſunder, on the ſides of ditches or pools of water. In the ſecond year they will flower, and their ſtems may be cut down in May, and heads will be put out from the ſides of the roots, and thus they may be continued for three or four years; but if they had been permitted to ſeed, their roots would periſh ſoon after. If they are permitted to ſeed, they laſt but two years.

Dietetic and medical uſes. The ſtalks of garden angelica were formerly blanched, and eaten as celery. The young ſhoots are in great eſteem among the Laplanders. In Norway bread is ſometimes made of the roots. The gardeners near London, who have ditches of water in their gardens, propagate great quantities of this plant, which they ſell to the confectioners, who make a ſweet-meat with the tender

ſtalks

ſtalks cut in May. Bohemia and Spain are ſuppoſed to produce the beſt: the college of London formerly directed the roots brought from Spain only to be kept in the ſhops. Linnæus, however, aſſures us, that the plant proves moſt vigorous on its native northern mountains, and gives a decided preference to the root dug here either early in the Spring, or late in the Autumn. The roots of angelica are one of the principal aromatics of European growth, though not much regarded in the preſent practice. They have a fragrant agreeable ſmell, and a bitteriſh pungent taſte; on being chewed they are firſt ſweetiſh, afterwards acrid, and leave a glowing heat in the mouth and fauces, which continues for ſome time. The ſtalk, leaves, and ſeeds appear to poſſeſs the ſame qualities, though in an inferior degree. Dr. Lewis ſays, that on wounding the freſh root early in the Spring, it yields, from the inner part of the bark, an unctuous, yelloviſh, odorous juice, which, gently exſiccated, retains its fragrance, and proves an elegant, aromatic, gummy reſin. Rectified ſpirit extracts the whole of the virtues of the root; water but very little; and, in diſtillation with the latter, a ſmall portion of very pungent eſſential oil may be obtained. The Laplanders extol the utility of angelica, not only as food but as medicine. For coughs, hoarſeneſs, and other diſorders of the breaſt, they eat the ſtalks roaſted in hot aſhes; they alſo boil the tender flowers in dairy milk till it attains the conſiſtence of an extract; and they uſe this to promote perſpiration in catarrhal fevers, and to ſtrengthen the ſtomach in diarrhæa, &c. According to the explanations of Sir John Pringle, the herb is antiſeptic, but the efficacy of the leaves is ſoon loſt by drying them. The ſeeds alſo, which come neareſt to the roots, can ſcarce be kept till the Spring after they are gathered, without the loſs of their vegetative power, as well as a diminution of their medicinal virtue. Theſe are the only part of the plant which is ordered by the London College, and that only in compound ſpirit of aniſeed. The aromatic quality of the root is more conſiderable than that of any other part; but as many other ſimples ſurpaſs angelica in aromatic and carminative powers, it is ſeldom employed in the preſent practice. All the parts of the wild angelica are ſimilar in quality to thoſe of the former ſpecies, but rather weaker, and the former may be more eaſily procured. Cows, goats, and ſwine eat it, but horſes refuſe it. Lewis. Murray. Woodville.

ANGELICA. See ÆGOPODIUM, CHÆROPHYLLUM, CICUTA, LASERPITIUM, SELINUM, and SMYRNIUM.

ANGELICA *rue*. See ARABIA.

ANGELICA *water* is one of the compound waters of the ſhops; thus called from the *angelica* root, which is the chief ingredient in the compoſition, and the moſt active part of that plant. Neumann.

ANGELICA *grana*, a technical name given to Anderſon's Scots pills.

ANGELICA was alſo a celebrated dance among the ancient Greeks, performed at their feaſts.

It was thus called, from ἀγγελος, *nuncius*, *meſſenger*, becauſe, as Pollux aſſures us, the dancers were dreſſed in the habit of meſſengers.

ANGELICI, an ancient order of knights, inſtituted in 1191, by Iſaacus Angelus Flavius Comnenus, emperor of Conſtantinople.

They were divided into three claſſes, but all under the direction of one grand maſter. The firſt were called *torquati*, from a collar which they wore, and theſe were fifty in number. The ſecond were called the *knights of juſtice*, and were eccleſiaſtics. And the third were called *knights ſervitors*.

Juſtiniani will have this order to have been inſtituted in the year 313, by Conſtantine; and ſuppoſes the occaſion thereof to have been the appearance of an angel to that emperor, with the ſign of a croſs, and theſe words, *In hoc ſigno vinces*; but that there was ſuch a thing as any military order in thoſe days, is a mere fable.

ANGELICI, in *Eccleſiaſtical Hiſtory*, were alſo a ſect of ancient Chriſtians. St. Auguſtin ſuppoſes them thus called from their yielding an extravagant worſhip to angels, and ſuch as tended to IDOLATRY; though Epiphanius derives the name from their holding, that the world was created by angels.

ANGELINA *zanoni acoſtæ*, in *Botany*. This is a tree of vaſt ſize, ſometimes above ſixteen feet thick, growing on rocky and ſandy places in Malabar, in the Eaſt Indies. It bears ripe fruit in December, and continues bearing for a whole century.

The dried leaves heated, are ſaid to alleviate pains and ſtiffneſs in the joints, and diſcuſs an intumeſcence of the *teſtes* occaſioned by a contuſion, or any external violence; as alſo an *hydrocele*, or *pneumatocele*. It is efficacious likewiſe in ſome venereal complaints, and hæmorrhoidal fluxes.

ANGELIO, PETER, in *Biography*, a modern Latin poet, was born in 1517, at Barga, a caſtle of Tuſcany, and hence uſually called Bargæus. Having made a great proficiency in Latin and Greek at the early age of ten years, he was prevented from purſuing his ſtudies by the loſs of his parent, and obliged to enter into the army. Afterwards, however, he renewed his application to literature, and ſtudied law under Alciatus, at Bologna. But he was obliged to leave this place on account of ſome ſatirical verſes which he wrote, and to go to Venice, where he was employed by William Pellicier, the French ambaſſador, in correcting the Greek MSS. which were copied for his ſovereign Francis I. In 1542 he removed to Conſtantinople, where his life was brought into danger by his zeal for the honour of his own nation, which urged him to kill a Frenchman who ſpoke diſreſpectfully of it. From hence he eſcaped firſt to Genoa, and then to Milan; and from Milan he removed to Reggio, in Lombardy, and accepted an invitation to become public preceptor of Greek in that place. After a reſidence here of three years, he was invited by Coſmo I. duke of Florence, to a profeſſorſhip, firſt of belles lettres, and afterwards of the ethics and politics of Ariſtotle, in the univerſity of Piſa, where he continued 17 years. During his abode in this place, he defended it, with the aid of the ſcholars of the univerſity, againſt an attack of Peter Strozzi, in the war of Sienna. In 1575 he was invited to Rome by the Cardinal Ferdinand de Medici, who entertained him liberally at his court, and recompenſed him for the dedication of his poems, with a donation of 2000 gold florins. His latter days he ſpent at Piſa, living at eaſe on the munificence of his ſovereign; and he died there in 1596. His works in Italian and Latin, both proſe and verſe, are numerous; but to his Latin performances he chiefly owes his reputation. In five books of miſcellaneous Latin poems, he has happily imitated the ſtyle of Catullus. His "Cynegeticon," or Chace, in ſix books, firſt printed in 1568, and ſaid to be the labour of 20 years, is reckoned one of the beſt ſpecimens of modern Latinity, and highly commended by Lombin, De Thou, and Poſſevin. His "Syrias," an epic poem in 12 books, on the expedition of Godfrey of Bouillon to the Holy Land, was compoſed in his old age, and though it poſſeſſes elegance, it wants the majeſty required for ſuch a theme.

ANGELITÆ, *Angelites*, in *Eccleſiaſtical Hiſtory*, certain Chriſtians, thus denominated from *Angelium*, the name of a place in Alexandria, where their firſt aſſemblies were held.

The

The *Angelites* appear to have been the same with what are otherwise called *Severites*, sometimes *Theodosiani* and *Damianistæ*, from the names of their leaders: sometimes also *Tabellionistæ*.

They made their first appearance in the time of the emperor Anastasius, and pope Symmachus, about the year of Christ 494.

The distinguishing tenets of the angelitæ were, that the several persons of the Trinity had no distinct essence, substance, or deity, but only a subsistence or deity in common, or indivisible among them.

ANGELL, in *Geography*, a river of North Wales, which runs into the Dovey.

ANGELN. See ANGLEN.

ANGELLO, *Port of*, is an harbour on the South Sea coast, in the middle between St. Pedro and Capolita; a broad open bay with good anchorage, but bad landing; and the Spaniards reckon it as good a harbour as Guatulis.

ANGELO, ST. a small but strong town of Italy, in the Capitanata. There are several other towns and castles of the same name in Italy, particularly the castle of St. Angelo at Rome. N. lat. 41° 43'. E long. 15° 56'.

ANGELO *Monte, St.* a small port in N. lat. 41° 42', and E. long. 16° 11', within Cape Vestice on the west side of the gulf of Venice, is so called from a high mountain within the cape, and the first land made after entering the gulf.

ANGELO *Rio, St.* lies on the coast of Brasil, to the northwest from Cape St. Augustine, and is a large opening, without depth of water, blocked up with shoals, and rendered useless for navigation.

ANGELO BUONARÒTI, MICHAEL, a celebrated painter, was born in the territory of Arezzo, in Tuscany, in 1474, and educated at Florence, where, pursuing the bent of his natural genius for sculpture and painting, in opposition to the remonstrance of his parents, he became, at the age of 14, the disciple of Dominico Ghirlandaio, who has gained great reputation by the artists which his school produced. Michael Angelo soon became superior to his instructor; and such was his uncommon merit, that Lorenzo de Medici took him into his service, and employed him in founding an academy at Florence for painting and sculpture; and also in executing several noble works, particularly in statuary, which gained him universal applause. By the death of his patron, and the disturbances which happened at Florence, he was obliged to quit the city; but he soon returned, and finished that incomparable figure of David with his sling, out of a large block of marble, which is deemed his master piece, and worthy of the hand of an antique artist. The distinguishing excellence of this great master was sculpture; and he was the first painter who communicated to the artists of Italy a taste for what is grand and elevated, and enabled them to abandon the dry, stiff manner of Perugino and others. Although he cannot be commended for his colouring, yet the grandeur, elevation, and sublimity of his ideas, the exquisite taste of his design, and the justness of some of his expressions, established his fame, notwithstanding many imperfections which have been imputed to him as a painter. He wanted elegance in the contours of his figures, and purity of outline; his attitudes are not always beautiful or pleasing; and he was, as Fresnoy observes, bold even to rashness, in which he often succeeded.

His acquaintance with anatomy qualified him for shewing every limb and joint of the human body, and the insertion, as well as the power of every muscle, with great precision; but in consequence of his anatomical skill, he was apt to give too great a strength and swell to the muscular parts. However, it is said, that Raphael himself derived improvement from observing the grand ideas of Buonaroti, though he far excelled him in elegant simplicity, grace, and nature.

The most capital performances of this extraordinary genius are "The Crucifixion," and "The Last Judgment," which is the ornament of the chapel of Sixtus V. in the Vatican. This picture employed him eight years; and as every muscle and limb are distinctly and curiously marked, the figures are entirely naked. This circumstance induced Biagio of Cesenna, the pope's master of ceremonies, to observe, that such an exhibition of naked figures was more suitable to a brothel than a chapel. But Michael Angelo revenged himself for this sarcasm, by painting the portrait of Biagio exceedingly like, representing him as a dæmon, with ass's ears, encircled with a large serpent, and placing him in hell. The pope frequently intreated Buonaroti to deliver his master of the ceremonies from this place of torment; but he made this excuse, that he might have been released if he had only been in purgatory, but as he was in hell there was no redemption for him.

A late judicious traveller, having viewed that famous composition with a most critical attention, and proportionable admiration, says, that while he stood before it his blood was chilled, and he felt as if all he saw was real; and the very sound of the painted trumpet seemed to pierce his ears. The composition, however, though grand, is not without perceptible faults. The faces express passions of the strongest kind, and communicate them to the beholders; but the bodies are of too gross an appearance. Indeed the face of our Saviour possesses a dignity, which language cannot describe; it has an astonishing mixture of divine sweetness and severity, which could only be happily expressed by the pencil of Angelo. M. Angelo discontinued painting in the 75th year of his age; and as he died at Rome in the 90th year of his age, A. D. 1563, he was splendidly interred in that city at the expence of Cosmo, duke of Tuscany; but by order of this prince, his remains were secretly conveyed to Florence, and deposited, with great funeral pomp, in a magnificent monument, enriched with three marble statues, representing Painting, Sculpture, and Architecture. Pilkington's Dict. Keysler's Travels, vol. ii. p. 150.

Sir Joshua Reynolds, in the spirited and masterly sketch which he has given of the character of M. Angelo in his "Discourse delivered to the Students of the Royal Academy," Dec. 10, 1790, describes him "as the exalted founder and father of modern art, of which he was not only the inventor, but which he, by the divine energy of his own mind, carried at once to its highest point of possible perfection." "M. Angelo (says this excellent artist and judge of merit,) possessed the poetical part of the art to a most eminent degree; and his mechanical excellence invigorated and emboldened his mind to carry painting into the regions of poetry, and to emulate that art in its most adventurous flights. M. Angelo equally possessed both the mechanical and poetical qualifications; yet of the former there were certainly great examples to be found in ancient sculpture, and particularly in the fragment known by the name of the Torso of Michael Angelo; but of that grandeur of character, air, and attitude, which he threw into all his figures, and which so well corresponds with the grandeur of his outline, there was no example; they could therefore proceed only from the most poetical and sublime imagination." "Were I now to begin the world again," says the ingenious president of the Royal Academy, "however unequal I feel myself to that attempt, I would tread in the steps of that great master: to kiss the hem of his garment, to catch the slightest of his perfections, would be glory and distinction enough

enough for an ambitious man. I feel a ſelf-congratulation in knowing myſelf capable of ſuch ſenſations as he intended to excite. I reflect, not without vanity, that theſe diſcourſes bear teſtimony of my admiration of that truly divine man; and I ſhould deſire that the laſt words which I ſhou'd pronounce in this academy, and from this place, might be the name of Michael Angelo."

Angelo Amerigi Da Caravaggio, Michael, was born at the village of Caravaggio, in the Milaneſe, in 1569, and became the author of that ſtyle in which he painted, which was ſtrong, and had a powerful effect, by the bold oppoſition of his lights and ſhadows. His ſtyle of painting was ſo new, and ſo ſurpriſing, that moſt of his contemporaries, ſuch as Domenichino, Guido, and Guercino, ſtudied to imitate it. His chief excellence conſiſted in colouring, but his attitudes are ill choſen, his figures inelegantly diſpoſed, and his compoſitions manifeſt no fixed idea of grace or grandeur; nevertheleſs, ſome of his pictures are truly fine, and admirably finiſhed with great mellowneſs of pencil. At firſt he painted fruit and flowers; but he afterwards devoted his whole attention to hiſtorical compoſitions and portraits. In the church of St. Martin, at Naples, there is a capital picture by Caravaggio, repreſenting "Peter's denial of his Maſter," with figures at half length, and large as life. The maſter-piece of all his works, viz. "The Intombing of Chriſt," is now in the Louvre at Paris. He died in 1609, aged 40. Pilkington.

Angelo, Michael, called De Campidoglio, was born at Rome in 1610, and diſtinguiſhed by the appellation Campidoglio, from an office which he held in the capitol at Rome. He was the diſciple of Fioravanti, and peculiarly excelled in painting fruit and flowers. He died at the age of 60.

Angelo Cerquozzi, Michael, called Di Battaglia, was born in 1600, and denominated Di Battaglia from the excellence of his ſtyle in painting battles. He alſo painted fruit with ſuch taſte as rendered his performances, in this way, famous through Europe. He poſſeſſed ſo lively an imagination, and ſo ready a pencil, that he never ſketched his deſigns, but merely marked them on the canvas as his fancy directed, and gradually retouched them, till he gave them their utmoſt perfection. He lived to the age of 60 years.

Angelo Colonna, Michael, was born at Ravenna in 1600, and ſtudied architectural painting under Girolamo Carti, called Dentone, in which branch of his profeſſion he arrived at a conſiderable degree of eminence. In concurrence with Curti he enriched a great number of chapels and convents with various works. Philip IV. invited him to the court of Spain, where he was reſpected and encouraged; and he was alſo highly eſteemed at the courts of Modena, Florence, Paris, and Parma. His principal works are grand compoſitions in the churches and convents of Italy, and in the palaces of the nobility. Pilkington.

ANGELOLATRIA, from *αγγελος, angel*, and *λατρευω, I worſhip*, the ſuperſtitious worſhip or adoration of angels.

ANGELOLOGIA, from *αγγελος* and *λογος, diſcourſe*, the doctrine or ſcience of angels, their nature, office, &c. Gerhard has publiſhed a ſacred Angelologia, Muſæus an apoſtolical Angelologia.

Some uſe the term Angeloſophia in a ſenſe much the ſame. A. Varennius has given an Angeloſophia.

ANGELOGRAPHIA, from *αγγελος* and *γραφω, I deſcribe*, a deſcription of angels, their orders, names, diſcipline, &c. This amounts to much the ſame with what others call angelologia. Caſmannus and Manitius have publiſhed Angelographies.

ANGELONI, Francis, in *Biography*, an hiſtorian and antiquary of the 17th century, illuſtrated the Roman hiſtory by medals, in a work publiſhed at Rome, in folio, in 1685, and entitled "Hiſtoire Auguſte par les Medailles depuis Julius Cæſar juſq'a Conſtantin le Grand." He alſo wrote a "Hiſtory of Terni," his native country, printed in 4to. at Rome, in 1649; where he died in 1652. Nouv. Dict. Hiſt.

ANGELOS, Los, in *Geography*. See Tlascala.

Angelos, Puebla de los, or the *city of angels*, a town of Mexico, and new capital of the province of Los Angelos or Tlaſcala, ſupplies the place of the ancient city of Tlaſcala, which is now dwindled to a poor inconſiderable village, and ſituated not far from it. It lies in N. lat. 19° 30′, and W. long. 99° 10′, on the river Zacatula, in a fine valley, about 25 leagues to the eaſtward of Mexico. In the middle is a beautiful ſpacious ſquare, from whence run the principal ſtreets in a direct line, which are croſſed by others at right angles. One ſide is almoſt entirely occupied by the magnificent front of the cathedral, and the other three conſiſt of arcades, under which are the ſhops of tradeſmen. The city is the ſee of a biſhop, ſuffragan to the archbiſhop of Mexico. The number of inhabitants is computed at 60,000. In the town there are a mint, and glaſs-houſe, and a manufacture of excellent ſalt; and the adjacent valley produces vines and all ſorts of European fruits. In the neighbourhood are ſeveral kinds of mineral waters.

ANGELOT, an ancient Engliſh gold coin, ſtruck at Paris while under ſubjection to the Engliſh. It was thus called from the figure of an angel ſupporting the ſcutcheon of the arms of England and France. There was another coin of the ſame denomination ſtruck under Philip de Valois.

Angelot is alſo uſed, in *Commerce*, to denote a ſmall, fat, rich ſort of cheeſe, brought from Normandy.

Skinner ſuppoſes it to have been thus called, from the name of the perſon who firſt made it up in that form, and perhaps ſtamped it with his own name. Menage takes it to have been denominated from the reſemblance it bears to the Engliſh coin called *angelot*. It is made chiefly in the Pays de Bray, whence it is alſo denominated *angelot de Bray*. It is commonly made in vats, either ſquare or ſhaped like a heart.

ANGELUS, in the *Church Hiſtory* of France, denotes a prayer to the Holy Virgin, beginning with this word, inſtituted by John XXII. in the year 1326, and to be recited every day, morning, noon, and night. Lewis XI. eſtabliſhed in France the practice of repeating it at noon; and he obtained from the pope an indulgence of 300 days for all the faithful who, at three o'clock, ſhould rehearſe three times on their knees an Ave Maria for the preſervation of the king and kingdom. They began, toward the cloſe of the year 1330, to uſe the angelus in an evening before they put out their fires; this prayer they entitled the pardon, on account of the indulgences attached to it.

ANGELY (L'), in *Geography*, a town of Germany, in the circle of Weſtphalia and biſhopric of Liege, four miles ſouth-weſt of Charleroy.

ANGEN, a ſmall town of Lower Auſtria, belonging to the count of Peltzburg.

ANGER. Hutcheſon defines anger, a propenſity to occaſion evil to another, ariſing upon an apprehenſion of an injury done by him; or, as archdeacon Paley defines it, anger is the pain we ſuffer upon the receipt of an injury or affront, with the uſual effects of that pain upon ourſelves.

Anger is either deliberative or inſtinctive; and the latter kind is raſh and ungovernable, becauſe it operates blindly without affording time for deliberation or fore-ſight. Biſhop Butler (ſermon viii.) very juſtly obſerves, that anger is far from

from being a ſelfiſh paſſion, ſince it is naturally excited by injuries offered to others, as well as to ourſelves; and was deſigned by the Author of Nature not only to excite us to act vigorouſly in defending ourſelves from evil, but to intereſt us in the defence or reſcue of the injured and helpleſs, and to raiſe us above the fear of the proud and mighty oppreſſor. "Be ye angry, and ſin not," is a ſcripture caution; and this ſuppoſes that all anger is not ſinful, becauſe ſome degree of it, and, upon ſome occaſions, is inevitable. It becomes ſinful, however, when it is conceived upon ſlight and inadequate provocations, and when it continues long. The cautions and precepts relating to anger evidently ſuppoſe, that this paſſion is within our power; and this power conſiſts in ſo mollifying our minds by habits of juſt reflection, as to be leſs irritated by impreſſions of injury, and to be ſooner pacified. Such reflections as the following, as they conduce to this purpoſe, may be conſidered as the ſedatives of anger, *viz.* the poſſibility of miſtaking the motives from which the conduct that offends us proceeded; how often *our* offences have been the effect of inadvertency, when they are conſtrued into indications of malice; the inducement which prompted our adverſary to act as he did, and how powerfully the ſame inducement has, at one time or other, operated upon ourſelves; that he is ſuffering perhaps under a contrition, which he is aſhamed, or wants opportunity, to confeſs; and how ungenerous it is to triumph by coldneſs or inſult over a ſpirit already humbled in ſecret; that the returns of kindneſs are ſweet, and that there is neither honour, nor virtue, nor uſe, in reſiſting them—for ſome perſons think themſelves bound to cheriſh and keep alive their indignation, when they find it dying away of itſelf. We may remember that others have their paſſions, their prejudices, their favourite aims, their fears, their cautions, their intereſts, their ſudden impulſes, their varieties of apprehenſion, as well as we: we may recollect what hath ſometimes paſſed in our own minds, when we have got on the wrong ſide of a quarrel, and imagine the ſame to be paſſing in our adverſary's mind now; when we became ſenſible of our miſbehaviour, what palliations we perceived in it, and expected others to perceive; how we were affected by the kindneſs, and felt the ſuperiority of a generous reception and ready forgiveneſs; how perſecution revived our ſpirits with our enmity, and ſeemed to juſtify the conduct in ourſelves, which we before blamed. Add to this, the indecency of extravagant anger; how it renders us, whilſt it laſts, the ſcorn and ſport of all about us, of which it leaves us, when it ceaſes, ſenſible and aſhamed; the inconveniences and irretrievable miſconduct into which our iraſcibility has ſometimes betrayed us; the friendſhips it has loſt us; the diſtreſſes and embarraſſments in which we have been involved by it; and the ſore repentance which on one account or other it always coſts us.

But the reflection calculated above all others to allay that haughtineſs of temper which is ever finding out provocations, and which renders anger ſo impetuous, is that which the Goſpel propoſes, namely, that we ourſelves are, or ſhortly ſhall be, ſuppliants for mercy and pardon at the judgment-ſeat of God. Imagine our ſecret ſins diſcloſed and brought to light; imagine us thus humbled and expoſed; trembling under the hand of God; caſting ourſelves on his compaſſion; crying out for mercy—imagine ſuch a creature to talk of ſatisfaction and revenge; refuſing to be intreated, diſdaining to forgive; extreme to mark and to reſent what is done amiſs; imagine this, and you can hardly bring to yourſelf an inſtance of more impious and unnatural arrogance. Paley's Philoſ. vol. ii. chap. vii. p. 261, &c.

Phyſicians and naturaliſts relate ſome very extraordinary effects of this paſſion. Borrichius cured a woman of an inveterate tertian ague, by putting the patient into a violent fit of anger. The ſame paſſion has been excited with ſalutary influence in paralytic, gouty, and even dumb perſons; and theſe laſt have, in ſome caſes, recovered the uſe of ſpeech. Etmuller, among other inſtances of ſingular cures wrought by anger, mentions a perſon, who, being afflicted with the gout, was provoked by his phyſician to a great degree, and thus cured. In ſome caſes this paſſion, unduly excited, has proved mortal. Valentinian the Firſt, Wenceſlaus, Matthius Corvinus king of Hungary, and others, have fallen ſacrifices to it. Inſtances might alſo be mentioned in which it has produced the epilepſy, jaundice, cholera morbus, diarrhœa, &c.

Anger, indeed, is of ſuch a nature, that it quickly throws the whole nervous ſyſtem into preternatural commotions by a violent ſtricture of the nervous and muſcular parts: and ſurpriſingly augments not only the *ſyſtole* of the heart, and of its contiguous veſſels, but alſo the tone of the fibrous parts in the whole body. It is alſo certain, that this paſſion, by the ſpaſmodic ſtricture it produces in the parts, exerts its power principally on the ſtomach and inteſtines, which are highly nervous and membranous parts; whence the ſymptoms are more dangerous, in proportion to the greater conſent of the ſtomach and inteſtines with the other nervous parts, and almoſt with the whole body.

The unhappy influence of anger likewiſe, on the biliary and hepatic ducts, is very ſurpriſing; ſince by an intenſe conſtriction of theſe, the liver is not only rendered ſcirrhous, but ſtones alſo are often generated in the gall-bladder, and biliary ducts; theſe accidents have ſcarcely any other origin than an obſtruction of the free motion and efflux of the bile, by means of this violent ſtricture. From ſuch a ſtricture of theſe ducts likewiſe proceeds the jaundice, which in proceſs of time lays a foundation for calculous concretions in the gall-bladder. Laſtly, by increaſing the motion of the fluid, or the ſpaſms of the fibrous parts by means of anger, a larger quantity of blood is propelled with an *impetus*, to certain parts; whence it happens, that they are too much diſtended, and the orifices of the veins diſtributed there, opened. It is evident from experience that anger has a great tendency to excite enormous hæmorrhages, either from the noſe, the aperture of the pulmonary artery, the veins of the arms; or in women from the uterus; eſpecially in thoſe previouſly accuſtomed and diſpoſed to ſuch evacuations.

For the influence of this paſſion on the perſpiration and urine of human bodies, ſee PERSPIRATION, &c.

ANGER, in *Geography*, a town of Germany, in the duchy of Stiria, 12 miles north-north-eaſt of Graz.

ANGER is alſo a town of Germany, in the archduchy of Auſtria, eight miles ſouth of St. Polren.

ANGERAP, a river of Pruſſia, which runs into the Pregel, near Georgenburg.

ANGERBACH, a river of Germany, which runs into the Havel, near Potzdam.

ANGERBURG, a modern, well-built, and flouriſhing town of Pruſſia, in a government of the ſame name. It is defended by a ſtrong caſtle built in 1335 upon the bank of a lake, which is the ſource of the river Angerap. This lake, ſeven German miles long, and one and a half broad, is of great ſervice to the town, and abounds with eels. In 1725 an arch-preſbytery was founded here, which has 12 churches under its juriſdiction. The beſt Pruſſian manna is produced in the environs of Angerburg.

ANGERMANLAND, or ANGERMANNIA, a province of Sweden, bounded on the north by Bothnia and Lapland,

on the east by the gulf of Bothnia, on the south by Medelpad, and on the west by Jamtland and Hafjendalen. Its extent is about 150 Swedish miles in length, and 16 in breadth. It abounds with forests and mountains; amongst the latter of which is the high mountain called Skula, the most considerable. The soil, however, is fruitful, and in some parts produces excellent corn. The district on the south side of Angermanland river yields rye, peas, linseed, flax, and good hay; and the low lands afford good pasture for cattle. There are also several iron works, and lakes abounding with fish. This province maintains 6 ships for the royal navy, and consists of a lieutenant-judicature, and two vogteys. It is the residence of the superintendent of this diocese, which is the first in rank, and divided into two provostships. The superintendency or bishoprick consists of the provinces of Angermanland, Medelpad, Jamtland, Hafjendalen, and the whole government of West Bothnia, Kremilapmark excepted, which belongs to the diocese of Abo. The province is divided into the north and south parts.

ANGERMANLAND *River*, is one of the largest rivers in the whole kingdom of Sweden, being about a league in breadth at its entrance the gulf of Bothnia, and navigable for small vessels several Swedish miles into the continent. The salmon-fishery in this river affords extraordinary profits to the country.

ANGERMUND, a town of the duchy of Courland, in the district of Pilten, 16 miles north-east of Pilten.

ANGERMUND is also a town and prefecturate of Berg, in Westphalia, situate on the rivulet of Anger.

ANGERMUND, NEW, a town of Germany, in the circle of Upper Saxony, and uckermark of Brandenburg; 36 miles north-east from Berlin. N. lat. 53° 1′. E. long. 14° 1′.

ANGERN, a small place, with a church and iron-works, in the prefecture of Tuckum, and duchy of Courland.

ANGERO, a town of Italy, in the kingdom of Naples, and Principato Citra; 11 miles west north-west from Salerno.

ANGERONA, in *Mythology*, a pagan deity of the Romans, similar to the Harpocrates of the Egyptians, and the Sigalion of the Greeks, supplicated by them for relief under the quinzy or angina. This deity is denominated by Pliny the "Goddess of Silence and Calmness of Mind," because she banished all uneasiness and melancholy. She is represented with her mouth closed, and a finger applied to it, to denote patience, and the suppression of complaint. Her statue was set up in the temple of the goddess Volupia, and was intended a moral allegory, intimating that patience under affliction led to subsequent and certain pleasure.

ANGERONALIA, in *Antiquity*, solemn feasts held by the Romans, the 21st of December, in honour of Angerona, or Angeronia, the goddess of patience and silence.

Festus and Julius Modestus, quoted by Macrobius, Saturn. lib. i. cap. 10. derive the name from *angina, squinancy*; and suppose the goddess to have been thus denominated, because she presided over that disease. Others suppose it formed from *anger, grief, pain*; to intimate that she gave relief to those afflicted therewith. Others deduce it from *ango, I press, I close*; as being reputed the goddess of silence, &c.

ANGEROT, in *Geography*, a small town of Westphalia, in the duchy of Berg, situated near the fall of the Anger into the Rhine, nine miles north from Dusseldorp.

ANGERS, anciently *Juliomagus* and *Andegavium*, a city of France, and capital of the department of the Mayne and Loire, situate on the Mayne, and divided by it into two parts, communicating with each other by two bridges. Before the revolution it was the capital of Anjou and the see of a bishop, suffragan to the archbishop of Tours: its university was founded by St. Lewis in 1246, by whom also its castle, seated on a steep rock, was built; and its academy of the belles lettres in 1685. The first walls of this city were built by John, king of England, who was count of Anjou in 1214, but destroyed by Louis VIII. and rebuilt by his son, in their present form, in 1232; the city has 16 parishes, and several religious houses; the cathedral is venerable for its age, and beautiful with regard to its structure; the houses are covered with the black slate procured from the quarries of Angers, and hence Angers is called "The Black City." The manufacture of Angers before the revolution consisted of camblets, serges, and mixed stuffs, and it carried on a considerable trade in other commodities. Its population is estimated at 300,000 inhabitants. It is distant 22 leagues west from Tours, 18 north-east from Nantes, and 67 south-west from Paris. N. lat. 47° 28′ 8″. W. long. 0° 33′ 52″.

ANGERVILLE, a small town of France, in the department of the Seine and Oise, and chief place of a canton, in the district of Etampes, and four leagues distant from it.

ANGERVILLE is also a town of France, in the department of the Lower Seine, and chief place of a canton, in the district of Montivilliers, and two and a half leagues north-east from it.

ANGETENAR, in the *Arabian Astronomy*, denotes a fixed star of the fourth magnitude, in the body of Cetus, or the whale.

ANGHIERA, in Latin ANGLIERA, in *Geography*, a town of Italy, in the duchy of Milan, and capital of a county of the same name, established by the emperor Wenceslaus in 1397, and situate at the foot of the Alps. It is well peopled, and has a good trade, and the adjacent country is fertile. It is directly opposite to Aroua, and separated from it by the lake called Lago Magiore. N. lat. 45° 18′. E. long. 8° 19′.

ANGIGLOSSII, from ἀγχω, *constringo*, and γλωσσα, *lingua*, denote those who speak with difficulty, hesitation, or even stammering.

ANGILDUM, in our *Old Writers*, denotes a simple gild, that is, the simple value of the man, or other thing.

The word is compounded of the Saxon, *an, one*, and *gild, payment, price*, or *compensation*.

In this sense, *angildum* stands contradistinguished from *twigildum, a double compensation*; *trigildum, a triple compensation*.

ANGINA, in *Medicine*, an inflammation about the muscles of the *larynx* or *pharynx*, attended with an acute fever, difficulty of swallowing, and danger of suffocation.

The word is derived immediately from the Latin *ango, I vex*, formed of ἀγχω, *suffoco, strangulo*. See CYNANCHE.

ANGINA *lini*, in *Botany*, a name used by some of the later Greek writers, to express what the more ancient writers of this nation called *linozostis*, and the Latins *epilinum*; this was the *cuscuta* or *dodder* growing on the flax, as that on the thyme was called *epithymum*. It was called *angina lini*, the *quinzy* of flax, from its choaking that plant.

ANGINA *pectoris*, in *Medicine*, a name given to a disease, dangerous and not extremely rare, first described by Dr. W. Heberden, and so called from the seat of the disorder, and the sense of strangling and anxiety with which it is attended. The doctor's account of it is in the second volume of the London Medic. Transf. p. 59. &c. See also Medic. and Phil. Comment. vol. ii. p. 95. The patient, while walking, especially if soon after eating, is affected with a painful sensation in his breast; at first, it is removed by his standing still, but afterwards it does not go off so suddenly: it comes

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on in bed, obliges the patient to get up, and continues for an hour and more; ſometimes, though rarely, it attacks the patient ſtanding or ſitting ſtill. It is brought on by trivial accidents, coughing, &c. or any ſlight diſturbance. In ſome it is worſe in Winter, in others in Summer. The pulſe, ſometimes at leaſt, is not diſturbed. People affected with it often die ſuddenly, but ſome continue ſubject to it for upwards of 20 years. The patient commonly refers the *ſeat* of his complaint to the ſternum, or to a line running acroſs the middle of the ſternum; and a pain in the middle of the left arm ſometimes accompanies it.

The *cauſe* of this diſtreſſing malady was not underſtood till lately, it being often ſuppoſed a ſpaſmodic affection, or a caries of the ſternum; but it is now believed to be an oſſification of the coronary arteries which ſupply the muſcular ſubſtance of the heart with blood. This change of ſtructure renders the heart unequal to the taſk of circulating the unuſual quantity of blood thrown upon it by bodily exertions or paſſions of the mind; and hence it is that theſe are the exciting cauſes of the diſtreſs, in the early ſtages of the diſeaſe.

The *prognoſis* muſt generally be unfavourable; but ſeveral means may be employed to diminiſh the ſufferings of the patient, or to poſtpone the fatal iſſue of the diſeaſe. Theſe are temperance in eating and drinking, and abſtinence from violent exerciſe and paſſions. As angina pectoris commonly attacks perſons diſpoſed to *obeſity* and *plethora*, theſe ſtates ſhould be avoided by a ſuitable regimen, and occaſional bleeding and purging. The circulation ſhould alſo be kept as equable as poſſible in every part of the ſyſtem, by warm clothing, and avoiding the cauſes of local congeſtion. Wine, or other cordials, taken at bed-time, prevent or weaken night-fits, but opium is the moſt effectual relief; ten, fifteen, or twenty drops of the Thebaic tincture, taken at bed-time, may be ſafely continued as long as requiſite.

This diſeaſe has been accurately deſcribed, and ſuitable preventives or remedies propoſed, by Dr. Fothergill. Med. Obſ. and Inq. vol. v. p. 233. 252.; and Dr. C. H. Parry, of Bath, has publiſhed an "Inquiry into the Symptoms and Cauſes of the Syncope Anginoſa, commonly called Angina pectoris," 8vo. 1799. This work contains every thing then known on the ſubject.

ANGIOLELLO, John Maria, in *Biography*, an hiſtorian, of the 16th century, was a native of Vicenza, and followed the young ſultan Muſtapha, to whom he was a ſlave, in 1573, into Perſia, in the dreadful war carried on by Mahomet II. at the head of nearly 200,000 men. As an eye-witneſs of the events of this war, he wrote "A Hiſtory of Mahomet II." in the Italian and Turkiſh languages, dedicated to the ſultan, freely written, and yet well received and liberally rewarded. A work, "Of the Life and Actions of the King of Perſia," was printed at Venice, under the name of this writer in 1553; and he alſo wrote, in Italian, "A Relation of the Life and Actions of Uſſun Caſſan." Gen. Dict.

ANGIOPTERIS, in *Botany*. See Onoclea.

ANGIOSPERMIA, a term uſed by Linnæus, to expreſs the ſecond order of the *didynamiæ* plants, which have their ſeeds not lodged naked within the cup as in the *gymnoſpermia*, but incloſed in a capſule, and adhering to a receptacle in the middle of a pericarp. The claſs of *didynamia* contains the labiated and perſonated plants. The angioſpermia are the perſonated, the others the labiated kind. In this order many of the corollas are perſonate, or labiate, with the lips cloſed; ſome, however, have bell-ſhaped, wheel-ſhaped, or triangular corollas.

To have ſeeds incloſed in a pericarp is common to all, and hence the name of the order *angioſpermia*. In moſt of the genera the calyxes are quinqueſid; in ſome, however, they are biſid; one triſid, in many quadriſid, and in two multiſid. This order, in Gmelin's edition of Linnæus, contains 87 genera. See Didynamia.

ANGITAS, in *Ancient Geography*, a river of Thrace, which runs from the north-eaſt, and diſcharges itſelf into the Strymon, above Amphipolis.

ANGITIÆ Lucus, or Nemus, a foreſt of Italy, ſituate near the Lacus Fucinus. Pliny calls the inhabitants Lucenſes. Angitia was the ſiſter of Medea and Circe, and was regarded as a goddeſs, becauſe ſhe preſcribed antidotes againſt poiſon and the bites of ſerpents. The name was probably derived from anguis, a ſerpent, a ſpecies of animals which abounded in this place. This foreſt is mentioned by Virgil (Æn. viii. v. 659.), and by Silius Italicus (lib. viii. v. 498.), and was ſituated in the country of the Marſi.

ANGITULA, a ſmall river of Italy in Brutium, which diſcharged itſelf into the Thermaic gulf, near Nepita.

ANGLE, Angulus, in *Geometry*, the aperture or mutual inclination of two lines, meeting in a point.

Such is the angle BAC (*Plate* II. *Geometry*, *fig.* 15.) formed by the lines AB and AC, meeting in the point A.—The lines AB, and AC, are called the legs or the ſides of the angle; and the point of interſection, the vertex or angular point.

Angles are ſometimes denoted by a ſingle letter affixed to the vertex, or angular point, as A; and ſometimes, when ſeveral angles have the ſame vertex, by three letters, that of the vertex being in the middle, as BAC.

The meaſure of an angle, by which its quantity or magnitude is expreſſed, is an arc, DE, deſcribed from its vertex A, with any radius at pleaſure between its legs, AC and AB; and the meaſure of the angle depends merely on the inclination of the lines by which it is formed, and not on the length of the radius, or the extent of the arc that bounds it.

Hence angles are diſtinguiſhed by the ratio of the arcs which they thus ſubtend to the circumference of the whole circle.—And thus an angle is ſaid to be of ſo many degrees, as are the degrees of the arc DE, by which it is meaſured.

Hence alſo, ſince ſimilar arcs AB and DE, (*fig.* 16.) have the ſame ratio to their reſpective circumferences; and the circumferences contain each the ſame number of degrees; the arcs AB and DE, which are the meaſures of the two angles ACB, and DCE, are equal; and therefore the angles themſelves muſt be likewiſe equal. Hence, again, as the quantity of an angle is eſtimated by the ratio of the arc ſubtended by it to the periphery, it is of no importance what radius that arc is deſcribed with; but the meaſures of equal angles are always either equal arcs, or ſimilar ones; and contrarily.

It follows, therefore, that the quantity of the angles remains ſtill the ſame, though the legs be either produced or diminiſhed.—And thus in ſimilar triangles, and in ſimilar figures, the homologous or correſponding angles are alſo equal.

The *taking or meaſuring of angles* is an operation of great uſe and extent in ſurveying, navigation, geography, aſtronomy, &c. The inſtruments chiefly uſed for this purpoſe are quadrants, ſextants, octants, theodolites, circumferentors, &c.

Mr. Hadley has invented a new and excellent inſtrument for taking angles, uſeful where the motion of the object, or any circumſtance cauſing unſteadineſs in the common inſtruments, renders the obſervations difficult or uncertain. Phil. Tranſ. N° 420, and N° 425. Mr. Dollond has likewiſe contrived

contrived an inſtrument for meaſuring ſmall angles. Phil. Tranſ. vol. xlvii. N° 74. See HADLEY'S QUADRANT and MICROMETER.

ANGLE, *to meaſure the quantity of an.*—1. On paper. Apply the centre of a protractor to the vertex of the angle C (*Plate* I. *Surveying, fig.* 1.), ſo that the radius CB may coincide with one of the legs: the degree ſhewn in the arc, by the other leg of the angle, will give the angle required. To do the ſame with a line of chords, ſee SECTOR. See GONIOMETRY.

2. On the ground.—Place a ſurveying inſtrument, *e. gr.* a ſemi-circle (*fig.* 2.), in ſuch a manner as that a radius thereof CG may lie over one leg of the angle, and the centre C over the vertex. The firſt is obtained by looking through the ſights F and G, towards a mark fixed at the end of the leg; and the latter, by letting fall a plumbet from the centre of the inſtrument. Then, the moveable index HI being turned this way and that, till through its ſights you diſcover a mark placed at the extreme of the other leg of the angle; the degree it cuts in the limb of the inſtrument ſhews the quantity of the angle.

To take the angle with a QUADRANT, THEODOLITE, PLAIN TABLE, CIRCUMFERENTOR, COMPASS, &c. See the ſeveral articles.

To plot or lay down any given angle, *i. e.* the quantity of the angle being given, to deſcribe it on paper. See PLOTTING and PROTRACTOR.

To biſect a given angle, as HIK (*Plate* I. *Geometry, fig.* 17.), from the centre I, with any radius at pleaſure, deſcribe an arc LM. From L and M, with an aperture greater than half LM, ſtrike two arcs mutually interſecting each other in N. Then drawing the right line IN, we have HIN =NIK.

To triſect an angle, ſee TRISECTION.

Pappus, in his Mathematical Collections, lib. iv. treats of angular ſections, and more particularly of triſections.

ANGLES are of various kinds and denominations.

With regard to the form of their legs, they are divided into *rectilinear, curvilinear,* and *mixed.*

ANGLE, *rectilinear,* or *right lined,* is that whoſe legs are both right lines: as BAC (*Plate* I. *Geometry, fig.* 15.).

ANGLE, *curvilinear,* is that whoſe legs are both of them curves.

ANGLE, *mixt,* or *mixtilinear,* is that, one of whoſe ſides is a right line, and the other a curve.

With regard to their magnitude, *angles* are again divided into *right, acute, obtuſe,* and *oblique.*

ANGLE, *right,* is that formed by a line falling perpendicularly on another; or that which ſubtends an arc of 90 degrees. Such is the *angle* KLM (*fig.* 18.)

The meaſure of a right angle, therefore, is a quadrant of a circle; and conſequently all right angles are equal to each other.

ANGLE, *acute,* is that which is leſs than a right angle, or than 90°—as AEC (*fig.* 19.).

ANGLE, *obtuſe,* is that greater than a right angle, or whoſe meaſure exceeds 90°—as AED.

ANGLE, *oblique,* is a common name both for acute and obtuſe angles.

With regard to their ſituation in reſpect of each other, *angles* are divided into *contiguous, adjacent, vertical, alternate* and *oppoſite.*

ANGLES, *contiguous,* are ſuch as have the ſame vertex, and one leg common to both.—Such are FGH and HGI (*fig.* 20.).

ANGLE, *adjacent,* is that made by producing one of the legs of another angle. Such is the angle AEC (*fig.* 19.), made by producing a leg, ED, of the angle AED, to C. Two *adjacent angles, x* and *y,* or any other number of angles made at the ſame point E, over the ſame right line CD, are together equal to two right ones; and conſequently to 180°. And hence one of two adjacent angles being given, the other is likewiſe given; as being the ſupplement of the former to 180°.

Hence alſo, to meaſure an inacceſſible angle in a field, take an adjacent acceſſible angle, and ſubtract that from 180°, the remainder is the angle required.

Again, all the angles *x, y, o,* E, &c. made round a given point E, are equal to four right ones; and therefore all make 360°.

ANGLES, *vertical,* or *oppoſite,* are thoſe whoſe legs are continuations of each other. Such are the angles *o* and *x,* (*fig.* 19.).

If a right line AB, cut another, CD, in E, the vertical angles, *x* and *o,* as alſo *y* and E, are equal. And hence, if it be required to meaſure, in a field, or any other place, an inacceſſible angle, *x;* and the other vertical angle, *o,* be acceſſible; this latter may be taken in lieu of the former.

ANGLE, *alternate* See ALTERNATE.

ANGLES, *external,* are the angles of any right-lined figure made without it, by producing all the ſides.

All the external angles of any figure, taken together, are equal to four right angles; and the external angle of a triangle is equal to both the internal and oppoſite ones.

ANGLES, *internal,* are the angles made by the ſides of any right-lined figure within the ſaid figure.

The ſum of all the internal angles of any right-lined figure is equal to twice as many right angles as the figure hath ſides, excepting four. This is eaſily demonſtrated from Euclid, prop. 32. lib. i.

The external angle of a trapezium inſcribed in a circle is equal to the internal oppoſite one; and the two internal oppoſite angles are equal to two right ones.

ANGLES, *homologous,* or *like,* are ſuch angles in two figures, as retain the ſame order from the firſt, in both figures.

ANGLE *at the periphery,* is an angle whoſe vertex and legs do all terminate in the periphery of a circle. Such is the angle EFD (*Plate* I. *Geom. fig.* 21.)

ANGLE *in the ſegment,* is the ſame with that at the periphery.

It is demonſtrated by Euclid, that all the angles in the ſame ſegment are equal to one another; that is, any angle EHD, is equal to any angle EFD in the ſame ſegment EFD.

The angle at the periphery, or in the ſegment, is comprehended between two chords EF and FD, and ſtands on the arc ED, and is meaſured by half that arc.

The meaſure of an angle without the periphery X (*fig.* 22.) is the difference between half the concave arc LM whereon it ſtands, and half the convex arc NO intercepted between its legs.

ANGLE *in a ſemicircle,* is an angle in a ſegment of a circle, whoſe baſe is the diameter of the circle.

It is demonſtrated by Euclid, that the angle in a ſemicircle is a right one; in a ſegment greater than a ſemicircle, it is leſs than a right one; and in a ſegment leſs than a ſemicircle, it is greater than a right one.

Since an angle in a ſemicircle ſtands on a ſemicircle, its meaſure is a quadrant of a circle; and therefore is a right angle.

ANGLE *of a ſemicircle,* is the angle which the diameter

of a circle makes with the circumference. The chief property of this angle is, that it is leſs than a right angle, and greater than any acute right-lined angle.

ANGLE *at the centre*, is an angle whoſe vertex is in the centre of a circle, and its legs terminated in the periphery thereof. Such is the angle CAB (*fig.* 21.).

The angle at the centre is comprehended between two radii, and its meaſure is the arc BC.

Euclid demonſtrates, that the angle at the centre BAC is double of the angle BDC, ſtanding on the ſame arc BC. And hence, half of the arc BC is the meaſure of the angle at the periphery.

Hence, alſo, two or more angles HLI, and HMI (*fig.* 23.) ſtanding on the ſame, or equal arcs, are always equal. All angles at the centre are proportional to the arcs upon which they ſtand, and ſo are likewiſe all angles at the circumference.

ANGLE *without the centre*, HKI, is that whoſe vertex K is not in the centre, but its legs HK and IK are terminated in the periphery.

The meaſure of an angle without the centre is half the ſum of the arcs HI and LM, whereon it and its vertical K ſtand when it is within the circle, or half the difference when it is without.

ANGLE *of contact*, is that made by the arc of a circle, or of any curve, and a tangent in the point of CONTACT.—Such is the angle IHK, (*fig.* 24.)

The angle of contact, in a circle, is proved by Euclid to be leſs than any right-lined angle; but from hence it does not follow, that the angle of contact is of no quantity, as Peletarius, Wallis, and ſome others, have imagined. V. Wall. Algeb. p. 71, &c. Clavius, on the other hand, rightly maintained, that it is not abſolutely nothing, but that it is of no magnitude compared with a right-lined angle, being a quantity of a very different nature: ſuch as a line with reſpect to a ſurface, or a ſurface with reſpect to a ſolid, &c. And ſince his time it has been proved by Sir Iſaac Newton, and others, that angles of contact may be compared with each other, though not with right-lined angles, and that the proportions which they bear to each other may be aſſigned. Thus, the circular angles of contact IHK, IHL, are to each other in the reciprocal ſubduplicate ratio of the diameters HM, HN; and the circular angle of contact may be divided by deſcribing intermediate circles into any number of parts, and in any proportion. And if, inſtead of circles, the curves be parabolas, and the point of contact H the common vertex of their axes, the angles of contact would in this caſe be reciprocally in the ſubduplicate ratio of their parameters. But elliptical and hyperbolical angles of contact would be reciprocally in the ſubduplicate of the ratio, compounded of the ratios of the parameters and the tranſverſe axes. Moreover, if TOQ (*fig.* 25.) be a common parabola to the axis OP and tangent VOW, whoſe equation is $x=y^2$, x being the abſciſs OP, and y the ordinate PQ, and the parameter being 1; and if OR, OS, &c. be other parabolas to the ſame axis, tangent and parameter, their ordinate y being PR, or PS, &c. and their equations $x=y^3$, $x=y^4$, $x=y^5$, &c.; then the ſeries of the angles of contact would be in ſucceſſion infinitely greater than each other; that is, the angle of contact WOQ would be infinitely greater than WOR, and this again infinitely greater than WOS, and ſo on infinitely. Beſides, between the angles of contact of any two of this kind, other angles of contact may be found *ad infinitum*, which ſhall infinitely exceed each other, and yet the greateſt of them be infinitely leſs than the ſmalleſt right-lined angle. Thus alſo $x^2=y^3$, $x^3=y^4$, $x^4=y^5$, &c. denote a ſeries of curves, of which every ſucceeding one makes an angle with its tangent infinitely greater than the preceding one; and the leaſt of theſe, *viz.* that whoſe equation is $x^2=y^3$, or the ſemicubical parabola, is infinitely greater than any circular angle of contact.

ANGLE *of a ſegment* is that made by a chord with a tangent, in the point of contact. Such are IHK (*fig.* 26.) the angle of the leſſer ſegment IMH, and IHL the angle of the greater ſegment INH. And the meaſure of each of theſe angles is half the alternate or ſupplemental ſegment, or it is equal to the angle in it; that is, the angle IHK=INH, and IHL =IMH.

ANGLES, *for the effects, properties, relations, &c. of, when combined into triangles, quadrangles and polygonous figures*, ſee TRIANGLE, QUADRANGLE, SQUARE, PARALLELOGRAM, POLYGON, FIGURE, &c.

ANGLES are again divided into *plane*, *ſpherical*, and *ſolid*.

ANGLES, *plane*, are thoſe above-mentioned; which are defined by the inclination of two lines in a plane, meeting in a point.

ANGLE, *ſpherical*, is an angle formed on the ſurface of a ſphere by the interſection of two great circles, or the inclination of the planes of two great circles of the ſphere.

For the properties of ſpherical angles, ſee SPHERICAL *Angle*.

ANGLE, *ſolid*, is the mutual inclination of more than two planes, or plane angles, meeting in a point, and not contained in the ſame plane. For the meaſure, properties, &c. of ſolid angles, ſee SOLID *Angle*.

We alſo meet with other leſs uſual ſorts of angles among ſome geometricians; as

ANGLE, *horned*, *angulus cornutus*, that made by a right line, whether a tangent or ſecant, with the periphery of a circle.

ANGLE, *lunular*, *angulus lunularis*, is that formed by the interſection of two curve lines; the one concave, and the other convex.

ANGLE, *ciſſoid*, *angulus ciſſoides*, is the inner angle made by two ſpherical convex lines interſecting each other. See CISSOID.

ANGLE, *ſiſtroid*, *angulus ſiſtroides*, is that which has the form of a SISTRUM.

ANGLE, *pelecoid*, *angulus pelecoides*, is that in figure of a hatchet. See PELECOIDES.

ANGLE, in *Trigonometry*. See TRIANGLE, and TRIGONOMETRY.

For the ſines, tangents, and ſecants of angles, ſee SINE, TANGENT, and SECANT.

ANGLE, in *Geography*, a town of France, in the department of Vendée, and chief place of a canton, in the diſtrict of Sables d'Olonne, ten miles weſt-ſouth-weſt from Luçon.

ANGLE is alſo a town of France, in the department of Vienne, and chief place of a canton, in the diſtrict of Mont Morillon, on the Creuſe, 25 miles eaſt from Poitiers.

ANGLE, in *Mechanics*. *Angle of direction*, is that comprehended between the lines of direction of two conſpiring forces. See DIRECTION.

ANGLE *of elevation*, is that comprehended between the line of direction of a projectile, and any plane upon which the projection is made, whether horizontal or oblique. Such is the angle RAB (*Plate* I. *Mechanics*, *fig.* 3.) which is comprehended between the line of direction of the projectile AR, and the horizontal line AB.

ANGLE *of incidence*, is that made by the line of direction of an impinging body, in the point of contact. Such is the angle DCA (*fig.* 4.)

ANGLE *of reflection*, is that made by the line of direction

of

of the reflected body, at the point of contact from which it rebounds. Such is the angle [illegible]

Angle, in *Optics*. *Visual*, or *Optic angle*, is the angle included between the two rays drawn from the two extreme points of an object to the centre of the pupil.—Such is the angle ABC (*Plate* I. *Optics*, *fig.* [illegible]) comprehended between the rays AB and BC. The apparent magnitude of objects is greater or less, according to the angle under which they appear. See Apparent Magnitude.

Objects seen under the same, or an equal angle, always appear equal.

The least *visible* angle, or the least angle under which a body can be seen, according to Dr. Hook, is one minute; though Dr. Jurin shews, that at the time of his debate with Hevelius on this subject, the latter could probably discover a single [illegible] But bodies are visible under [illegible] light or luminous. Dr. Jurin states the grounds of this controversy, and discusses [illegible] and indistinct [illegible]

Angle [illegible] is the angle subtended by two lines directed from the eye to those places.

Angle *of incidence*, in *Catoptrics*, is the lesser angle, made by an incident ray of light, with the plane of a speculum; or, if the speculum be concave or convex, with a tangent in the point of incidence. Such is the angle AED (*fig.* 3.) Or, as some define it, it is the angle which a ray of light makes with a perpendicular to that point of the surface of any *medium* on which it falls.

Every incident ray, AB, makes two angles, the one acute, ABD, the other obtuse, ABE; though sometimes both right. The lesser of such angles is the angle of incidence. See Incidence.

Angle *of incidence*, in *Dioptrics*, is the angle ABI (*fig.* 4.), made by an incident ray, AB, with a lens, or other refracting surface, HI.

Angle *of inclination*, is the angle ABD, contained between an incident ray, AB, and the axis of incidence, DB. See Axis, &c.

Angle *of reflexion*, } in *Catoptrics*. See Reflection.
Angle, *reflected*: }

Angle *of refraction*, } in *Dioptrics*. See Refraction.
Angle, *refracted*, }

Angle, in *Astronomy*. *Angle of commutation*. See Commutation.

Angle *of elongation*, or *Angle at the earth*. See Elongation.

Angle, *parallactic*. See Parallactic *angle* and Parallax.

Angle *at the sun*, is the *angle* under which the distance of a planet from the ecliptic is seen from the sun.

Angle *of the East*. See Nonagesimal.

Angle *of obliquity*, of the ecliptic, or the angle of inclination of the axis of the earth, to the axis of the ecliptic, is now nearly 23° 28′. By means of this inclination, such inhabitants of the earth as live beyond 45° of latitude, have more of the sun's heat, taking all the year round; and those who live within 45° have less of his heat, than if the earth always moved in the equinoctial. See Obliquity, and Ecliptic.

Angle *of longitude*, is the angle which the circle of a star's longitude makes with the meridian, at the pole of the ecliptic.

Angle *of right ascension*, is the angle which the circle of a star's right ascension makes with the meridian at the pole of the equator. See *Right* Ascension.

Angle *of Position*. See Position.

Angle, in *Navigation*. *Angle of the rhumb*, or *loxodromic Angle*. See Rhumb, and Loxodromy.

Angles, in *Fortification*, are understood of those formed by the several lines used in fortifying, or making a place defensible.

These are of two sorts; *real*, and *imaginary*. *Real angles* are those which actually subsist and appear in the works. Such are the *flanked angle*, the *angle of the epaule*, *angle of the flank*, and the *re-entering angle of the counterscarp*. *Imaginary*, or *occult angles*, are those which are only subservient to the construction, and which subsist no more after the fortification is drawn. Such are the *angle of the centre*, *angle of the polygon*, *flanking angle*, *saliant angle of the counterscarp*, &c.

Angle *of* or *at*, *the centre*, is the angle formed at the centre of the polygon, by two semidiameters drawn from the centre to two adjacent angles, and subtended by a side of it. Such is the angle CKF (*Plate Fortificat. fig.* 1.) This is found by dividing 360 degrees by the number of sides in the regular polygon.

Angle *of the circumference*, is the mixt angle made by the arc drawn from one gorge to the other.

Angle *of the counterscarp*, is that made by the two sides of the counterscarp, meeting before the middle of the curtin.

Angle *of the curtin*, or *of the flank*, is that made by, or contained between, the curtin and the flank; such is the angle BAE.

Angle *of the complement of the line of defence*, is the angle arising from the intersection of the two complements one with another.

Angle, *diminished*, is the angle which is made by the meeting of the exterior side of the polygon with the face of the bastion. Such is the angle BCF.

Angle *of the polygon*, is the angle GHM, intercepted either between the two internal sides GH, and HM, or the two external sides. This is the supplement of the angle at the centre, and is found by subtracting CKF from 180 degrees.

Angle *of the epaule*, or *shoulder*, is that formed by the flank and the face of the bastion. Such is the angle ABC.

Angle *of the interior figure*, is the angle GHM, made in H, the centre of the bastion, by the meeting in the innermost sides of the figure GH and HM.

Angle *of the tenaille*, or *flanking angle outward*, is that made by the two rasant lines of defence, *i. e.* the two faces of the bastion when prolonged.

Angle *flanking inward*, is the angle CIH, made by the flanking line with the curtin.

Angle, *flanked*, by some called the *angle of the bastion*, is the angle BCS, made by the two faces of the bastion, BC, CS; being the outermost part of the bastion, and that most exposed to the enemy's batteries, and therefore by some called the *point of the bastion*.

Angle *of the flank*, is that formed by the flank, and the curtin.

Angle *forming the flank*, is that consisting of one flank, and one demi-*gorge*.

Angle *forming the face*, is that composed of one flank, and one face.

Angle *of the triangle*, is half the angle of the polygon; or half the supplement of the angle at the centre.

Angle *of the moat*, is that made before the curtin, where it is intersected.

Angle,

ANGLE, *re-entering*, or *re-entrant*, is that whoſe vertex is turned inwards, towards the place.

ANGLE, *ſaliant*, or *ſortant*, is that which advances its point toward the field.

ANGLE *of the tenaille*, or *the outward flanking angle*, called alſo *the angle of the moat*, or *the dead angle*, is made by the two lines *fichant* in the faces of the two baſtions, extended till they meet in an angle towards the curtin. This always turns its point in towards the work.

ANGLE, *dead*, is a re-entering angle, which is not flanked or defended.

ANGLE *of a wall*, in *Architecture*, is the point or corner where the two ſides or faces of a wall meet.

ANGLE *Bar*, in *Carpentry*, is that which is perpendicular to the horizon, in the angle formed by any two faces of a bow-window, whoſe plan is a polygon.

ANGLE *Bracket* of a cove or cornice, is that which ſtands in a perpendicular plane, paſſing through the diagonal of the plan, ranging in every right line horizontally, directed along the edges of the common ribs that are fixed on either ſide of it.

ANGLE *Rib* of a groin, is that which ſtands in the perpendicular plane paſſing through the diagonal of the plan, and ranging in right lines in every horizontal direction with the common ribs that are fixed on either ſide of it. Theſe two laſt are the ſame in principle, their difference being only in the application; for their deſcription, ſee a GROIN.

ANGLEN, or ANGELEN, in *Geography*, a ſmall diſtrict of the duchy of Sleſwick, in Denmark, from 16 to 20 miles in length, and about as much in breadth, ſituate between Flenſburg and Sleſwick. ſee ANGLES.

ANGLER, a fiſherman, or other perſon who practiſes ANGLING.

Anglers are to be diſtinguiſhed from poachers. Some make the ſame difference between them, that is between the fair trader and ſmuggler. Accordingly the legiſlature has made the latter penal, but laid no reſtraint on the former. Angling can do no prejudice to the fiſh of a river. Anglers fiſh for their recreation, not for lucre; whereas poachers make it their livelihood.

ANGLER, in *Ichthyology*, the Engliſh name of the batrachos of Ariſtotle and Oppian, and the rana piſcatrix of Pliny and Ovid: a ſpecies of LOPHIUS.

ANGLERIA, PADRE CAMILLO DI CREMONA, in *Biography*, author of a muſical tract entitled, "Regole di Contrappunto," publiſhed at Milan 1622.

ANGLES *of a battalion*, in the *Military Art*, are thoſe ſoldiers that are placed where the ranks and files terminate. See BATTALION.

The angles of a battalion are ſaid to be *blunted*, when the ſoldiers at the four corners are removed, ſo that the ſquare battalion becomes octagonal; this was an evolution very common among the ancients, though now diſuſed.

ANGLES, in *Anatomy*, are underſtood of the *canthi*, or corners of the eye, where the upper eye-lid meets with the under.

That next the noſe is called the *great* or *internal*, and that towards the temples, the *leſs* or *external angle*, or CANTHUS.

ANGLES, in *Aſtrology*, denote certain houſes of a figure, or ſcheme of the heavens. Thus the horoſcope of the firſt houſe is termed the *angle of the eaſt*.

ANGLES, *Inſtruments for meaſuring horizontal*, in *Aſtronomy*. See HORIZONTAL.

ANGLES, in *Geography*, a town of France, in the department of the Herault, and chief place of a canton, in the diſtrict of St. Pons, three leagues weſt-north-weſt from St. Pons.

ANGLES, in *Hiſtory*, are ſaid to have been a tribe of the Suevi, who, in the time of Cæſar (Bell. Gall. lib. iv.), were the greateſt and braveſt of all the German nations. This tribe, after various adventures and migrations, ſettled in that part of the Cimbric Cherſoneſus, which now forms the duchy of Sleſwick, where ſome veſtiges of their name ſtill remain in the diſtrict of Anglen. The moſt probable etymology of the name deduces it from the Saxon "Angel or Engel," ſignifying "a fiſh-hook;" and intimating that the Angles were much addicted to piracy, and were ſo called by the neighbouring nations, becauſe, like fiſh-hooks, they caught all that was in the ſea. From theſe people the Engliſh are ſaid to have originated; for when they were ſolicited by the Britiſh ambaſſador to ſuccour their countrymen againſt the Scots and Picts, they embarked, with greater ſpirit and in greater numbers than any of the other German nations; and having expelled the Picts, and made themſelves maſters of the country, they had the honour of giving their name to England and its inhabitants. The reaſon, it is ſaid, why the name of Angles was preferred to that of Saxons ſeems to have been, becauſe it was more diſtinctive and more honourable: there being at that time a large nation of Saxons on the continent, who were in diſrepute on account of their manners, and the defeats which they had ſuffered from Charlemagne. It may be added, that the Angles conſtituted the greateſt part of Egbert's ſubjects: all the northern, eaſtern, and midland counties, being inhabited by them. Egbert publiſhed an edict, dated at Wincheſter in the year 827, aboliſhing the diſtinctions of Saxons, Jutes, and Engliſh, commanding all his ſubjects for the future to be called by the latter name only. Rapin's Hiſt. vol. i. p. 89.

ANGLESEA, or ANGLESEY, the Mona of Tacitus, in *Geography*, the Engliſh name for Môn, an iſland on the northern extremity of Wales, from which it is ſeparated only by a narrow channel, called the Menai. It is about 20 miles in length, by 17 miles in breadth; or as others ſay, 25 long, and 18 broad; and is one of the ſix counties of North Wales; which is divided into three hundreds: that is to ſay, Aber Fraw, with its townſhips of Llivon and Malltreath; Rhoſyr, with its townſhips of Tindaethwy and Menai; and Cemaes, with its townſhips of Twrcelyn and Talybolion. According to a late eſtimate Angleſea contains about 200,000 acres of land, and 20,000 inhabitants; and is divided into ſeven hundreds, 74 pariſhes, and four market towns; ſituate within the dioceſe of Bangor. The chief town is Beaumaris. The air is in general good, except when the thick fogs ariſe from the Iriſh ſeas; but in autumn it is cold and aguiſh. The ſoil, which, on the firſt aſpect, appears rocky and mountainous, is nevertheleſs fertile, and produces a number of cattle, and great quantities of corn, ſent annually to England. However much of the land lies undrained, and full of turfy bogs, or pointed rocks; and yet there are ſome rich farms in the interior and along the coaſt, particularly that which is oppoſite to Caernarvonſhire. The general face of the country is low, flat, and unpleaſant.

This iſland, which is known to the Welſh only by the name of Môn, obtained the appellation of Angleſey, among the Engliſh, from the following circumſtance: in the year 819, Egbert invaded North Wales; and after ravaging ſeveral diſtricts, he paſſed over into Mona; defeated the Welſh in a bloody battle near Beaumaris; and, in conſequence of his victory, he got poſſeſſion of the whole iſland. He was able to maintain himſelf there only for a ſhort time; being driven out by Mervyn, king of North Wales; nevertheleſs, the Engliſh ever after continued to call the place Angleſey, or the iſland of the Angles.

According to a curious hiſtorical document, contained in

the Britiſh Triads, this iſle once formed a part of the main land. The paſſage is to the following purport: "The three original iſlands adjoining to Britain were Orkney, Man, and Wight; and afterwards the ſea broke the land, ſo that Môn became an iſland; and in like manner Orkney was broken; ſo that there were formed a multitude of iſlands; and other places on the coaſts of Scotland and Wales were broken by the ſea, and became iſlands."

The book entitled Mona Antiqua Reſtaurata, was written by Rowlands, to prove that Angleſea was the metropolitan ſeat of druidiſm. An hypotheſis formed from the recital of the deſtruction of the druids there by Suetonius Paulinus; or probably ſuggeſted by a partiality for his native place, and certainly without duly weighing its title to that preeminence, for if he had done ſo, he muſt have diſcovered ſuch a poſition to be deſtitute of any ſolid foundation.

Nothing more ought to be inferred from the account of the Druids having been found by the Romans in Angleſey, than that they were overtaken in their retreat; for they always avoided the ſeat of war, agreeably to their principles; but here they did not expect the appearance of the enemy ſo ſuddenly, and very likely they had not the means time enough of retreating farther.

In the next place, that iſland does not abound with any monuments or remains, in ſufficient numbers to induce a belief of its having been the permanent centre of druidiſm; and in truth there is not perhaps a country in all Wales, but which abounds more with ſuch veſtiges than Angleſey.

It is alſo to be naturally ſuppoſed that the principal place of meetings would have been fixed upon in the moſt convenient ſituation for the different ſtates of Britain and of Gaul to attend; and free from the obſtructions of large rivers, and other obſtacles; whereas the iſle of Angleſey was peculiarly the reverſe of all this; and we muſt, therefore, ſeek elſewhere for the alma mater of the Bards, Druids, and Ovates.

The open grounds of Wiltſhire then neceſſarily draw our attention: there we find Avebury, the grand national circle of the Britons; and there too is it ſaid to be by the bardic Triads; and compared with this, no ſimilar work in the country bears any compariſon in grandeur and extent of deſign.

The glory of Mona muſt, therefore, be conſigned to its proper ſphere; for it never had a more extended orbit than it has now: in druidical times it had its ſmall provincial circles, as in the preſent day it has its pariſh churches.

The greateſt curioſity which Angleſea can boaſt, and the chief ſource of its wealth, is the Paris mountain, the name of which is moſt probably derived from the old Welſh word "Fraos," ſignifying "braſs," which might eaſily be corrupted into Paris. The copper-mines in this part of the iſland are ſuppoſed to have been known and worked by the Romans; a pool on the top of the mountain having been diſtinguiſhed, long before the preſent works were formed, by the name of the Mine-pool. The mine of this mountain is conſiderably more than a mile in circumference, and on an average 1500 men are conſtantly employed in it. It has the ſingular advantage of being worked in the open air; a circumſtance which expedites the labour, and ſecures the health of thoſe that are employed.

Abundance of vitriolic water is found in theſe works, which is ſo ſtrong as inſtantaneouſly to turn whatever ſteel or iron is dipped into it, to the colour and appearance of copper. This water is expoſed to the ſun in large open troughs, and the copper quality is extracted from it by a curious proceſs. Great quantities of ſulphur are alſo produced, and its ſublimation is carried on in various ſpots upon the mountain, till at laſt the whole is collected into ſome large boiling-houſes, and formed into rolls of brimſtone. The copper ore is then carried down to ſome ſmelting-houſes, conſtructed in the valley below near the ſea-ſide, where every remaining operation is performed with wonderful art and aſſiduity. Lead-ore, rich in ſilver, is alſo found in the ſame mountain; and in the north-weſtern part of the iſland is a quarry of green marble intermixed with aſbeſtos.

Angleſea ſends two members to the imperial parliament; one for the county, and one for Beaumaris.

ANGLESQUEVILLE, a town of France, in the department of the Lower Seine, and chief place of a canton, in the diſtrict of Dieppe, 16 miles north from Rouen.

ANGLIA, East, in *Hiſtory*, one of the kingdoms of the Heptarchy, founded by the Angles that landed on the eaſtern coaſts of Britain, under 12 chiefs, the ſurvivor of whom, Uffa, in 571, aſſumed the title of king of the Eaſt-Angles. This kingdom was bounded on the north by the Humber and the German Ocean, on the eaſt by the ſame ocean, on the ſouth by the kingdom of Eſſex, and on the weſt by Mercia. Its greateſt length was 80, and its greateſt breadth 55 miles. It contained the two counties of Norfolk and Suffolk, with part of Cambridgeſhire. The chief towns were Norwich, Thetford, Ely, and Cambrige. Earpwold, the fourth monarch of this kingdom, was converted to Chriſtianity by the influence of Edwin, king of Northumberland; but his wife, who was an idolatreſs, ſoon brought him back to her religion. After his death, and the interregnum that followed, Sigebert, who had been educated in France, reſtored Chriſtianity, and introduced learning among the Eaſt-Angles. Some pretend that he founded the Univerſity of Cambridge, or rather ſome ſchools in that place. Ethelbert, who was the laſt ſovereign of this kingdom, and who received his crown from Etheldred in 790, was treacherouſly murdered by Offa, king of Mercia, in 792, who ſeized his kingdom; and from that time Eaſt-Anglia was united with Mercia.

ANGLICA, in *Entomology*, a ſpecies of Pimelia, found in England very rarely. It is black, anterior part of the thorax roundiſh, wing-caſes ſtriated with dots, antennæ reddiſh at the apex. Gmelin. This is the deſcription of Fabricius, which Gmelin adopts. It was deſcribed by Fabricius in the ſpecies inſectorum, under the name Pimelia Morio; but in the laſt arrangement of inſects by that author, it is placed in the genus Helops, under the ſpecific name *Pimelia*. Gmelin makes a ſubdiviſion of the genus pimelia, under the name Helops, in which this ſpecies is included.—Alſo, a ſpecies of Chrysomela, found in England. It is blue-black, wing-caſes black, braſſy and ſtriated with dots; wings red. Forſt. Nov. Inſ.—Fabricius.

ANGLICANA, a ſpecies of Altica, in the Fabrician arrangement, and found in England. It is in general black, except the wing-caſes and ſhanks of the legs, which are pale. Fabricius.

ANGLICANÆ *guttæ*. See Guttæ.

ANGLICANUS *ſudor*. See Sudor.

ANGLICISM, a word, or phraſe, in the Engliſh idiom; or a manner of ſpeech peculiar to the Engliſh tongue.

ANGLICUS, in *Entomology*, a ſpecies of Cerambyx, found in England and France. It has a ſpinous thorax, and two oblique yellow ſtripes on the wing-caſes. Gmelin. This is the Fabrician deſcription, and in that arrangement it belongs to the Rhagium genus. It is alſo the leptura mordax of Degeer, and Stenocorus of Geoffroy.

ANGLING is a branch of fiſhing; or the art of catching fiſh by means of a rod, to which is attached a line, a hook, and a bait. It is more generally practiſed for amuſement than for profit, and is a ſport of conſiderable antiquity, and followed with the greateſt avidity by ſome perſons in every rank in life. It has ſome eminent advan-

tages over many other rural ſports; it is but little dangerous, incurs but little expence, and is productive of ſome profit. It is peculiarly fitted for the placid and thoughtful; nor need the gay and volatile deſpair of finding their attention engaged, while the more active mode of fly-fiſhing remains in uſe. Perhaps there are few purſuits that diſplay more elegant attitudes than that of throwing the fly; nor are there but few in which the expectation is ſo much kept alive, with ſo little bodily or mental exertion, as in this delightful branch of the art. On the other hand, ſimple float angling has its advantages likewiſe; for in this the infirm and aged may partake, and the ſolitary or recluſe may purſue the amuſement, without fear of the interruptions of the buſy or impertinent; here, likewiſe, the contemplative may combine relaxation with improvement, as few perſons have a greater opportunity of ſtudying nature in her varied garb than the angler.

The laws have ever been favourable to this purſuit, protecting the authoriſed fiſher, and puniſhing the depredations of the poacher. As early as Edward I. we find, that impriſonment and triple damages, were awarded againſt any treſpaſſers, if attainted at the ſuit of the party. 3 Ed. I. c. 20.

By Elizabeth it was enacted, that if any perſons wrongfully take or kill fiſh, from any ponds, &c. kept for the purpoſe of angling, he or they ſhall be impriſoned, pay triple damages, and find ſecurity for his or their good behaviour for ſeven years. 5 Eliz. c. 21. The 22d and 23d Car. II. c. 29. recites, that the uſe of an angle, net, hair, nooſe, troll, or ſpear, or the taking of fiſh in any way, or the being aiding therein, without the conſent of the owner, or lord of the manor, is forbidden; and that perſons ſo offending ſhall, on diſcovery and conviction thereof, have triple damages awarded againſt them, to be levied by diſtreſs. And in the ſame ſtatute it appears, that any juſtice of the peace is authoriſed to take and deſtroy every inſtrument uſed for theſe purpoſes. By the 4th and 5th W. III. c. 23. § 5, 6. no perſon was even to have or keep in his poſſeſſion any net, angle, or other engine for the taking or deſtroying of fiſh, other than the makers and ſellers thereof, and than the owners and occupiers of a river or fiſhery. And again, 5 Geo. III. c. 14. § 1, 2. not only perſons who entered any park or other ground fenced in, wherein there was any water containing fiſh, and ſtole thereout; but thoſe who receive and buy ſuch fiſh, ſhall be ſubjected, equally with the offenders, to ſeven years tranſportation. By the ſame act, the taking fiſh unlawfully from any water, not ſituated in encloſed ground, is puniſhable by the forfeiture of 5*l.*; but by the black act, the breaking down of the head and mound of any fiſh-pond, was made felony without benefit of clergy.

There is no art, the practice of which appears more ſimple, at firſt view, than that of angling; yet there are few that require more nicety and preciſion, nor is there any for which it is more difficult to give preciſe rules. There is a ſpecies of acquired knowledge, amounting to a knack, that conſtitutes a ſucceſsful angler, but which he can with difficulty impart to others.

The fiſh uſually caught by angling are the ſalmon, ſalmon fry, ſalmon trout, bull trout or ſcurf, ſewen or whitling, laſtſpring or ſhedder, mullet, ſmelt, barbel, flounder, eel; all which viſit the ſalt water. Thoſe which are likewiſe taken by this mode, and do not viſit the ſalt water, are the trout, grayling, pike or jack, perch, tench, carp, chub, bream, rudd, roach, dace or dare, gudgeon, bleak or whiting, minnow, loach, &c. which ſeveral fiſh ſee under their proper heads.

Theſe ſeveral fiſh require different tackle, baits of various kinds, and ſome are taken in one ſeaſon, while others are ſecured in another; of all which it is eſſentially neceſſary that the angler ſhould be aware, as well as of the particular weather favourable to the ſport.

The tackle made uſe of muſt be carefully attended to, the principal of which is the rod. An angler intending to fiſh at a diſtance from home, ſhould be furniſhed with two rods; if near home, he muſt ſtill carry a ſpare top, or he may be much inconvenienced. When two rods are taken, it is prudent to let one be of the cuſtomary form; the other may be a ſtrong cane, in the form of a walking-ſtick, which may prove uſeful in caſe of emergency. It ſhould be ſo contrived as to fit the ſtock of the landing-net, and it will moreover be uſeful in fording rivers, &c. It is neceſſary to conſider the ſize and nature of the fiſh in the choice of a rod. The larger kinds require one of conſiderable ſtrength, with the addition of a reel and running line, paſſing through rings or eyes placed on the rod from one end to the other. A fiſhing-rod ſhould be pliant, yet firm, with an eaſy play in the hand, and a regular bend, as though formed of one entire piece. Thoſe which are jointed with ferrules are the beſt, and for large fiſh, as ſalmon, it is proper that within each ferrule there ſhould be a male ſcrew, to fit into a female ſcrew, within the attached joint, by which means the rod is farther ſecured, and is certain of a regular play. In dry weather it is prudent to dip each joint in the water previouſly to introducing them to each other, and if any difficulty occurs in undoing them from the ſwelling of the wood, they ſhould be held over a candle or before the fire. A rod ſhould be kept neither too dry nor too moiſt; in the one caſe it becomes brittle, in the other it is rendered rotten. It ſhould be hung up with a weight attached to the end, by which it is kept from warping, and it may be varniſhed to preſerve it from worms. See FISHING-*rod*.

The angler ſhould farther have a variety of lines of various ſtrengths, and of colours adapted to the waters he ſports in, which is a caution of the utmoſt moment, and not in general ſufficiently attended to. Lines ſhould be coiled or wound on a cylinder. When wound, as is uſual, on a bit of ſplit cane, or flat ſtick, forked at the two ends, or on long line machines, the ſharp turns are apt to cut the gut or line. See FISHING-*lines*.

Hooks of various ſizes are neceſſary, attached and unattached, with floats of cork, of quills and of porcupine ſpears. Spare caps, ſplit ſhot, ſhoemaker's wax, bullets, plummets, are all likewiſe neceſſary; nor ſhould the angler forget a clearing-ring, which is uſeful in diſengaging the hook when entangled among weeds, or faſtened to a ſtump. It is formed of a heavy braſs or iron ring, of about two inches in diameter, with ſeveral yards of twine attached, and is made uſe of by paſſing it over the large end of the rod, and gently letting down the line to the obſtruction; when by pulling the twine, the hook will be either diſengaged, or it will be broken off without damage to the reſt of the line, by ſtraining it or the rod.

A diſgorger is likewiſe among the requiſites, as ſome fiſh by their eagerneſs ſwallow the hook with the bait; in which caſe, a piece of flat cane or wood, about ſix inches long, and half an inch wide, forked at the ends, and paſſed down the throat, removes the hook, by gently pulling the line. A landing-net will often be found neceſſary when a large fiſh is caught; thoſe are the beſt whoſe hoops fold up, and the handle may be the walking-ſtick rod before mentioned. All theſe, with any other neceſſary articles, may be taken in a baſket, firſt wrapped up in an oil ſkin caſe, when on the return, the fiſh in the baſket will not injure them. For the articles neceſſary for fly fiſhing, ſee FISHING-*fly*.

It may in this place be remarked, that the prudent fiſher will always be cloathed in grave colours, or at leaſt in ſuch as are not gaudy. For thoſe who wade much, but which is not a prudent method, a ſhort ſhooting-jacket is convenient. The experienced fiſherman will always likewiſe provide himſelf with ſpruits, in caſe of falling into the water or other accidents. There are many other ſmall articles alſo neceſſary, as twine, pliars, ſciſſars, a penknife; and it will be found uſeful always to be furniſhed with ſome trimmers, to act, if the ſport ſhould not prove ſo good as expected.

The baits made uſe of muſt be particularly attended to by the angler, he ſhould not only procure the beſt of every kind, but he muſt be careful to appropriate his bait to the fiſh he means to entrap, and likewiſe according to the various ſeaſons. He muſt ſelect ſuch articles to allure moſt, that nature gives at that particular time in the greateſt plenty. For the ſtomach of the fiſh is adapted to outward circumſtances, preferring food at one time that at others it wholly rejects, and this is more particularly the caſe in fly fiſhing. An excellent mode of judging what bait is moſt likely to allure any particular kind of fiſh is, when one is caught to open it, and examine the ſtomach, and whatever is found there will ſurely be the proper bait for others. It is ſaid, but with what truth we are not aware, that the eyes of other fiſh are a moſt excellent bait. Baits made uſe of in angling are of two kinds, the natural and artificial; the natural are whatever is eaten by the animal in a ſtate of nature, as ſmall fiſh, frogs, worms of moſt kinds, inſects in great varieties, as beetles, butterflies, all the tribe of Summer flies, moths, waſps, hornets, graſshoppers, maggots of various kinds, and ſnails; vegetables are uſed with ſucceſs, as wheat, barley, peas, beans, &c.: artificial baits are the forming of whatever imitates the natural food of the animal, as the making and painting ſmall fiſh, and the imitating flies of various kinds, which latter forms a very conſiderable and intricate branch of the art. See FLY-*fiſhing*. Artificial baits are likewiſe various compoſitions in the form of paſte: paſtes are made with dough, bread, all kinds of flour mixed with honey, ſuet, butter, oil, &c. and in mixing theſe, it is found uſeful to add a little cotton, tow, or lint, to make the paſte more adheſive. The ſpawn of other fiſh is frequently uſed as a bait with ſucceſs, and it is very commonly potted for this purpoſe.

Ground-bait is a previous method made uſe of by anglers to induce fiſh to frequent particular ſpots; ſome are in the habits of throwing this kind of bait into particular places every now and then, by which they are almoſt certain of finding ſport among the fiſh who reſort to this favoured place. Others only do it in the evening, or even an hour before they angle. Ground baits are of grains, barley, moiſtened bread, raſpings, blood mixed with chopped liver, &c. In running ſtreams a tin box is introduced, bored with holes, with a plummet to ſink it, and a line to draw it back at pleaſure, the worms, crawling through theſe holes gradually, are a great inducement to the fiſh to hover about the ſpot. All the recipes of fœtid oils and other allurements are uſeleſs. See FISHING-*baits*.

The proper ſeaſons for angling are from the Spring to the Autumn, but much depends on the kind of fiſh angled for; ſome may be caught at all times, others, as thoſe of paſſage, are only to be met with at particular ſeaſons, and others, though always confined to one piece of water, yet are nearly torpid during the Winter, and are found only in the deeps.

Weather influences fiſh much, and when the wind is in ſome points, few fiſh will bite. The moſt unfavourable is the eaſtern quarter; when the wind is eaſterly no ſport is to be expected. A warm lowering day is the moſt favourable, with flying ſhowers, and a ſlight ripple on the water. Water ſlightly diſturbed inſures good ſport; fiſh then do not eaſily diſtinguiſh the tackle, and are moſt voracious, having faſted while the ſtream was clear. Hence angling is always good when turbid water is clearing, or in the riſe before it becomes too thick. Opening a mill-dam, raiſing a ſluice, or the turning water from a meadow, inſures the angler good ſport, as it induces the fiſh to come to meet the food they expect. In waters affected by the tide, the flood is the beſt time for angling; but either ebbing or flowing is fit. Whirlpools, eddies, the mill-tails, ſides of bridges, and under the arches, are places the anglers ſhould not paſs over.

All places not diſturbed by wind or weather are proper; deep ſpots, covered with weeds, are much ſought after by fiſh.

Sometimes when you are angling in any ſpot, and have had good ſport, and the fiſh ſuddenly leave off biting; it is probable a pike or ſome fiſh of prey is at hand, in which caſe a minnow, placed on your hook alive, will probably take him; but the trimmers, before mentioned, are the beſt preventive. See FISHING.

ANGLING, *Bladder*, differs from trimmer angling, in this; inſtead of a cork, a bladder is made uſe of, by which means much diverſion is occaſioned; for as the bladder is drawn under the water by the force of the fiſh; it returns by its own want of ſpecific gravity, which ſerves to ſtrike him more forcibly and prevents his diſgorging the hook.

ANGLING, *Float*, is made uſe of in contradiſtinction to ground angling, trimmer angling, and fly angling, &c. and conſiſts in the uſe of a line longer than the rod by two or three feet, with ſhot not to ſink the float, but to let it go under water on the ſlighteſt touch or bite of the fiſh. In the rivers a cork float is moſt proper, in ſtanding water a quill is generally uſed. Perch, chub, carp, tench, barbel, and grayling, are caught in this manner.

ANGLING, *Ground*, is practiſed with a fine rod and line, without a float, and ſometimes produces excellent ſport. A bullet or plumb of lead is attached to the line, eight or nine inches from the baited hook, by boring a hole and paſſing the line through it; at the lower end placing a ſhot in the uſual manner to prevent the plummet from ſlipping. This mode proves excellent for large deep-ſwimming wary fiſh; and in Winter when they confine themſelves wholly to the deeps. A well-ſcoured worm is an excellent bait for this method, which is found very ſucceſsful againſt the barbel. When one of theſe fiſh is obſerved to take the bait, as he bites ſtrong, he ſhould be inſtantly ſtruck; the rod uſed for him likewiſe ſhould be ringed, and furniſhed with a winch or reel, and twenty-five or thirty yards of line, which ſhould have gimp to the bottom of it. But as a general rule for other fiſhes, the rod and line ſhould be fine, and when the bait is obſerved to be taken, the angler ſhould not ſtrike immediately; but ſlacken his line, to give the fiſh an opportunity to ſwallow the hook. Trout are often taken in this manner, as well as chub; for the former, morning and evening prove the beſt, except in cloudy weather, or muddy water, when you may fiſh for him the whole day.

ANGLING, *Night*, is of two kinds; that wherein the angler attends in perſon to watch his ſport; and that wherein he lays lines in different modes, as trimmers, bladders, &c. and returns in the morning to ſee his ſucceſs. By the former method may be taken ſome of the fineſt and largeſt fiſh of moſt kinds; but among trout it has been found ſingularly ſucceſsful; and it is obſerved, that the largeſt trout are caught by this means in the ſtill clear deeps. The tackle uſed in this ſport ſhould be ſtrong, and the bait ſtriking; as the large garden-worm, ſnails, a minnow, &c.

Caſt off at a diſtance, drawing your line gently againſt the ſtream, if any; not ſuffering it to ſink, but keeping it near the ſurface. A float may be uſed or not at diſcretion. When the fiſh riſes, the noiſe will alarm the angler, who is then to give both time and line enough to ſwallow the hook, when ſlightly ſtriking ſecures him. When this method does not ſucceed, it will be prudent in the angler to apply a plummet, as in ground angling, and to ſink his bait, for though there may be fiſh in that part, they may not probably be diſpoſed to riſe.

ANGLING, *Sea*. It is frequent for perſons to go out in boats ſome way from ſhore, to angle for whiting, cod, &c. From pier heads, and the mouths of rivers likewiſe, it is often ſucceſsfully practiſed: from the former are often taken haddock, cod, whiting, plaiſe, and ſmall barbel, by means of a ſtrong rod and line well leaded, with a cork float, and a large hook, baited with ſcoured red worms, ſhrimps, and gentles, a raw muſcle, the inſide of a ſmall crab, whipt round the hook with a little white wool; or a bit of any other fiſh. If the water is very deep, the bait is permitted to paſs to about mid water; if not, towards the bottom.

ANGLING, *Snap*, is a method made uſe of for thoſe fiſh that eaſily part with the bait when taken; or for any fiſh, at thoſe times when they are ſpawning, for being then ſick, they will eaſily diſgorge the bait before the hook has been ſtruck, but by means of a double ſpring hook, which is ſtruck with a forcible jerk the contrary way to that in which the fiſh runs, he is ſecured. The beſt hooks made uſe of for this purpoſe are purchaſed at fiſhing-tackle ſhops, being made with a double ſpring. The rod ſhould be ſtrong and the line ſtrong likewiſe, and not ſo long as the rod, with a large cork float. The mode of baiting the ſnap hook is thus: make a hole with a ſharp penknife in the ſide of the bait fiſh, then put the gimp that is faſtened to your hook into it, and draw it out at the mouth, till the ſpring hook comes to the place where the inciſion was made; when this is done, put it into the belly of the fiſh, then have a piece of lead, about the ſize of a horſe bean, though of an oval form, with a hole through it from end to end large enough for the gimp to go through, draw it down to the fiſh's mouth, then put it in it, and ſew it up.

ANGLING, *Trimmer*, is an economical mode made uſe of either at night, or when you are fiſhing by other methods, by ſetting ſome trimmers at a diſtance, waiting the event, and continuing your angling in another part. It is particularly ſucceſsful in meers, canals, large ponds, or any ſtill water. It requires a round cork, ſix inches in diameter, with a groove on which to wind your line, except ſo much of it near the line hook, as will allow the bait to hang about mid-water; and ſo much of the other end as will reach to the bank or a ſtump; but if you have a boat, they need not be faſtened at all. As ſoon as a fiſh takes the bait and runs away with it, the line unwinds itſelf off the trimmer without giving any check; but it will be prudent when you come to the line, to give a ſlight jerk to make your prey more ſecure.

ANGLING-*fly*. See FISHING-*fly*.
ANGLING-*hook*. See FISHING-*hook*.
ANGLING-*line*. See FISHING-*line*.
ANGLING-*rod*. See FISHING-*rod*.

ANGLO-CALVINISTS, a name given by ſome *Eccleſiaſtical Hiſtorians* to the members of the church of England, becauſe their doctrinal articles are built on the ſyſtem of Calvin; though ſome modern writers, without ſufficient reaſon, pretend that the doctrinal ſyſtem of the Engliſh church is Arminian.

The Anglo-Calviniſts make one of the four branches or diviſions of Calviniſm; and as ſuch ſtand diſtinguiſhed from the pure CALVINISTS, the PISCATORIANS, and the ARMINIANS.

ANGLOISE, in *Muſic*, an Engliſh country-dance, is ſo called in France. tune and figure.

ANGLO-NORMANS, in *Hiſtory*. See NORMANS.

ANGLO-SAXONS. See SAXONS.

ANGLO-SAXON *language*, that ſpoken by the ancient Angli, or Saxons, who ſettled in England.

It was thus called from the people, who were partly Angli, partly Saxon.

It is otherwiſe denominated ſimply, *Saxon*.

The Anglo-Saxon, or Engliſh-Saxon, is properly the original Engliſh; being the language which our Saxon anceſtors firſt eſtabliſhed in this iſland. It is now called Anglo-Saxon, to diſtinguiſh it from the modern or preſent Engliſh.

Many extravagant things have been advanced concerning the great antiquity and ſuperior excellence of the Anglo-Saxon language, which was a dialect of the Gothic or Teutonic. According to ſome writers, it was the moſt ancient and moſt excellent language in the world; ſpoken by our firſt parents in Paradiſe, and from it they pretend to derive the names Adam, Eve, Cain, Abel, and thoſe of all the antediluvian patriarchs. But it will be ſufficient for us to ſay, that the Teutonic or Anglo-Saxon tongue is ſo ancient, that it is impoſſible to trace it to its origin; and that it was ſo excellent and copious, as to enable thoſe who ſpoke it to expreſs all their ideas with ſufficient force and perſpicuity. Some have ſaid that this language conſiſted almoſt entirely of words of one ſyllable; but we do not find that the moſt ancient ſpecimens of this language abound in any remarkable degree in monoſyllables; but they contain a competent number of words, conſiſting of two, three, and four ſyllables. Some learned men have either diſcovered, or imagined, a very great affinity between the Greek and the Anglo-Saxon, both in their radical words, and in their general ſtructure; and it muſt be acknowledged, that in ſome of the words which they have ſelected, the ſimilarity is very obſervable, whilſt in others it ſeems to be fanciful and far-fetched. With regard to their general formation and ſtructure, a great analogy has been obſerved between theſe two languages, in the termination of the infinitive of their verbs, in the uſe of their articles and negatives, and in the manner of comparing their adjectives and compounding their words, and alſo in ſome other particulars. The affinity between theſe languages is ſuppoſed to have been occaſioned by the vicinity, relationſhip, and commercial intercourſe between the Goths and Greeks in very remote ages. The Anglo-Saxon language in this country underwent gradual changes, but from the ſpecimens of different ages we may perceive the difference that ſubſiſted between the Anglo-Saxon and modern Engliſh; and, at the ſame time, diſcover their great reſemblance, and the gradual approaches of the former of theſe languages to the latter. The following is a ſpecimen of the moſt ancient copy of the Lord's prayer in Saxon, with a very literal tranſlation, ſaid to have been written by Æadfrid, biſhop of Lindisfarne, about A. D. 700.

Urin Fader thic arth in heofnas,
Our Father which art in heaven;
1. Sic gehalgad thin noma,
be hallowed thine name;
2. To cymeth thin rye,
To come thine kingdom;
3. Sic thin willa ſue is in neofnas and in eortho,
Be thine will ſo is in heaven and in earth;

4. Urin

4. Urin hlef ofirwiſtlic ſel us to daig,
Our loaf ſuper-excellent give us to day;
5. And forgefe us ſeylda urna, ſue we forgefan ſeyldgum urum,
And forgive us debts ours, ſo we forgiven debts of ours;
6. And no inlead uſig in cuſtnung,
And not lead us into temptation;
7. Ah gefrig uſich frum ifle,
But free us each from evil. Amen.

In this ſpecimen we ſee that there are not above three or four words altogether obſolete, and quite unintelligible to an Engliſh reader. The language ſpoken by our anceſtors above a thouſand years ago was copious, expreſſive, and muſical; abounding very much in vowels, diphthongs, and polyſyllables, which are eſteemed the greateſt excellencies of language. The ſubſtance of it reſembles modern Engliſh, and moſt of the words are ſtill in uſe, though the ſpelling and meaning of many of them are changed. The Anglo-Saxon language was ſteadily retained by the Engliſh; and it overcame all the efforts of the Conqueror and his ſucceſſors to ſubſtitute the Norman in its place. It forced its way at length into the courts of juſtice, from which it had been excluded almoſt 300 years; and in 1362, an act of parliament was made, that all pleadings in all courts, both of the king and of inferior lords, ſhould be in the Engliſh tongue. The Anglo-Saxon that was ſpoken in England about 200 years after the conqueſt, was ſurpriſingly pure, and had very little mixture of Latin, French, or any other language. In the courſe of the 14th century, it gradually changed into what may be called Engliſh. This was owing to various cauſes. The animoſity ſubſiſting between the poſterity of the Normans and Anglo-Saxons was extinguiſhed, and they were conſolidated, in a great meaſure, by inter-marriages and other means, into one people. Many of the Normans, who were engaged in agriculture, trade, and manufactures, found it neceſſary to ſpeak the prevailing language of the multitude. Moreover, Chaucer, Gower, Wickliff, and others, compoſed voluminous works, both in proſe and verſe, in Engliſh; and being men of learning, well acquainted with French and Latin, and ſome of them with Greek and Italian, they borrowed many words and idioms from thoſe languages, with which they adorned and enriched their own. Thus the Anglo-Saxon tongue was greatly changed, and the language of the beſt writers approached nearer to modern Engliſh than that of Robert of Glouceſter and others who flouriſhed in the 13th century. Nevertheleſs, the Engliſh of the 14th century was ſtill ſo different from that of the 18th and 19th, that a mere Engliſh reader cannot always underſtand it without a gloſſary. Beſides various dialects and different modes of pronouncing the Engliſh prevailed, at the time to which we now refer, in different diſtricts. Henry's Hiſt. vol. iv. p. 363—373., vol. viii. p. 391—395.

Anglo-Saxon *verſions* of the New Teſtament are extant in manuſcript, and a copious account is given of ſeveral of them in Le Long's Bibliotheca Sacra; the beſt edition of which is that of Marſh, publiſhed at Halle, in ſix vols. 4to. 1778—1790. Some books of the Bible were tranſlated by Biſhop Eadfried, and the goſpel of St. John by Bede; but the tradition that King Alfred tranſlated the greateſt part of the New Teſtament is very uncertain. The whole verſion has never been printed, but the four goſpels have been publiſhed by Matthew Parker, William Liſle, and Thomas Marſhall, in 1571, 1638, and 1665; and as they are evidently tranſlated from the old Latin, they may be of uſe in determining the readings of that verſion. Marſh's Michaelis, vol. i. p. 158.

ANGLURE, in *Geography*, a town of France, in the department of Marne, and chief place of a canton, in the diſtrict of Sezanne, three leagues ſouth-ſouth-eaſt from Sezanne.

ANGLUS, Thomas, in *Biography*, an Engliſh Catholic prieſt, whoſe name was White; was a profeſſed follower of the Ariſtotelian philoſophy in the ſeventeenth century. Being of a roving diſpoſition, he wandered through ſeveral parts of Europe. After reſiding for ſome time at Paris and at Rome, he was principal of a college at Liſbon, and ſub-principal at Douay. In England he adopted the opinions of Sir Kenelm Digby, with whom he lived, and reſiſted the efforts made by Des Cartes to proſelyte him to his own ſyſtem. He was a man of a ſingular character, and combined ſome degree of acuteneſs with conſiderable obſcurity of underſtanding; but his writings did not excite the notice and oppoſition which he expected. Some of them, however, were cenſured by the congregation of the Index Expurgatorius at Rome, in 1658; particularly a treatiſe entitled "Inſtitutiones Peripateticæ ad mentem ſummi viri clariſſimique Philoſophi Realmi Equites Angliæ," printed at Lyons in 1646. He wrote alſo "Queſtio Theologica," with a view of reconciling, in the principles of Digby's peripateticiſm, free will with effectual grace; "Inſtitutiones Theologicæ," and ſeveral other tracts. He is ſaid to have written, at the period of the commencement of the conteſts between Charles I. and his parliament, in favour of the doctrine of paſſive obedience; and he ſurvived the reſtoration of Charles II. Gen. Dict.

ANGOI, or Angoy, in *Geography*, a province of Africa, ſituate upon the Loango coaſt, lying between Cacongo on the north, and Congo on the ſouth; ſeparated from the former by the river Cabind, and from the latter by the Zaire. The inhabitants are extremely indolent, and the country little cultivated; the coaſts abound with fiſh, and the foreſts with apes and other animals; the chief town is Bomba-Cengoy. The chief port is Cabinda, at the mouth of a river of the ſame name, about five leagues north of Cape Palmerino, on the north ſide of the mouth of the Zaire. The bay lies commodiouſly for trade, wooding and watering on the ſea-ſhore.

ANGOKA, Angoxa, or Angadoxa, *iſlands* of, are iſlands of Africa in the Mozambique Gulf, and to the ſouth of Mozambique, ſituate in 16° 20′ ſouth latitude. They are ſterile, but inhabited. The violent currents occaſioned by the river St. Eſprit, and which drive veſſels to the north-north-weſt againſt the ſhores of the continent, terminate near the northernmoſt of theſe iſlands.

ANGOL, or *Villa nueva de los Infantes*, a town of South America, in the province of Chili, ſituate on the arm of the river Biobia, and about 125 miles north north-eaſt of Baldivia. This is one of the moſt agreeable towns in Chili. S. lat. 37° 36′. W. long. 72° 59′.

ANGOLA, a country of Africa, anciently called Abonda, or Ambonda, and afterwards Dongo, and by the Portugueſe Angola, may be divided into Angola proper, or that which was formerly a province of Congo, and the kingdom of Angola. In the firſt ſenſe, it is confined between two rivers of Danda, which parts it from that in the north, and that of Coanza on the ſouth. In the ſecond ſenſe, including its additional conqueſts, it extends along the Ethiopic coaſts from the mouth of the Danda, ſituate in S. lat. 8° 10′, to that called St. Francis, in 13° 15′, according to ſome; but according to the moſt accurate geographers, quite to Cape Negro, in 16° 21′. According to this laſt extent, Angola forms a coaſt of 480 miles, but its greateſt depth

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caſtward has not been aſcertained. The whole of Angola proper abounds with mountains, interſperſed with a few plains, on the ſea ſide, and between the ridges of the mountains. The kingdom of Angola, in its moſt flouriſhing ſtate, contained the following 17 provinces; *viz.* Chiſſama, under the 11th degree of ſouth latitude, and near the mouth of the Coanza; which produces an excellent ſalt, and fine honey and wax; Sumbi, in the ſame climate with the former, admirably adapted for breeding cattle and ſowing grain, if the inhabitants were not ſhamefully indolent; Benguela, retaining the title of a kingdom; Rimba, ſituate between Sumbi on the weſt, Lubolo on the north, Temba on the eaſt, and Scetta on the ſouth, and producing great quantities of grain and of fiſh; Scetta, ſouth of the former, and north of Benguela, extremely mountainous, and having a rock that extends 30 miles, the top of which is cultivated and inhabited, and enjoys ſalubrious air and water, and in the lower parts feeding large herds of cattle: Bembea, extending on one ſide along the ſea, and on the other dividing Angola from the other foreign ſtates in the ſouth, populous, and abounding with cattle; Temba, a flat low province, full of rivers and ſmall ſtreams, and abounding with wild cattle and wholeſome roots; Oacco, ſituate between the Coanza on the north-eaſt, and Lubolo on the ſouth-weſt, beautifully variegated with hills and plains, and furniſhed with ſprings and ſtreams which render it fertile; Cabezzo, having Coanza on the north-eaſt, and Rimba on the ſouth-weſt, populous, and well ſtored with cattle and other proviſions, and having alſo a mine of iron on a mountain called the Iron Mountain; the lord of Oacco was baptized in 1657, and the lord of this province in 1658, and they both induced many of their ſubjects to become Chriſtians: Lubolo, ſituate along the ſouthern banks of the Coanza, famed for its noble palm-trees, and yielding in great abundance oil, wine, and other produce: moſt of the inhabitants are Chriſtians. The ten provinces above recounted lie on the ſouth ſide of the Coanza; and within the Coanza is Loanda, an iſland on the coaſt of the kingdom of Bengo, chiefly remarkable for the capital of Angola, called San Paulo de Loanda, built upon it by the Portugueſe in 1578, large and populous, and well defended: Bengo, commonly known by the name of Zenza, yielding maize and manioc root, of which the inhabitants, who are all Chriſtians, make their bread; Danda, ſituate on a river of this name, dividing Angola from Congo; well watered, and fertile in grain and all kinds of fruits, but much infeſted with crocodiles and ſerpents; the inhabitants are Chriſtians: Moſeche, extending along the northern banks of the Coanza, very fertile in manioc, having mines of ſeveral metals, and poſſeſſing zimbis, or ſhell-money, of ſuch exquiſite beauty, that the Congoeſe will give a ſlave for a collar of them, and ſo much valued as to be worn by perſons of the higheſt rank, particularly the ladies, about their necks, arms, legs, and middle: Illamba, divided into the higher, between Bengo and Calacata; and the lower, between Danda to the north, and Bengo to the ſouth, both fertile and tributary to the Portugueſe, and the former having mines of excellent iron: Oarri, contiguous to Moſeche, well watered, and diſtinguiſhed by the libalto, or ancient royal reſidence of the kings of Angola; and Embacca, or Membacca, ſituate on the north ſide of the river Lucala, wholly ſubject to the Portugueſe.

The principal rivers of Angola are the Danda, Coanza, Rimba, Lutano or San Franciſco, and Congo; the traffick of this country is ſlaves, of whom the number is very great, partly for ſale and partly for domeſtic uſe. The traffick is ſaid to have diveſted the people of their humanity, as parents ſell their children, and huſbands their wives, at a very cheap rate. Polygamy is prevalent in this country; and ſo is alſo, amongſt thoſe people that are not converts to Chriſtianity, the inhuman cuſtom of butchering a great number of human victims at the funeral obſequies of their relations, and piling their carcaſes in heaps on their tombs.

Before the arrival of the Portugueſe, this kingdom was ſubject to the kings of Congo, and governed by a deputy. One of theſe deputies, whoſe name is ſaid to have been Ngola, or Angola, ſhook off the Congoeſe yoke, and aſſumed the royal title. In this rebellion the ambition of Ngola was aſſiſted by the Portugueſe, who, diſcovered this coaſt in the year 1484. Ngola lived to a very advanced age, and was much reſpected; but having raiſed a favourite ſlave to the rank of lieutenant-general, he fell a ſacrifice to the treachery and ambition of this viceroy, who, in order to effect his purpoſe and ſecure the ſucceſſion, pretended great reſpect for Zunda Riangola, one of the king's daughters. Upon his death, which happened ſuddenly, the princeſs was univerſally acknowledged and crowned queen of Angola. Such were the pride and jealouſy of the queen, that ſhe would not marry, becauſe ſhe would have no rival; and as ſhe feared a competition on behalf of the two ſons of her ſiſter, ſhe ordered them to court under a pretence of having them educated as her children and heirs to her crown; but upon the arrival of the eldeſt, ſhe inſtantly cauſed him to be murdered. The incenſed parent avenged herſelf by plunging a dagger in her breaſt; and for this act of retributive juſtice, the Angolans placed the crown on her head, but ſhe immediately ſurrendered it to her ſurviving ſon. He was ſucceeded by one of his younger ſons, Dambi Angola, who, upon aſcending the throne, determined to put all his brethren to death. Two of them, however, eſcaped. Dambi was a monſter of perfidy, cruelty, avarice, and lewdneſs; but happily for his ſubjects, his reign was not of long duration. Dambi was ſucceeded by Ngola Chilvagni, a warlike prince, who extended his conqueſts along the rivers Danda, Lucalla, Zanda, and Coanza, and literally tinged them with blood. Having carried his victories within eight leagues of Loanda San Paulo, he cauſed a tree to be planted, which he fixed as the limit of his ravages, near which the Portugueſe afterwards erected a fortreſs, and they called the tree Iſanda, or Iſandaura. This ambitious and ſucceſsful monarch could not forbear fancying himſelf to be one of the deities of the country, and exacting honours ſimilar to thoſe which were paid to them. It was not long, however, before he was obſerved to ſubmit to the fate of other mortals. His ſucceſſor, Ngingha Angola, was a cruel tyrant; but the country was ſoon delivered from his oppreſſions; and exchanged thoſe of the father for the more ſevere and grievous ones of the ſon, Bandi Angola. The life of this oppreſſor was threatened by the rebellion of his aggrieved ſubjects; but the Portugueſe defeated the rebels, and thus enſured the favour of the king, who took them into his ſervice, and even into his council. The Portugueſe general was the favourite at court, and more eſpecially with the daughter of the ſovereign. Her attachment was ſoon diſcovered by the father; and with a mind inflamed by reſentment, and an apprehenſion that a connexion of this kind would be the means of depriving him of the crown, he formed a reſolution to extirpate all the Portugueſe, as a meaſure eſſential to his own ſecurity. They were, however, appriſed of his deſigns by the young princeſs; and retreated into the kingdom of Congo, without interruption or moleſtation. The Portugueſe general obtained permiſſion of the king of Congo to ſail for Liſbon, under a promiſe of returning with a powerful reinforcement, in order to avenge himſelf on the perfi-

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dious ſovereign of Angola. He ſoon obtained the deſired armament, and returned, at the head of his ſquadron, up the river Coanza: he landed his forces about two leagues from Maſſingano, a city on the banks of the Coanza, and erected a fortreſs for their ſecurity. The king of Angola prepared for his defence: but in an engagement between his forces and the Portugueſe, he ſuffered a total defeat, and was merely able to eſcape with his life. His diſcontented ſubjects united with the victorious troops of the admiral, and after committing many dreadful ravages, executed their purpoſe of maſſacring their ſovereign. Bandi Angola was ſucceeded by his ſon Ngola Bandi, who began his reign by wreaking his reſentment upon all who had oppoſed his election. The next objects of his hatred and jealouſy were the Portugueſe; but they, though much inferior in number, obliged him to ſave his life by flying, firſt into the iſland of Chicendi, in the river Coanza, and from thence into one of the neighbouring deſerts of Oacco, where he was permitted to live among the wild beaſts, without any other ſuſtenance than that which the deſerts afforded him. Having been guilty of treachery in evading the fulfilment of a contract with the Portugueſe governor, and dreading his reſentment, he condeſcended to intreat his ſiſter Zingha, whoſe ſon he had murdered, to undertake an embaſſy to the governor, and to procure peace with him upon any terms. In order to effect her purpoſe, he adviſed her even to embrace the Portugueſe religion, if it ſhould prove the means of facilitating her negociations. Zingha accepted the office, and was received by the viceroy in a very reſpectful manner. During her ſtay at Loanda San Paulo, ſhe conſented to be inſtructed in the principles of Chriſtianity; and profeſſing her approbation of them, ſhe was baptized with great ſolemnity in the year 1622, which was the 40th of her age. The articles, which were ſettled between Zingha and the governor, were ratified by her brother; and he requeſted a prieſt to be ſent, in order to inſtruct him in the Chriſtian religion. But he refuſed to be baptized, becauſe the perſon who adminiſtered it was the ſon of one of his ſlaves. Ngoli Bandi delayed executing the ſtipulated articles, and determined to renew the war againſt the Portugueſe. In executing this purpoſe, his troops were all cut off, and he was forced to ſwim into a little iſland in the Coanza, where he was purſued; and he eſcaped being murdered by terminating his life with a doſe of poiſon adminiſtered to him by order of his ſiſter Zingha. Zingha aſcended the throne; and, in order to ſecure her power, ſhe murdered her nephew with her own hand. The object to which her principal attention and anxiety were directed, was the deliverance of the realm from the Portugueſe, who were now become numerous, wealthy, and powerful, and who were dreaded by all her ſubjects. With this view ſhe commenced a war againſt them, and gained at firſt ſome temporary advantages. At length ſhe was abandoned by her allies, and by her own forces, and obliged to abdicate her dominions, and to retire into ſome of the eaſtern deſerts, where ſhe remained unmoleſted. During her retirement, the Portugueſe appointed Angola Oarii, a deſcendant of the royal family, to be king; and before they crowned him obliged him to declare himſelf a Chriſtian, and to be baptized under the name of John. His reign, however, was of ſhort duration; death made way for his ſucceſſor, Philip, the ſecond Chriſtian king, who prolonged his reign to the year 1660. Zingha, in the mean while, ſeeing herſelf ſtripped of eleven of her beſt provinces, and diveſted of her authority and tribute in the other five, renounced her religion, and devoted herſelf to all the idolatrous ſuperſtitions and inhuman rites of the Giagas; and ſhe thus acquired ſuch authority and influence, that they were ready, at the firſt intimation of her will, to follow her through the moſt hazardous enterpriſes. By this influence ſhe was able to haraſs the Portugueſe, and to keep them in a ſtate of perpetual terror. At length they ſent two deputies to negotiate a peace with her; but their embaſſy was unſucceſsful. Upon renewing the war before the fortreſs of Maſſangano, ſhe loſt a great number of her men, her two ſiſters were taken priſoners, and ſhe herſelf eſcaped with great difficulty. Zingha had two councils, one for affairs of ſtate and war, the other for religious concerns: the firſt conſiſted of four officers; the other of five ſingollos, or prieſts of the Giagan religion. Having convened theſe nine counſellors to deliberate, ſhe propoſed to them whether ſhe ſhould embrace the Chriſtian faith, or continue in the religion of the Giagas. She had recourſe to the uſual mode of conſulting the ſpirits of her anceſtors, and the oracle's decree was ſuch as ſhe had foreſeen. The demon declared againſt his own intereſt, and exhorted her to be reconciled to the faith from which ſhe had apoſtatized. Whilſt this farce was carried on, ſhe had her troops collected, and in the ſpeech, which ſhe addreſſed to them, ſhe confeſſed and bewailed her apoſtacy, and declared her purpoſe of conforming to the obſervance of the Chriſtian precepts and rites. Her addreſs was received with univerſal acclamation, and ſhe conſidered this as a happy omen of their ſpeedy converſion. The conſequence was her reconciliation with the Portugueſe, and ſingular zeal and activity in promoting the profeſſion of Chriſtianity among her ſubjects. She prohibited the practices of heatheniſm which then prevailed, under the ſevereſt penalties; and in order to encourage marriage, and thus to reſtrain the plurality of women, ſhe took a huſband, and publiſhed an edict againſt polygamy, which produced effect. She alſo reformed the tyranny of the lords in her dominions, who did not allow their vaſſals to marry without their licence, for which they paid a conſiderable ſum. Nothing ſeemed to be now wanting to complete the progreſs of Chriſtianity but a new ſupply of miſſionaries from Europe; in order to obtain theſe, ſhe ſent a letter to Rome in the year 1658, and received a favourable anſwer in 1662. The pope's letter was publicly announced in the new church which ſhe had built, on the 15th of July, and ſhe repaired to the place, with the letter ſuſpended about her neck in a rich golden purſe. After much ſolemn ceremony on this occaſion, ſhe gave a magnificent treat to the Portugueſe reſident, and to all her court, which was accompanied with the grant of largeſſes to her chief officers, and with a releaſe of a number of ſlaves; and terminated in her performing, at the head of her ladies of honour, who were dreſſed and armed in the Amazonian ſtyle, a kind of combat, in which this princeſs, though above 80 years of age, behaved with great vigour and activity. Whilſt the queen was diligently employed in promoting the converſion of her ſubjects in her new capital, ſhe was ſeized with a diſorder which proved fatal. Father Antony attended her in her laſt moments, and received inſtructions concerning her interment; and ſhe committed the whole conduct of her laſt obſequies to him; ſhe likewiſe recommended, with her laſt breath, the propagation of Chriſtianity, the protection and encouragement of the miſſionaries, and the enforcement of all the edicts againſt the impious rites of the Giagas. On the 17th of December, in the 82d year of her age, ſhe cloſed her life and reign. The deceaſed queen was buried with great pomp; and, from reſpect to her memory, her ſiſter Barbara, who ſucceeded her, was inaugurated a ſecond and a third time, with joyful acclamations. She was a very zealous Chriſtian, but her efforts to promote Chriſtianity were reſtrained or diſcouraged by an ill-natured and cruel huſband, whoſe name was

Mona

Mona Zingha, and who had been raiſed by the late queen from the condition of the ſon of a ſlave to the rank of her chief general. The queen's diſorder and infirmities increaſed, and, after a ſhort reign of about two years and a half, ſhe cloſed her life A. D. 1066. Mona Zingha ſucceeded her, and exhibited ſufficient evidence of his abhorrence of Chriſtianity, and of his ſteady attachment to the abominable rites of the Giagan ſect. To remove all doubt with regard to his ſentiments, he cauſed five young ladies of the firſt rank to be buried alive in his wife's grave. By various methods to which he had recourſe, he almoſt extirpated Chriſtianity; but his career was ſoon ſtopped by Don John, the princeſs Barbara's firſt huſband, from whom ſhe had been divorced on account of his having another wife. Upon his arrival, the uſurper fled into an iſland in the Coanza; but he returned again, and having killed Don John, regained the throne without any further oppoſition. Don Franciſco, however, the ſon of Don John, headed an army againſt the uſurper, and Mona Zingha having been defeated and ſlain, Don Franciſco became ſole maſter of the empire. The following kings of Angola poſſeſſed only a ſhadow of royalty, The laſt of this deſcription was Ngola Sedeſio, who revolted, and was taken priſoner. His head was cut off, put in pickle, and ſent from Loanda to Liſbon. After this it does not ſeem that the Portugueſe government have thought it proper or perhaps ſafe to amuſe their Angolic ſubjects with even a mock monarch of their own nation: but they have committed the ſole command of the kingdom to the viceroy of Angola, and his council. This kingdom hath long ſince been erected into a biſhopric, ſuffragan to that of St. Thomas. The manners, language, religion, dreſs, and ceremonies of the Angoleſe, are ſimilar to thoſe of the inhabitants of Congo. Mod. Un. Hiſt. vol. xiii.

ANGOLENSIS, in *Ornithology*, a ſpecies of FALCO, found in Angola. It is white, cere bluiſh, orbits fleſh-coloured and naked, primary wing-coverts and baſe of the tail black. Gmelin. The ſize of this ſpecies is half as large again as the kite. The bill is whitiſh, long, and but little curved; irides ſtraw colour; head and neck clothed with feathers, craw pendulous; head, neck, back, breaſt, belly, and leſſer wing-coverts of a pure white; greater wing-coverts and primaries black; the laſt tipped with white; end of the tail white; legs dirty white and ſcaly. Latham, Gen. Syn. This ſpecies was firſt deſcribed by Mr. Pennant from ſpecimens in the collection of R. P. Parry, Eſq. He obſerves, that they were very reſtleſs and querulous, and more active than is uſual with this ſluggiſh race.

Angolensis, a ſpecies of MEROPS, of a ſhining golden-green colour, with a cinereous band through the eyes ſpotted with black; wings and wedge-ſhaped tail cinereous beneath; chin yellow, throat cheſnut. Gmelin. This is APIASTER ANGOLENSIS, and Le Gueſpier d'Angola of Briſſon, who figured and deſcribed it from a drawing ſent to him by M. Le Poivre. It is Le petit Guépier vert & bleu à queue étagée of Buffon, and Angola bee-eater of Latham, Gen. Syn. This bird is five inches and a-half in length. The bill is three quarters of an inch in length, and black; the irides red; upper part of the head, neck, body, and wings, are green gloſſed with gold; on each ſide of the head an aſh-coloured ſtripe dotted with black, beginning at the baſe of the bill, and paſſing through the eyes; breaſt, belly, ſides, and thighs, greeniſh blue, with a ſlight golden tinge; under-tail coverts greeniſh, intermixed with cheſnut. The ſide feathers of the tail margined with cinereous; legs aſh-coloured, claws black. Latham, &c.

Angolensis, a ſpecies of LOXIA that inhabits Angola. This is the black groſbeak of Edwards, and Angola groſbeak of Latham. It is blue-black, belly ferruginous, and a white ſpot on the wing. Gmelin. Size of the common bulfinch, length five inches, bill duſky, eyes dark, ridge of the wing white, legs purpliſh fleſh-coloured.

Angolensis, a ſpecies of EMBERIZA, about the ſize of a finch, that inhabits Angola. This is the gros-bec à poitrine couleur de feu of Salerne, whoſe deſcription has been adopted by Latham and Gmelin. It is black, crown of the head and neck yellow, and tail long. It is the Angola bunting of the Gen. Syn. The bill is ſhort like that of the bulfinch, and the breaſt is fire-coloured.

Angolensis, a ſpecies of FRINGILLA: above it is browniſh aſh colour, beneath orange, front of the head black, round the eyes, and on each ſide of the throat white, rump pale yellow, wings and tail brown. Gmelin. This kind inhabits Angola, where the male bears the name of negral, or tobaque; the female benguelinha; or at leaſt it is conjectured by Edwards and Latham, that theſe are the two ſexes of the ſame ſpecies. It is the ſize of the common linnet. The ſuppoſed male has the bill brown, upper part of the head, neck, and body browniſh aſh-colour, each feather darkeſt on the middle; the greater wing-coverts and quills brown, edged with yellow; tail brown edged with grey; legs fleſh-coloured. The female has the upper parts rufous brown, ſides of the head pale rufous, near the baſe of the bill a brown mark, which paſſes towards the hind head; from the breaſt to the vent pale rufous, ſpotted with brown. This is the Vengoline of Buffon and the Hon. D. Barrington. Phil. Tranſ. Linaria Angolenſis of Briſſon, and Angola finch of Latham. The laſt author has given a new ſpecific character to this bird in the Ind. Orn. It is aſh-coloured brown, with brown ſpots; beneath cheſnut; front of the head and chin black; cheeks and throat ſpotted with white; rump pale yellow.

ANGOLI, a name given by Buffon and others to the Madras gallinule, FULICA MADERASPATANA of Gmelin. See MADERASPATANA.

ANGON, in the *Ancient Writers on Mechanics*, denotes a military engine of the bow-kind. Others again ſpeak of it as a kind of javelin uſed by the French, the iron head of which reſembled a fleur de lys. It is the opinion of ſome writers, that the arms of France are not fleur de lys, but the iron points of the angon, or javelin of the ancient French.

ANGONÆUS, in *Anatomy*, a name given by Riolanus and others to a muſcle called by the generality of other writers *anconæus*, and *cubitalis minor*.

ANGOR is uſed by ſome phyſicians to denote a ſhrinking inwards of the native heat of the body, or its retiring to the centre; upon which enſues a pain, and palpitation of the heart, attended with ſadneſs and melancholy.

In this ſenſe angor amounts to much the ſame with what the Greeks call *agonia*.

The angor is reputed a bad ſymptom, when it happens in the beginning of an acute fever.

ANGORA, ANGOURA, ANGOURI, and formerly ANCYRA, in *Geography*, a town of Natolia, in Aſiatic Turkey. This is an agreeable city, in a lofty ſituation, and has many veſtiges of its ancient magnificence and ſplendour. The caſtle has a triple incloſure, and the walls are formed of large pieces of white marble, and a ſtone reſembling porphyry. The number of inhabitants is eſtimated at 80,000. The trade is chiefly in yarn, of which our ſhalloons are made, and in their own manufacture of Angora ſtuffs, made principally of the fine hair of a particular breed of goats, which, like that of the cats, occurs in no other country. The ſoil of the adjacent country is a fine red marl. The baſhaw of Angora has about 30 purſes annually; and here are about 300 janizaries,

under the command of a ſundar. The Armenians have ſeven churches, beſides a monaſtery; and the Greeks two. N. lat. 39° 30′. E. long. 32° 5′.

Angora is famous for the battle between Tamerlane and Bajazet, A. D. 1402, which has immortalized the glory of the former, and the ſhame of the latter.

ANGOT, a province or kingdom of Abyssinia, formerly rich and fertile, but almoſt ruined by the Gallas, who are now in poſſeſſion of it.

ANGOTE, a town of Africa, in the kingdom of Congo, and province of Pango.

ANGOULEME, a city of France, and capital of the department of Charente; before the revolution, the capital of Angoumois, and ſee of a biſhop, ſuffragan of Bourdeaux. It is ſeated on a rock, at the foot of which runs the river Charente. The inhabitants are ſaid to be about 8000, and their manufacture is paper. N. lat. 45° 37′ 3″. E. long. 8° 45′.

ANGOUMOIS, a diſtrict of France, before the revolution a province, bounded on the north by Poitou, on the eaſt by Limoſin and Marche, on the ſouth by Perigord, and on the weſt by Saintonge. It is between 15 and 18 French leagues in length, and about 16 in breadth. The principal rivers are the Charente and Touvre; there are many iron mines in this province, and the land produces wheat, rye, barley, oats, ſaffron, wine, and all kinds of fruits.

ANGOUSTRINA, a town of France, in the department of the Eaſtern Pyrenées, and chief place in the diſtrict of Prades, on the frontiers of Spain; four miles north-eaſt of Puyarda, and eight weſt of Mont Louis.

ANGOY. See Goy and Loango.

ANGRA, a ſea-port town of Terceira, one of the Azores, the capital of that iſland and of all the Azores, and the reſidence of the governor. It is ſituated in a bay between two mountains on the ſouth ſide of the iſland, and it is equally ſecure againſt ſtorms and the aſſault of an enemy. On theſe hills are two pillars, and a watchman who gives ſignals of ſhips approaching the iſland by means of flags. The town is ſaid to have received its name from Angra, a creek, bay, or ſtation for ſhipping; this bay being the only convenient harbour in all the Azores. It opens from the eaſt to the ſouth-weſt, is not above four cables length in breadth, and, according to Frezier, it has not above two cables of good bottom. In ſummer, ſhips may ride here with ſafety; but when the ſtorms of winter come on, the approach of which is indicated by clouds hanging on the Pico, a high mountain in another of the Azores, and the fluttering and chirping of flocks of birds round the city, ſhips ſhould put off with all expedition to ſea. The town is well built and populous, and is an epiſcopal ſee, under the juriſdiction of the archbiſhop of Liſbon. It has five pariſhes, a cathedral, four monaſteries, and as many nunneries, beſides an inquiſition and a biſhop's court, which extends its juriſdiction over all the Azores, Flores, and Corvo. The town is ſurrounded by a wall and dry ditch, and defended by a ſtrong caſtle, in which king Alphonſo was impriſoned by his brother Peter, in 1668. The houſes have a handſome external appearance, but they are indifferently furniſhed, for which the Portugueſe allege, as a plea for their poverty, that warm furniture would be inconvenient in ſo hot a climate. N. lat. 38° 39′. W. long. 27° 12′ 15″. At Angra are kept the royal magazines for anchors, cables, ſails, and all ſorts of ſtores, for the royal navy or for merchantmen in diſtreſs. All maritime affairs are under the inſpection of an officer called "deſambargador," who hath ſubordinate officers and pilots for conducting ſhips into the harbour, and the proper watering places. The Engliſh, French, and Dutch, have each a conſul here, though their commerce with the Azores is not very conſiderable. Mod. Un. Hiſt. vol. xii. p. 55, &c.

Angra de los Reyes, a town of South America, in the capitainſhip of Rio de Janeiro in Brazil, ſubject to the Portugueſe, about 36 miles from Rio de Janeiro. It is ſituate upon the coaſt, in a ſmall bay, whence it has its name; being, in Engliſh, King's Bay. It has two churches, a monaſtery, a ſmall guard-houſe of about 20 ſoldiers. Its chief produce is fiſh. S. lat. 22° 28′. W. long. 17° 41′.

Angra *Bay*, or Great Bay, lies on the weſtern coaſt of Africa, to the north of Cape Blanco, in N. lat. 20° 55′, and W. long. 17° 10′. This is the moſt weſterly coaſt of Africa.

Angra *River* is alſo on the coaſt of Africa, in N. lat. 1°, and E. long. 9° 35′, having at its mouth the iſland of Koriſco, about five leagues ſouth of Cape St. John, which is its northerly extreme point, as Cape Eſturas, ſeven leagues from Cape St. John, is the ſoutherly point.

Angra *River* is alſo on the ſame coaſt, and on the ſouth ſide of the equator, and of the river Gabon.

Angra *Iſland* lies in the Perſian gulf, and has a ſpacious harbour at Burka; but it is uninhabited.

ANGRAB, a river of Abyſſinia, formed by ſeveral ſtreams in the provinces of Tcherkin and Sire, and which, by its confluence with the Guangua, forms the Tacazze.

ANGRÆCUM, in *Botany*. See Epidendrum.

ANGRIVARII, in *Ancient Geography*, a people of Germany, ſuppoſed by ſome to have been the ſame with the Angerii of the middle age; ſituate, according to Tacitus (Annal ii. c. 8.), between the Weſer and the Ems, and extending eaſtward beyond the Weſer as far as the Cheruſii, on which ſide they raiſed a rampart; with the Tubantes on the Ems to the ſouth; to the weſt the Ems and the confines of the Bructeri, and to the north between the Chamave and Anſibarii. They are placed by Ptolemy between the Cauchi and Catti, or Suevi. Their territory is ſuppoſed now to contain a part of the country of Schaumburg, half of the biſhopric or principality of Minden; and to the ſouth, the greateſt part of the biſhopric of Oſnaburg, the north part of the county of Techlenburg, and a part of the county of Ravenſberg. Some trace of the name is obſervable in a ſmall town of Ravenſberg, called Engern.

ANGROGNA, a pariſh of Piedmont, watered by a river of the ſame name, and producing excellent fruits, particularly cheſnuts. This is a valley ſurrounded by high mountains, to which there is acceſs only by two paſſes. At a village called La Tour, the valley preachers uſed to officiate, and qualify young men for the miniſtry, without diſturbance, before the reformation.

ANGRUS, a river of Illyria, which, according to Herodotus, ran towards the north-eaſt, paſſed along the plain of the Triballi, and diſcharged itſelf into the Brongus, which joined the Iſter.

ANGSANA, or Angsava, in *Botany*, names by which ſome authors have deſcribed the *draco arbor* or *dragon-tree*; one of the trees ſaid to afford the ſanguis draconis, or dragon's blood of the ſhops.

It is eſteemed an aſtringent, and an excellent remedy in the aphthæ.

ANGUADA *Cape*, in *Geography*, is the moſt weſterly point of Porto Rico Iſland in the Weſt Indies, and is diſtant from Cape Sumana, or the neareſt land at the north-eaſt of Hiſpaniola iſland, 22 leagues.

ANGUEAH, a conſiderable river of Abyſſinia, not far from Kellah, in N. lat. 14° 24′ 34″. Where Mr. Bruce croſſed it, it was 50 feet broad and three deep, and the largeſt river which he had ſeen in Habeſh. It was perfectly clear, and ran rapidly over a bed of pebbles. It was full of ſmall

fiſh,

fiſh, eſteemed excellent. It has its name from a beautiful tree which covers both its banks, and which, by the colour of its bark and richneſs of its flowers, is a great ornament to it. Bruce's Trav. vol. iii. p. 113.

ANGUEG, in *Zoology*, a name given in Abyſſinia to the water-lizard, or caudiverbera of the Italians.

ANGUELLA, in *Ichthyology*, a name by which ſome former naturaliſts diſtinguiſhed the ſpecies of ATHERINA HESPETUS of Linnæus, a ſmall fiſh that inhabits the ſhores of the Mediterranean ſea. Piſciculus *anguella Venetiis* dictus; forte *hepſetus* Rondeletii, vel *atherina* ejuſdem. Wil. Icht.

ANGUIENSIS, in *Ancient Geography*, a place of Africa, ſituate, according to Hardouin, in Numidia.

ANGUIER, FRANCIS and MICHAEL, in *Biography*, ſculptors, were born at Eu in Normandy. The elder, Francis, was born in 1604; and having been brought up under Guillain, a ſculptor at Paris, was ſent for to England, and there acquired a ſufficiency to enable him to viſit Italy for improvement. After having ſpent two years in Italy, he returned to France, and was made keeper of Antiques by Louis XIII., and had apartments in the Louvre. He was employed in ſeveral celebrated works, chiefly of the monumental kind, ſuch as the tomb of James Souvre, at St. John de Lateran; and the mauſoleum of the laſt duke de Montmorency, at Moulins. He died at Paris in 1669.

Michael was born in 1612, became an artiſt at 15, and employed his firſt ſavings under Guillain, at Paris, for viſiting Italy, where he entered into the ſchool of the famous Algardi at Rome. After 10 years he returned to France, and aſſiſted his brother in executing the monument of Montmorency. His reputation was great, and he was employed, according to the taſte of the times, in many works of decoration. He adorned the apartment of queen Anne of Auſtria, in the old Louvre, with many allegorical figures; he executed the altar-piece of the church of St. Denis de la Chartre, and the rich ſculpture of the gate of St. Denis. His laſt work was a marble crucifix over the high altar of the church of Sorbonne. He died in 1686. Gen. Biog.

ANGUILARA, in *Geography*, a town of Italy, belonging to the Venetian States in the Paduan, 12 miles ſouth of Padua.

ANGUILHAS, *Cape d'*, lies to the eaſt of the Cape of Good Hope, on the African coaſt in the Indian Ocean, in S. lat. 34° 50', and E. long. 20° 6'.

ANGUILLA, or *Snake Iſland*, ſo called from its ſnake-like form, is the firſt of the ſmaller Antilles, and the moſt northerly of all the Carribee iſlands poſſeſſed by Britain in the Weſt Indies. On the ſouth ſide it has good anchorage and a gentle current, but on the eaſt ſide it is inacceſſible on account of flats, ſhoals, and ſmall iſlands. It was diſcovered and ſettled by the Engliſh in 1650; but the firſt cultivators were moleſted by rapacious invaders, particularly French pirates; and, after the revolution, a party of wild Iriſh. New ſettlers from Barbadoes and other Engliſh Caribbees, knowing the value of the ſoil, removed to Anguilla, and carried on a lucrative trade, without any government, civil or eccleſiaſtical. In 1745, a ſmall body of their militia reſiſted the attack of a conſiderable number of French, and obliged them to retire with great loſs. The inhabitants ſubſiſt moſtly by farming, planting India corn, and other kinds of huſbandry. The climate is healthy, and the people ſtrong and vigorous. The exports, in 1770, amounted, in ſugar, rum, and cotton, to near 6000l. The iſland is 10 leagues in length, and three in breadth; and is ſituated 25 leagues north-weſt of Barbuda, and 15 from St. Chriſtopher's. N. lat. 18° 15'. W. long. 62° 57'.

ANGUILLA is alſo a bank iſland, and eaſt of the great Bahama bank, and north of the iſland of Cuba. N. lat. 23° 22'. W. long. 78° 47'.

ANGUILLA, in *Ichthyology*, a ſpecies of MURÆNA. This is the common eel, having the lower jaw longeſt, and the body of one colour. Linn. & Gmel. The dorſal fin is ſaid to contain 1000 rays, pectoral fin 19, and the anal fin 100. See EEL.

ANGUILLA INDICA, in *Natural Hiſtory*, a name given by Willoughby to a ſpecies of TRICHIURUS in the Linnæan arrangement of fiſhes. See TRICHIURUS INDICUS.

ANGUILLÆ, a ſpecies of TÆNIA that inhabits the inteſtines of eels. The head is ſeſſile, diſtinct, and thickeſt, joints oblong, with irregular protuberances, and two mouths on one ſide. The body conſiſts of about 600 joints, and is ſometimes four feet in length, front of the head truncated, the firſt eight joints longeſt. The upper joints of the body are nearly ſquare, and twice as long as they are broad, the lower ones eight times as broad as they are long. Gmelin, Redi, &c. This is tænia claviceps of GOEZE.

ANGUILLARA, in *Geography*, a town of Italy, in the eſtates of the church and province of Patrimonio; ſituate on a ſmall river near the lake of Bracciano, 12 miles north-weſt from Rome.

ANGUILLARA, GIOVANNANDRA DELL', in *Biography*, an eminent Italian poet, was born of a mean family at Sutri, in 1517. From Rome, where he was engaged with a printer, and whom he left on account of an intrigue with his wife, he went to Venice, and formed an intimate acquaintance with a bookſeller, who bought his tranſlation of Ovid's Metamorphoſes, which contributed to his reputation. It was firſt publiſhed at Paris, and dedicated to Henry II.; and his fame, in conſequence of this work, was probably the cauſe of the pomp with which his tragedy of Œdipus was acted at Vicenza, in 1565, where Palladio was employed in erecting a magnificent temporary theatre for the purpoſe. He undertook a tranſlation of Virgil's Æneid, but never finiſhed it. By various other poems, ſatirical and burleſque, he obtained a precarious ſubſiſtence. He died at Rome in indigent circumſtances, and in conſequence of his diſſolute mode of living. Gen. Biog.

ANGUILLARA, LEWIS, an Italian botaniſt of the 16th century, travelled over the greater part of Greece, the iſlands of Cyprus and of Candia, over Switzerland, &c. Returning to Italy, he was made director of the botanical garden at Padua, in which poſt he continued to the time of his death, in 1550. He left behind him a work on the knowledge of ſimples, in Italian, which was publiſhed by Murinelli, at Venice, in 4to. in 1561. It was afterwards tranſlated into Latin by C. Bauhine, and printed at Baſle in 1593, in 8vo. Haller ſays (Bib. Botan.), Anguillara was the firſt Italian who had travelled to acquire a knowledge of plants, in which he attained ſo much perfection as to be able to correct the works of Dioſcorides and of Matthiolus. "Eximius auctor, ſi quæ recte viderat, paulo fuſius docuiſſet." This deficiency is ſupplied by Bahine, in his edition of his works.

ANGUILLARIA, in *Botany*. See ARDISIA. Anguillaria is made a diſtinct genus by Gmelin, though his ang. bahamenſis and ang. exceiſa are the ſame plant. Linn. Tranſ. vol. ii. p. 22.

ANGUILLARIS, in *Ichthyology*, a ſpecies of SILURUS that inhabits the Nile, and is deſcribed by Haſſelq. and Ruſſel. Aleppo. The dorſal fin is ſingle, and conſiſts of 70 rays, and it has eight beards. Gmelin. Body above the lateral line marbled with black and grey, beneath reddiſh grey. It has two beards on the upper lip, four on the lower lip, and one at each angle of the mouth. The rays of the gill membrane are nine, dorſal fins 70, and ſometimes 72, pectoral fins eight, ventral fins ſeven, anal fin 50, and caudal fin 20.

ANGUILLARIS, a ſpecies of GOBIUS, having a ſingle dorſal fin and red tail. Gmelin. This kind inhabits China, is fat, and ſlippery like an eel. The teeth are exerted out of the mouth, the fins are all red, dorſal and anal fin unite with the tail, pectoral fins very ſmall and roundiſh, and the ſkin ſomewhat tranſparent.

ANGUILLE, *Bay* and *Cape*, in *Geography*, lie on the weſt ſide of Newfoundland iſland in the gulf of St. Lawrence, about 10 leagues north from Cape Ray, the ſouth-weſtern extremity of the iſland. N. lat. 47° 55'. W. long. 59° 11'.

ANGUILLE is alſo a bay on the north-north-eaſt ſide of the Iſland of St. John's, in the gulf of St. Lawence, oppoſite to Magdalen iſles, having St. Peter's harbour on the eaſt, and Port Chimene on the north-weſt.

ANGUILLIFORM, ANGUILLIFORMIS, in *Zoology*, having the ſhape or appearance of an eel. The word is derived from *anguilla*, an *eel*, and *forma*, *ſhape* or *appearance*; and was formerly applied by naturaliſts to a number of different fiſhes that are ſoft, lubricous, and deſtitute of very apparent ſcales. Several of thoſe, as the *ſea ſerpent*, *conger*, &c. are now included with the eel (in the Linnæan arrangement), in the genus *muræna*, and the others are chiefly referred to that of *ammodytes*, *ophidium*, or *petromyzon*.

ANGUILLULA, in *Natural Hiſtory*, a ſpecies of VIBRIO found in vegetable ſediment, ſour paſte, infuſions of blighted wheat, and other grain, &c. and known generally by the name of paſte-eel. It is of equal ſize throughout, and ſomewhat rigid. Gmelin. See EELS *microſcopic*.

ANGUINA, in *Botany*. See CALLA and TRICOSANTHES.

ANGUINA, in *Conchology*, a ſpecies of SERPULA that inhabits the Indian Ocean. The ſhell is roundiſh and ſomewhat ſpiral, with a longitudinal articulated fiſſure. It varies conſiderably in form, being either round or angular, ſtraight or waved, ſmooth or rough, and the articulations of the fiſſure often obſolete. The SERPULA MUZICATA of Born is a variety of this ſpecies. Gmelin.

ANGUINA, in *Entomology*, a ſpecies of phalæna, of the BOMBYX family, found in North America by Abbot, and deſcribed by Dr. Smith. The anterior wings are clouded, baſe and tranſverſe ſtreak pale; a whitiſh ſpot with a double black pupil near the apex.

ANGUINA, in *Natural Hiſtory*, a ſpecies of SERTULARIA, called the ſnake coralline by Ellis. It is deſtitute of denticles, and the ſtem is ſimple, with clavated obtuſe branches, each of which has a lateral aperture. Gmelin, Ellis, &c. This kind inhabits the Mediterranean Sea; it is white, ſoft, and flexible, and adheres to other marine ſubſtances.

ANGUINA, in *Zoology*, a ſpecies of LACERTA, having a verticillated tail which is ſtiff at the extremity, ſtriated body, and ſubulated feet without toes. This is *vermis ſeptentiformis ex Africa* of Seba, and *chalcides pinnata* of Laur. The head is rather depreſſed and ſmall, ears tranſverſe, body round and verticillated, the ſcales on each ſide longitudinally furrowed; tail twice as long as the body, ſharply pointed at the end; legs ſix, anterior ones ſlender, body covered with ſubulate ſcales. Gmelin. The general deſcription of this creature does not clearly correſpond with thoſe of the authors quoted by Linnæus and Gmelin. The figure in Seba is about 15 inches in length, of which the body is four inches: the whole is covered with ovate ſcales, is brown above, with duſky longitudinal ſtripes, yelloviſh beneath, and aſh coloured on the ſides. It is common in muddy places about the Cape of Good Hope.

ANGUINEAL *hyperbola*. See HYPERBOLA and CURVE.

ANGUINEI *verſus*, in *Poetry*, thoſe which may be read backwards. Theſe are otherwiſe called recurrent verſes. Such, *e. g.* are,

> "Optimum jus, lex amica, vox diſſerta:
> Diſſerta vox, amica lex, jus optimum."

ANGUINUM, *ovum*, among *Ancient Writers*, denotes an extraordinary ſort of an egg, ſaid to be produced by the joint *ſaliva* of a cluſter of ſnakes interwoven and twined together; and when it was found, it was raiſed up in the air by the hiſſing of theſe ſerpents; and was to be caught in a clean white cloth before it fell to the ground. The perſon who caught it was obliged to mount a ſwift horſe, and to ride away at full ſpeed to eſcape from the ſerpents, who purſued him with great rage until they were ſtopped by ſome river.

The opinions which the Druids, both of Gaul and Britain, entertained of their anguinum, or ſerpent's egg, both as a charm and a medicine, are in a very high degree romantic and extravagant. The method of aſcertaining the genuineneſs of this was no leſs extraordinary. It was to be enchaſed in gold, and thrown into a river; and if it was genuine, it would ſwim againſt the ſtream. "I have ſeen," ſays Pliny (H. N. l. xxi. c. 3.), "that egg; it is about the bigneſs of a moderate apple; its ſhell is a cartilaginous incruſtation, full of little cavities, ſuch as are on the legs of the polypus; it is the inſignia or badge of diſtinction of the Druids." Among other wonderful virtues aſcribed to this egg, it was repreſented as particularly efficacious for rendering thoſe who carried it about with them, ſuperior to their adverſaries in all diſputes, and for procuring on their behalf the favour and friendſhip of great men. We have the following account of this egg, in the part of a Druid, in Maſon's "Caractacus:"

> ——"But tell me yet,
> From the grot of charms and ſpells,
> Where our matron ſiſter dwells,
> Brennus, has thy holy hand
> Safely brought the Druid wand;
> And the potent adder-ſtone,
> Gendered 'fore the autumnal moon,
> When in undulating twine,
> The foaming ſnakes prolific join;
> When they hiſs, and when they bear
> Their wondrous egg aloof in air;
> Thence, before to earth it fall,
> The Druid in his hallow'd pall
> Receives the prize,
> And inſtant flies,
> Follow'd by the envenom'd brood,
> Till he croſs the cryſtal flood?"

Some have thought that the ſerpent's egg was a mere fraud contrived by the Druids to delude the vulgar, who purchaſed theſe marvellous eggs at a high price. Others have imagined that the ſtory of the anguinum was an emblematical repreſentation of the doctrine of the Druids concerning the creation of the world. The ſerpents, they ſay, repreſent the divine wiſdom forming the univerſe, and the eggs the emblem of the world formed by that wiſdom. It may be added, that the virtue aſcribed to the anguinum of giving thoſe who poſſeſſed it a ſuperiority over others, and endearing them to great men, may perhaps be intended to repreſent the natural effects of learning and philoſophy.

Our modern Druideſſes, ſays Mr. Pennant, have an opinion of the virtues of the ovum anguinum, "glain neidr," as the Welch call it, or the "adder-gum;" according to the modern philoſophers, ſimilar, though inferior, to that which the ancients entertained concerning it: they merely apply it to aſſiſt in cutting children's teeth, to cure chin-cough, or

to cure an ague. Theſe eggs were, in reality, beads of glaſs, to which the Druids annexed a charm; and they were of a rich blue colour, either plain or ſtreaked.

ANGUINUS, in *Entomology*, a ſpecies of CURCULIO that inhabits Germany. It is cylindrical, grey, and lineated with brown. Gmelin. This inſect ſomewhat reſembles curculio paraplecticus, the legs and underſide of the body are grey, dotted with black, the beak much bent, wing caſes marked longitudinally with a double row of minute excavated points.

ANGUIS, in *Zoology*, the name of a genus of ſerpents in the Linnæan arrangement, which is diſtinguiſhed from the reſt by having the belly and under part of the tail covered with ſcales like thoſe on the other parts of the body. Gmelin. The ſpecies, according to Gmelin, are, ſtriatus, meleagris, colubrinus, miliaris, jaculus, maculatus, reticulatus, ceraſtes, naſutus, lumbricalis, laticauda, ſcytale, eryx, fragilis, ventralis, platuros, lineatus, clavicus, annulatus, ſcutatus, corallinus, rufus, hepaticus, and teſſellatus; which ſee reſpectively.

ANGUIS BIPES, in *Natural Hiſtory*, the Linnæan name of a creature in the claſs AMPHIBIA, inſerted in the *twelfth edition* of the Syſtema Natura, but referred by Gmelin from the genus ANGUIS to that of LACERTA. The latter author alſo refers ANGUIS QUADRUPES of Linnæus to the ſame genus. See LACERTA SERPENS.

ANGUIS, in *Conchology*, a ſpecies of TURBO figured in Martyn's Univ. Conch. It is ſtriated tranſverſely, green ſtriped with black; pearly within. Gmelin.

ANGUIS *Æſculapii*, ſee COLUBER.

ANGUIUM *lapis*, a name given to a ſuppoſed ſtone in Germany, which is of a cylindric figure, and has a cavity capable of admitting a finger, and of a yellow colour, with a great many variegations. The vulgar call it *duchaneck*, and have an idle opinion of its having its origin in ſome manner from a ſerpent-ant. De Boot, who had ſeen many of them, declares them to be fictitious, and made of glaſs tinged with two or three colours. Theſe were probably of the ſame kind, and uſed for the ſame purpoſes, with the ANGUINUM *ovum*.

ANGULAR, ſomething that relates to, or hath angles. Angular objects at a diſtance appear round; the little inequalities diſappearing at a much leſs diſtance than the bulk of the body.

ANGULAR *Motion*, in *Mechanics* and *Aſtronomy*, is the motion of a body which deſcribes an angle, or which moves circularly round a point. Thus, a pendulum has an angular motion about its centre of motion; and the planets have an angular motion about the ſun. Two moveable points M and O (*Plate* I. *Mechanics, fig.* 3*.), one of which deſcribes the arc MN, and the other, in the ſame time, the arc OP, have an equal, or the ſame, angular motion; although the real motion of the point O be much greater than that of the point M, *viz.* as the arc OP is greater than the arc MN. The angular motions of revolving bodies, as of the planets about the ſun, are reciprocally proportional to their periodic times; and they are alſo as their real or abſolute motions directly, and as their radii of motion inverſely.

ANGULAR *motion* is alſo a kind of motion compoſed of a right-lined and circular motion, or in which the moveable body ſlides and revolves at the ſame time. Such is the motion of the wheel of a coach, or other vehicle. The phenomena, &c. of ſuch motion, ſee accounted for under the article ROTA *Ariſtotelica*.

ANGULAR, *acute, ſection*, ſee ACUTE.

ANGULAR, *capital*, ſee CAPITAL.

ANGULAR *column*, ſee COLUMN.

ANGULAR *niche*, ſee NICHE.

ANGULAR, *Angulatus*, in *Botany*, denotes a ſtem, &c. having edges or corners, oppoſed to cylindrical. A ſtem may have one, two, three, four, or more angles or corners. The white archangel hath four. The flower-de-luce, or flag, has an angular capſule.

ANGULARIS *Scapulæ*, in *Anatomy*, a name given by Winſlow, and ſome others, to the muſcle of the ſhoulder generally called the LEVATOR *ſcapulæ*.

ANGULATA, in *Zoology*, a ſmall ſpecies of LACERTA, firſt diſcovered by Rolander in America. The body is brown above, and covered with carinated ſcales; thoſe on the belly are ſmooth; under the throat are two large rounded ſcales; the head is naked, with various, unequal, elevated wrinkles, which appear truncated at the collar, or behind the head; tail very angular, and half as long again as the body: the ſpecific character of this ſnake is, tail very long and ſexagonal, with carinated and mucronated ſcales. Gmelin

ANGULATA, in *Entomology*, a ſpecies of HISPA, that inhabits Cayenne. The antennæ are fuſiform, body yellow; head, dorſal line on the thorax, and waved, margin of the wing-caſes black. Fabricius and Gmelin.

ANGULATA, a ſpecies of PIMELIA, that inhabits Egypt. The wing-caſes are ſpinous, the lateral line elevated and ſerrated. Fabricius. This is the tenebrio ſpinoſus of Forſk. and tenebrio aſperrimus of Pall. This inſect is black and without wings, and the wing-caſes not divided; the thorax is rough, with three rows of ſpines, and intermediate rows of tuberculated ones, the lateral line deeply ſerrated.

ANGULATA, a ſpecies of CANTHARIS, found in the iſland of Amſterdam, South Seas. It is of a teſtaceous colour, thorax angulated and ſpinous, end of the wing-caſes blue, antennæ and legs black. Fabricius.

ANGULATA, a ſpecies of PHALÆNA, of the *bombyx* tribe. The wings are incumbent, angulated, teſtaceous-brown colour, with numerous black dots, and two obſolete bars of aſh colour. Fabricius. This muſt not be confounded with the BOMBYX ANGULATA of Gmelin, N° 475, whoſe deſcription is taken from *bombyx*, N° 26, of the ſpecies inſectorum of Fabricius, and ſhould have been written *argulata*, inſtead of *angulata*.

ANGULATA is alſo a ſpecies of PHALÆNA, of the *geometra* tribe. The wings are angular and tailed; it is varied with large and ſmall grey ſtreaks, and a black dot near the tail. Fabricius and Gmelin. This is a ſmall inſect, and inhabits Africa. Gmelin has alſo another ſpecies of PHALÆNA, of the *geometra* tribe, under the name of angulata; the wings are angular and pale. It inhabits Europe. Gmel. 1398.

ANGULATA, a ſpecies of ARANEA. It is ovate, front and ſides acutely angulated; centre of the thorax excavated. This is an European inſect, lives in trees, and ſpins a perpendicular web.

ANGULATA, in *Conchology*, a ſpecies of TELLINA that inhabits the Indian ocean. This ſhell is ſomewhat ovate, and marked with tranſverſe recurved ſtriæ, anterior part angulated, and no lateral teeth. Gmelin. This is about an inch and a half in length, and two inches in breadth. It differs from tellina virgata, which it in ſome reſpects reſembles, in being leſs oblong, entirely white, the anterior angle ſeated more outwardly, and the aperture behind oval. Gmel.

ANGULATA, a ſpecies of ANOMIA. The ſides of the baſe compreſſed, anterior part plaited, three teeth in the middle. Gmelin. Found in a foſſil ſtate; this ſhell is ſmooth, and varies in the number of plaits on the anterior part.

ANGULATUS, in *Zoology*, a ſpecies of COLUBER, of a browniſh colour, with dark or blackiſh, broad, lanceolate, tranſverſe

transverſe bands meeting alternately beneath. The Linnæan ſpecific character is, ſcales of the belly one hundred and ſeventeen, and thoſe of the tail ſeventy. The length of this ſnake is above two feet, head rather ſmall, and covered with large ſcales; the ſcales of the body diſpoſed in about nineteen longitudinal rows, and each ſcale rather ſtrongly carinated: its ſpecific name is taken from the angular appearance of the body. This kind is a native of Aſia.

Dr. Shaw having obſerved, that the number of abdominal and ſubcaudal ſcales vary conſiderably in different ſpecimens, has aſſigned this ſpecies a new ſpecific character, ſubfuſcus, faſciis tranſverſis lanceolatis nigricantibus, ſubtus alternatim concurrentibus. Gen. Zool.

ANGULATUS, in *Entomology*, a ſpecies of ATTELABUS, that inhabits Cayenne. It is ferruginous, wing-caſes angulated, black in the diſk. Fabricius. Antennæ black, ferruginous at the baſe; thorax ferruginous, with a black ſpot at the baſe.

ANGULATUS, a ſpecies of CARABUS, of the apterous kind. It is black and hairy, thorax guttered, wing-caſes furrowed, with two interrupted yellow ſtripes. Inhabits Coromandel. Fabricius.

ANGULATUS, a ſpecies of GRYLLUS, that inhabits Germany. It is yelloviſh, abdomen brown, ſegments of the joints obtuſe and angular. Fabricius.

ANGULATUS, a ſpecies of CANCER, with two ſpines on each ſide of the thorax, fore-claws very long. Gmelin.

ANGULOSA, in *Conchology*, a ſpecies of TELLINA, that inhabits America. This ſhell is oval, rather flat, and tranſverſely ſtriated: one end inflected and angulated; firſt tooth of the hinge bifid, lateral ones remote. Gmelin and Chemnitz.

ANGULOSA is likewiſe a ſpecies of ARCA, that inhabits the ſhores of the African and American ocean. It is ventricoſe, longitudinally marked with ſtriæ and fine lines, and has one ſide angulated; the beaks are contiguous, hinge arched. Gmelin. Its general colour is brown, with a few ſpots.

ANGULOSA is alſo the ſpecific name of a PATELLA, figured by Liſter and Martin. It is rather oval, white, thin, ſtriated, and varied with ſpots and dots of red; margin octangular. Gmelin. An orange-coloured ſhell, with elevated white ſtriæ and dots, bottom yellow, central orange ring and white margin; figured by Martini; is ſuppoſed to be a variety of this ſpecies. Its native country is not aſcertained.

ANGULOSA, in *Natural Hiſtory*, a ſpecies of MADREPORA, that inhabits the American ſeas. It is ſhort, thick, cellular, ſmooth, and white: the ſpecific character is, dichotomous, faſtigiate, with terminal, turbinated, angular ſtars; the lamella or gills dentated. Pallas and Gmelin.

ANGULOSUS, in *Conchology*, a ſpecies of ECHINUS. It is hemiſpherical, with granulated ſpaces, and double ſeries of warts, the larger ones divided by ferrated ſutures down the middle; three ſeries of pores upon the avenues. The native country is unknown; it is of a cinereous grey tinged with violet. Seba, Klein, Gmelin, &c.

ANGULUS, in *Natural Hiſtory*, a ſpecies of TRICHODA, deſcribed by Müller, Hiſt. Verm. It is angular, with a hairy tip. Gmelin. This kind is found in infuſions of hay; it is long and convex, and is divided by an articulation into two parts, of equal breadth, but differing in length, the fore part ſhorter than the hind part, the apex furniſhed with ſhort waving hair, indiſtinct molecules within, and no hair on the poſterior part.

ANGURA, in *Geography*. See ANGORA.

ANGURIA, in *Botany*, a genus of the *monœcia diandria* (*diandria monogynia*, Gmelin), and natural order of *cucurbitacei*. Its characters are, that it has male and female flowers; the *calyx* of the male is monophyllous, quinquefid, ſwelling at the baſe, diviſions lanceolate and ſhort; the *corolla* is pentapetalous, ſpreading, growing to the border of the calyx; the *ſtamina* have two filaments, oppoſite, inſerted into the calyx, anther creeping up and down; the *calyx* and *corolla* of the female as in the male; the filaments of the *ſtamina* as in the male, but no anthers; the *piſtillum* has an inferior oblong germ, ſtyle ſemibifid, and ſtigmas bifid and acute; the *pericarpium* a pome, oblong, quadrangular, and bilocular; the *ſeeds* are very many, oval, compreſſed, and neſtling. There are three ſpecies: 1. A. *trilobata*, with three-lobed leaves; a native of Carthagena in South America, where it flowers in June. 2. A. *pedata*, with leaves pedate and ſerrate; a perennial plant, climbing trees, by means of long tendrils, to the height of 20 feet; a native of St. Domingo; flowering in September, and fruit ripening in December. 3. A. *triſoliata*, with leaves ternate and quite entire; a native of St. Domingo; differing from the former in having the leaves quite entire and narrower, and ſeveral fruits collected together.

ANGURIA. See CUCURBITA.

ANGUS, in *Geography*, a diſtrict of the county of FORFAR in Scotland, formerly an earldom belonging to the Douglaſſes, now extinct.

ANGUSTA, in *Entomology*, a ſpecies of MANTIS, that inhabits the iſland of Antigua. It is greeniſh, tail bifurcated, antennæ as long as the body, and filiform. Gmelin.

ANGUSTA, a ſpecies of TENTHREDO, found in Europe. It is black, the body narrow, and covered with greyiſh down. Gmelin.

ANGUSTA, in *Conchology*, a ſpecies of PATELLA. The ſhell is depreſſed, white, with elevated ſtreaks, of which every fourth is larger than the reſt; aperture very narrow, with a cheſnut coloured band on the outſide, and a green belt within. Gmelin. This is about three quarters of an inch in length.

ANGUSTATA, in *Entomology*, a ſpecies of CASSIDA, found in India. It is yelloviſh, poſterior part of the wing-caſes narrow. Gmelin.

ANGUSTATA, a ſpecies of PIMELIA, that inhabits the ſouthern parts of Ruſſia and Egypt. It is gloſſy, poſterior part of the thorax narrow, wing-caſes pointed at the end. Gmelin. This creature lives in the dry dung of animals, under ſtones, &c. and is ſuppoſed to be the tenebrio longicornis of Pallas.

ANGUSTATA, in *Conchology*, a ſpecies of LEPAS, figured by Bonani. The ſhell is elongated, ſmooth, of ſix valves, the aperture narrow, and operculum ſmall. Gmelin. It is grooved where the valves unite, and is ſometimes ſtriated with red and white.

ANGUSTATA, a ſpecies of CYPRÆA. It is narrow, and of a brown colour, with reddiſh ſpots. Gmelin and Gualteri.

ANGUSTATUS, in *Entomology*, a ſpecies of CURCULIO, ſometimes, though rarely found in England. It is cylindrical and black, wing-caſes obtuſe and punctated. Fabricius.

ANGUSTATUS, a ſpecies of CRYPTOCEPHALUS in Gmelin's arrangement, and CISTELLA of Fabricius; the thorax and wing-caſes are of an obſcure reddiſh brown, and black in the middle. Fab. Inhabits England.

ANGUSTATUS, a ſpecies of CARABUS, that inhabits Germany. The thorax is cylindrical and blue, wing-caſes teſtaceous, black at the tips. Fabricius.

ANGUSTATUS, a ſpecies of CIMEX, with oblong body, and

and filiform antennæ; it is black, with an elongated head and thorax. Gmelin and Thunb.

ANGUSTIA, in *Ancient Geography*, a town of Europe in Dacia, according to Ptolemy.

ANGUSTICLAVIA, or ANGUSTUS CLAVUS, in *Antiquity*, a *tunica*, embroidered with little purple ſtuds, or flowers, worn by the Roman knights, inferior magiſtrates, and ſome officers of the army.

The word is compounded of *anguſtus*, *ſmall*, and *clavus*, *ſtud*, becauſe thoſe ornaments were ſmaller in this garment than in the *laticlavia* which was worn by the ſenators.

ANGUSTIFOLIUS, in *Botany*, denotes narrow-leaved.

ANGUSTURA *Bark*, in the *Materia Medica*, a ſpecies of bark imported here in convex pieces, about an inch and an half or leſs in breadth, and about ſix inches long. It is hard and compact, of a yellowiſh brown colour, and covered with a whitiſh, uneven epidermis. In powder it has the yellow appearance of rhubarb; its taſte is bitteriſh and aromatic; its odour, when recent, is ſaid to be not ungrateful. An ounce of this bark yields, by means of alcohol, about two drams of a reſinous, bitter extract; and from the ſame quantity, nearly three drams and a half of a gummy extract may be obtained by water. This drug, according to ſome, ſhould be called *Auguſtine*, from St. Auguſtine, in Eaſt Florida; but it is more properly named *Anguſtura*, from a place of this name in South America, whence it was brought by the Spaniards to the iſland of Trinidad.

The tree which produces it is not aſcertained. Some ſuppoſe it to be MAGNOLIA *glauca;* but it has been thought, with greater probability, to be the bark of the BRUCEA *antidyſenterica*, or BRUCEA *ferruginea* of L'Heritier and Aiton; for the deſcription of the bark of this tree given by Mr. Bruce agrees very well with the cortex anguſturæ; and this opinion is confirmed by the bark of a living plant of this ſpecies growing in the royal garden at Kew.

This bark has been ſucceſsfully uſed during the 12 years from 1789, in which it has been known as a medicine in this country, under the characters of a febrifuge, tonic, and aſtringent. In intermittents it has been found no leſs effectual than Peruvian bark, and generally more acceptable to the ſtomach; and in caſes of diarrhœa, dyſpepſia, ſchropule, and great debility, it has been found to be an uſeful remedy. The doſes in which Mr. Brandi has exhibited this remedy have been, of the powder as much as 20 grains every three hours, but generally leſs.

The infuſion is made with half an ounce of the bruiſed bark to a pint of boiling water; the decoction of the ſame ſtrength; the doſe, one ounce to an ounce and an half. Of the tincture, prepared with one ounce of bark to 16 of proof ſpirit, the doſe is about one drachm. Woodville's Med. Bot. vol. iv. p. 162. Murray's Mat. Med. vol. vi. p. 172—177. Brandi's Exp. and Obſ. on the Anguſtura bark, 1791.

ANGUSTUS, in *Entomology*, a ſpecies of CIMEX, that inhabits China. It is greyiſh above, beneath yellowiſh; antennæ and legs teſtaceous brown. Fabricius.

ANGUSTUS, in *Conchology*, a ſpecies of MUREX. This ſhell is narrow, the firſt wreath of the ſpire plaited longitudinally, and ribbed tranſverſely, the reſt ſmooth and round, beak ribbed tranſverſely. Gmelin.

ANHALDIN, *anhaldinum*, an epithet given to various medicines, formerly kept as ſecrets in the family of Anhalt. Three of the moſt celebrated medicines under this denomination are a corroſive, a water, and a ſpirit.

The corroſive, as deſcribed by Burggrave, is compounded of calcined antimony, ſublimate mercury, ſal ammoniac, and calcined tartar, diſtilled and rectified. The Anhaltin water, or rather ſpirit, is a farrago of ſeveral aromatics, balſamics, and turpentine diſtilled with ſpirit of wine. It is nauſeous to the palate; but has been applied externally in the palſy, ſyncopea, vomitting, and gripes. Murray, Mat. Med. vol. i. p. 36.

ANHALT, in *Geography*, a principality of Germany, in the circle of Upper Saxony, terminating to the north-eaſt on the marche of Brandenburg, to the eaſt on the electorate of Saxony, to the ſouth on the margravate of Miſſen, to the ſouth-weſt on the county of Mansfeld, to the north-weſt on the duchy of Brunſwick, and to the north on the principality of Halberſtadt and the duchy of Magdeburg, and extending about 90 miles from eaſt to weſt, and in its greateſt breadth about 35 miles. The ſoil produces corn and hops, and various kinds of fruits. The rivers, which are the Elbe, the Mulde, the Saele, the Wipper, the Seike, the Bude, the Futine, the Zitau, the Nuke, and the Roſzlau, yield excellent fiſh. The mines afford lead, copper, ſilver, iron, coals, ſulphur, vitriol, alum, ſaltpetre, and other minerals; and the principal article of trade is beer. The air is healthy, though cold. In this principality are 19 towns and two boroughs, and the number of inhabitants is about 100,000. Chriſtianity was introduced into Anhalt in the ninth century; and the reformation took place in 1521. Until 1596, the whole country profeſſed Lutheraniſm; but at that time Calviniſm was introduced. This principality derives its name from the caſtle of Anhalt; and the princes of Anhalt are deſcended from the Aſcanians. Some of the beſt genealogiſts derive their origin from Berenthobaldus, who made war upon the Thuringians in the ſixth century; and in the German hiſtory the princes of this family make a conſpicuous figure. Joachim Erneſt II. was the founder of all the preſent princes of Anhalt. He died in 1586; and five of his ſons ſhared their father's territories. To the eldeſt of the family they all agreed to ſubmit; and with him, to whom belonged *Anhalt-Deſſau*, was veſted the ſupreme government. The other four are *Anhalt-Bemburg*, *Anhalt-Schaumburg*, *Anhalt-Cothen*, and *Anhalt-Zerbſt*. Each of the reigning lines has its regency, exchequer, and conſiſtory. The annual produce of the whole principality of Anhalt is eſtimated at between 5 and 600,000 rix dollars.

ANHELITUS, formed of the verb *anhelo*, *I breathe with difficulty*, ſignifies a ſhortneſs and thickneſs of breath, as in an ASTHMA. See RESPIRATION.

ANHIMA, in *Ornithology*, a name given by Marcgrave, Willughby, Ray, and other old writers, to the PALAMEDEA CORNUTA of Linnæus. See CORNUTA PALAMEDEA.

ANHINGA, a ſpecies of PLOTUS, having a ſmooth head, and white belly. Gmelin. This is the anhinga of Marcgrave, Briſſon, Ray, and others; and *white bellied darter* of Latham.

This ſpecies is ſcarcely ſo big as a mallard in the body, but its length from the tip of the bill to the end of the tail is not leſs than two feet ten inches; the bill is three inches long, ſtraight, pointed, and jagged at the edges; the colour greyiſh, yellowiſh at the baſe; head ſmall, neck very long and ſlender, and covered with downy feathers of a rufous greyiſh colour; upper part of the back and ſcapulars duſky or blackiſh, the middle of each feather daſhed with white; lower part of the back, rump, and upper tail coverts black; belly pure ſilvery white; tail of twelve large black feathers, legs and toes yellowiſh grey.

It inhabits Braſil, and feeds on fiſh, which it is ſaid to catch with much cunning and dexterity, firſt drawing up its neck like a ſerpent, and then darting its bill upon its prey. Like the corvorant, this bird builds the neſt upon trees, generally thoſe which grow by the ſides of rivers. When at reſt

reſt it frequently ſits with the head drawn in between the ſhoulders, like the heron. It is for the moſt part very fat, but the fleſh has an oily, rank, and diſagreeable taſte.

ANHLOTE, in *Law*, a ſingle tribute or tax. The words *anhlote* and *anſcot* are mentioned in the laws of William the Conqueror; and their ſenſe is, that every one ſhould pay, according to the cuſtom of the country, his part and ſhare, as ſcot and lot, &c. Leg. W. I. cap. 64.

ANHOLT, in *Geography*, a ſeignory of Weſtphalia, lies between the biſhopric of Munſter, the duchy of Cleve, and the county of Zutphen. When the antient lords of Anholt became extinct, towards the cloſe of the 12th or beginning of the 13th century, a female heir of this houſe transferred it to her conſort John of Bronkhorſt. His two ſons divided the maternal and paternal eſtates, and thus Count Theodorica obtained the ſovereignty of Anholt. In 1641, he gave this ſeignory to his daughter, who was married to Leopold Philip Charles, prince of Salm, whoſe houſe, on account of this ſeignory, enjoys both ſeat and voice in the Weſtphalian college of the counts of the empire, and alſo at the diets of the circle of Weſtphalia. The province of Guelders, in the Low Country, now appropriates to itſelf the ſuperiority over this ſeignory. The chief place in it is *Anholt*, a ſmall town and citadel lying in the Old Yſſel. N. lat. 51° 54′. E. long. 6° 7′.

ANHOLT, is an iſland of Denmark, in North Jutland, ſituate in the Cattegat, eight miles from the coaſt of Jutland on the weſt, ten from Zealand on the ſouth, and ſeven from Smaland on the eaſt. It is ſurrounded with ſand-banks, and, therefore, dangerous to ſeamen, but a fire is conſtantly kept up in a light-houſe upon it. On each ſide of it is a channel, as ſhips may be ſailing for Copenhagen on the eaſt or on the weſt ſide of Zealand. Profeſſor Bugge obſerves, that in all the beſt maps of the Cattegat, the poſition of Anholt is very erroneous. The light-houſe and the whole iſle are from ſeven to nine minutes too much weſterly; and the diſtance from the light-houſe to the Swediſh coaſt, in a direction perpendicular to the meridian of the light-houſe, is, in all maps hitherto publiſhed, nearly four Engliſh miles, or one-eighth part of the whole, too great. Experience has taught the navigators that they come too ſoon down upon Anholt; or that, on cruiſing between Anholt and Sweden, they over-run their reckoning, which was aſcribed to the currents; whereas, the true reaſon was the great error in the geographical and hydrographical poſition of Anholt in a narrow and dangerous paſſage. The light-houſe is in N. lat. 56° 44′ 20″. E. long. 11° 39′ 51″. Phil. Tranſ. vol. lxxxiv. p. 46.

ANHUIBA, in *Botany*, a name by which ſome authors call the SASSAFRAS tree, the wood of which is ſo much uſed in medicine.

ANHYDROS, a name given by the ancient Greeks, and from them copied by the Romans in the time of Pliny, to expreſs one of thoſe kinds of the STRYCHNA, or night-ſhades, which, when taken internally, cauſed madneſs.

ANI, in *Ornithology*, a ſpecies of CROTOPHAGA, in the Linnæan and Gmelinian arrangement, and very briefly deſcribed as Cr. minor pedibus ſcanſoriis (ſmall feet-climbers). This character is, perhaps, inſufficient to diſtinguiſh it from another ſpecies of the ſame genus deſcribed by Gmelin, as Cr. major pedibus ſcanſoriis, without attending to the characters admitted by other authors; both are of a blackiſh violet colour, and have the edges of the feathers gloſſed with green, but in the former the green has a coppery aſpect: the bill of this is alſo ſhorter in proportion, and riſes higher at the top, and its uſual length is thirteen inches and an half, which is about four inches and an half leſs than that of C. major. Some authors have been diſpoſed to conſider them as the two ſexes of the ſame ſpecies, or mere varieties; but both ſexes of each ſeem to be well aſcertained, and Dr. Latham ſays he is aſſured they are diſtinct ſpecies, and never mix together.

This is the Braſilian bird, called by Marcgrave in his Hiſtory of Braſil, ANI; and Pſittaco congener *Ani*, by Ray and Willughby. It is not, however, peculiar to this part of South America, being alſo found in Guiana. It is Monedula tota nigra major garrula, mandibula ſuperiore arcuata of Sloane, Jamaica; and is likewiſe deſcribed as a Weſt Indian bird by Brown. Cateſby calls it the razor-billed black-bird; Buffon, ani des Savanes, and in the Pl. enl. Petit Bout-de-Petun. Crotophagus, by Briſſon, and it is ſuppoſed the Cacalototl of Ray is the ſame bird.

"Contrary to all other birds, the Crotophaga Ani," ſays Dr. Latham, "have the ſingularity of many lying in the ſame neſt, to make which they all unite in concert; and, after laying their eggs, ſit on them cloſe to each other, in order to hatch them, each unanimouſly ſtriving to do the beſt for the general good; and when the young are hatched, the parents, without reſerve, do the beſt to feed the whole flock. A ſtill greater ſingularity occurs, which is, that as ſoon as each female lays her eggs, ſhe covers them with leaves, doing the ſame thing whenever ſhe is obliged to leave the neſt for food: this might be neceſſary in a cold climate; but why it ſhould be wanted in a hot one, ſeems not clear, eſpecially as it has not been obſerved in other birds. It generally has two broods in a year, except accidents happen; in which caſe it has been known to make three neſts. The eggs are about the ſize of thoſe of a pigeon, of a ſea-green colour, ſpotted at the ends."

"Their food is various; worms, inſects, fruits, and grain, according to the ſeaſon. They have the ſame manners as the greater ani, C. major, and are continually gregarious, from ten to thirty in a flock, whether it be in breeding time or not. They are not difficult to be ſhot, not being ſo wild as many other birds; but are known to chatter much on the ſight of a man, though they do not fly to a great diſtance; hence they are not well reliſhed by ſportſmen, as, like jays in England, they are the occaſion of hindering his ſport in reſpect to other game, without making him amends in their own fleſh, which is never ſought after for food, being rank and unſavory." *Vide* Gen. Syn. tom. i. p. 362.

ANI, a name adopted by Dr. Latham in his arrangement, Gen. Syn. for the Linnæan genus CROTOPHAGA: thus the ſpecies C. ani is called the *leſſer ani*, C. major, *greater ani*, C. ambulatoria, *walking ani*; and, no doubt, the newly-diſcovered ſpecies deſcribed as C. *varia*, rufo nigroque varia, in Ind. Orn. of the ſame author, would have been called the *variegated ani*, had any Engliſh name been aſſigned to it.

ANI, a name given by ſome early writers on natural hiſtory to the UPUPA MEXICANA of Linnæus, and Mexican pomerops of Latham. Avis *ani* Mexicana cauda longiſſima. Seba, &c.

ANI, or ANIKAGA, in *Geography*, a town of Greater Armenia, in Aſia, in the government of Kers, and under the beglierbeg of Erzerum. Its walls are watered by a river, which deſcends with rapidity from the mountains of Mingrelia. It was formerly known under the name of *Am*; and was ſo conſiderable and ſo ſtrong, that the ancient kings of Armenia depoſited their treaſure in its caſtle.

ANIAN *Straits*, lie between the north-eaſt extremity of Aſia, and the north-weſt point of the continent of America. The weſt point of this ſtrait is N. lat. 65° 52′, and W. long. 169° 20′, and the eaſt point, called Cape Prince of Wales, in N. lat. 65° 46′, and W. long. 168° 15′; and its breadth is about 14 leagues. See BEERING's *Straits*.

ANIAN is also a barren, sandy desert, which is excessively hot, and inhospitable, on the east coast of Africa; frequented only by wandering Arabs, who live in camps. It lies upon or near the Eastern Ocean and the Red Sea. See ABEX.

ANIAN-FU, or ANIEN, a town of China, in the province of Chuquami.

ANIANA, in *Ancient Geography*, a town placed by Ptolemy in Mesopotamia.

ANIANE, in *Geography*, a town of France, in the department of the Herault, and chief place of a canton in the district of Lodeve, 13 miles west-north-west of Montpellier. N. lat. 43° 41′. E. long. 3° 29′.

ANJAR, a town of Asia in Syria, between Aleppo and Alexandretto.

ANIBA, in *Botany*. See CEDROTA.

ANICETUS, Pope, in *Biography*, a Syrian by birth, succeeded Pope Pius, according to Eusebius, in the year 157; but, according to other writers, at a somewhat earlier period. In his time, the Gnostic doctrines of Valentine and Marcion prevailed at Rome; but many of the persons who adopted them were reclaimed by Polycarp, who came from Smyrna to Rome, in order to settle the controversy about the celebration of Easter. Anicetus differed with him on this point; and after a conference, each retained his own opinion, whilst both of them manifested mutual forbearance and charity. In token of their amity they communicated together at the eucharist; and Anicetus testified his respect for Polycarp, by yielding to him the honour of performing the service on the occasion. Happy would it have been for the Christian church, if the successors of Anicetus had manifested a similar disposition. Several ordinances and decrees are ascribed to this pope by modern writers, but their authority is doubtful, and therefore they are not worthy of notice. After having governed the church 11 years, he died, as some have said, a martyr; but of this there is no sufficient evidence. The letters ascribed to him are spurious. Euseb. Eccl. Hist. lib. iv. c. 11. 14. 22. Dupin. Bower.

ANICH, PETER, a mathematician, mechanic, and astronomer, was born of obscure parentage at Oberperzuff, near Inspruck, in 1723; and discovered an early taste for the sciences of astronomy and geometry, which Father Hill, a Jesuit, and professor in the university of Inspruck, afforded him an opportunity of cultivating. In a short time he was distinguished by his knowledge both of astronomy and mechanics. He made a very curious pair of globes for the university of Inspruck, and constructed many mathematical instruments of his own invention. He also delineated maps with neatness and accuracy. He died much regretted in 1766; and the empress queen testified her respect for his memory, by settling upon his sister a pension of 50 florins. Nouv. Dict. Hist.

ANICULA, in *Conchology*, a name given by Rumphius to a species of conus, called by Linnæus and later authors, CONUS MONACHUS; which see.

ANICULUS, in *Entomology*, a species of CANCER, having an ovate thorax, ciliated at the sides, and rugged, hairy legs. Fabricius. This creature inhabits the southern ocean, and is the largest of the family *Parasitici*. The rostrum is bifid, teeth elongated and acute; the eyes cylindrical and porrected; thorax smooth, tail soft, claws and legs rugged, with hairy tufts.

ANJENGO, in *Geography*, a small town and factory, with a fort, on the coast of Malabar, belonging to the East India company. The chief trade of this settlement is pepper, and rupees are the current money. N. lat. 8° 39′. E. long. 76° 40′.

ANIERES, a town of France, one league north-west from Paris.

ANIGRUS, in *Ancient Geography*, a river of Triphylia, in the territory of Elis, to the north of Lepreum. Its source was in Lepithas, a mountain of Arcadia; the inhabitants of which thought that it was the same with the Mingeus of the ancients, mentioned by Homer. Near this river was a cavern, called the cave of the nymphs *Anigrides*, or *Anigriades*, mentioned by Strabo and Pausanias; and it was pretended that any persons who had a complaint of the skin might be cured, if, after having sacrificed to the nymphs, they swam over the Anigrus.

ANIKAN, or INGHENITRAN, a town of Africa, on the Gold Coast, where the English and Portuguese have both a factory and a fort.

ANILL, in *Botany*. See INDIGOFERA.

ANILIS, in *Entomology*, a species of MUSCA, in the Linnæan system, and BIBIO in that of Fabricius. It is villous, whitish grey, with transparent whitish wings, and is found in Europe. Gmelin.

ANILLE, in *Heraldry*, a mill-rind, or, as the French term it, a fer de moline.

ANIM, in *Ancient Geography*, a town of Palestine, situate in the mountains of the tribe of Juda, according to the book of Joshua.

ANIMA, a SOUL; whether rational, sensitive, or vegetative.

The word is pure Latin, formed of ανεμος, *breath*.

ANIMA is sometimes used by physicians to denote the principle of life in the body.

In which sense Willis calls the blood *anima brutalis*.

ANIMA is also figuratively used by chemists for the volatile principles in bodies, whereby they are capable of being raised by the fire.

In which sense we meet with *anima jaspidis*, the soul of *jasper*, &c. Phil. Trans. N° 74. p. 2233.

ANIMA is more peculiarly applied to simple medicines, artfully exalted by solution and extraction, to a high degree of power.

In which sense we meet with *anima aloes*, *anima rhabarbari*, *anima veneris*, &c.

Sometimes also it denotes medicines which are peculiarly salutary to particular parts of the body. Thus we meet with

ANIMA *articulorum*, which is a denomination sometimes given to HERMODACTYLS, on account of their efficacy in disorders of the joints.

ANIMA *hepatis*, *soul of the liver*, a term applied by the chemists to the *sal martis*, salt of iron or steel; on account of its utility in distempers of that part.

It is more usually prescribed under the name of *vitriolum martis*.

ANIMA *pulmonum*, used for *crocus*, or saffron, by reason of its supposed great use in diseases of the lungs.

ANIMA *mundi*, q. d. *soul of the world*, or *of the universe*, denotes a certain pure ethereal substance or spirit, diffused, according to many of the ancient philosophers, through the mass of the world, informing, actuating, and uniting the divers parts thereof into one great, perfect, organical, and vital body or animal. See PLASTIC *Nature*.

Plato treats at large of the ψυχη του κοσμου, in his Timæus; and is even supposed to be the author of the *dogma*; yet interpreters are much at a loss about his meaning. Aristotle, however, taking it in the common and obvious sense, strenuously opposes it.

The modern Platonists explain their master's *anima mundi*

by a certain univerſal ethereal ſpirit, which in the heavens exiſts perfectly pure, as retaining its proper nature; but on earth, pervading elementary bodies, and intimately mixing with all the minute atoms thereof, it aſſumes ſomewhat of their nature, and becomes of a peculiar kind. So the poet;

"Spiritus intus alit, totoſque infuſa per artus
Mens agitat molem, & magno ſe corpore miſcet."

They add, that this *anima mundi*, which more immediately reſides in the celeſtial regions as its proper ſeat, moves and governs the heavens in ſuch manner, as that the heavens themſelves firſt received their exiſtence from the fecundity of the ſame ſpirit: for that this *anima*, being the primary ſource of life, every where breathed a ſpirit like itſelf, by virtue whereof various kinds of things were framed conformable to the divine ideas.

The notion of an *anima mundi* is rejected by moſt of the modern philoſophers; though M. du Hamel thinks without any great reaſon, ſince the generality of them admit ſomething very much like it. Thus the Peripatetics have recourſe to celeſtial influxes, in order to account for the origin of forms, and the ſecret powers of bodies.

The Carteſians have their ſubtile matter, which anſwers to moſt of the uſes and intentions of Plato's *anima mundi*; being ſuppoſed to flow from the ſun, and the other heavenly bodies, and to be diffuſed through all the parts of the world, to be the ſource or principle of all motion, &c.

Some later philoſophers, in the place of theſe ſubſtitute fire; and others a ſubtle elaſtic ſpirit, or *medium*, diffuſed through all parts of ſpace.

The principal thing objected to, on the Chriſtian ſcheme, againſt Plato's doctrine of the *anima mundi*, is, that it mingles the Deity too much with the creatures; confounds, in ſome meaſure, the workman with his work, making this, as it were, a part of that, and the ſeveral portions of the univerſe ſo many parts of the godhead. Yet is the ſame principle aſſerted by Seneca, Epiſt. 92. *Totum hoc quo continemur, & unum eſt, & Deus. Et ſocii ejus ſumus, & membra*——

ANIMA *gemmarum*, a term uſed by Becher and ſome others, to expreſs that principle, to which the gems, and other beautiful ſtones owe their colours.

This *anima lapidum* is no more than the metalline ſulphur to which theſe ſtones and gems, naturally colourleſs, owe their tinges; and, like other metalline ſulphurs, it may be raiſed and evaporated by fire. Becher, Phyſ. Subt.

ANIMA *ſaturni, the ſoul of lead*, a preparation of lead, ſerving to many purpoſes in the enamel work. The method of making it is this: put litharge, powdered fine, into a glazed earthen veſſel, and pour diſtilled vinegar upon it to the height of four fingers; let it ſtand till the vinegar is of a white or milky hue; pour off this coloured vinegar and put on freſh, and ſo do till the vinegar will no longer be coloured by the litharge; then ſet theſe liquors together in open glazed earthen veſſels, that the white powder may ſubſide, and the vinegar be poured off clear. This white ſubſtance is the *anima ſaturni*. Sometimes this white matter will not precipitate without the addition of water; and ſometimes it is neceſſary to evaporate the liquors, but by that means it is always prepared. Neri's Art of Glaſs, p. 184.

ANIMACHA, or ANIMACA, in *Geography*, a river of India, in Malabar, which riſes in Calicut, and diſcharges itſelf into the ſea, in the vicinity of Cranganor.

ANIMADVERSION, formed of *animus*, the *mind*, and *adverto, I turn to*, ſometimes ſignifies *correction*, and ſometimes remarks or obſervations made on a book, &c. and ſometimes a ſerious conſideration and reflection on any ſubject, by the rules of criticiſm.

ANIMAL, in *Natural Hiſtory*, an organiſed and living body, endowed with the powers of ſenſation, and of ſpontaneous loco-motion. The word is derived from *anima, ſoul*, and literally denotes ſomething that is endued with a ſoul. Boerhaave defines an animal to be an organical body, conſiſting of veſſels and juices, and taking in nutrition by a part called the mouth; whence it is conveyed into another called the inteſtines, into which it has roots implanted, whereby it draws in its nouriſhment after the manner of plants. The imperfection of this definition is obvious, not merely as it excludes the ſentient principle, but becauſe it diſtinguiſhes the animal by the inſtruments or means of its nutrition, which it poſſeſſes in common with vegetables, and which, notwithſtanding ſome variation in their form and ſtructure, are not ſufficient to conſtitute an eſſential diſtinction. Dr. Tyſon fixes the criterion of an animal in the "ductus alimentalis," *i. e.* a gula, ſtomach, and inteſtines, all which make one continued canal; but this definition is liable to the ſame objection with that of Boerhaave. Some, as Klein and others, have defined animals, from their loco-motion, as being capable of ſhifting from place to place, whereas plants adhere to the ſame ſubject. This property they aſſume as the great characteriſtic by which animals may be diſtinguiſhed from the other orders of beings. On this principle, however, oyſters, muſcles, cockles, &c. would be almoſt excluded from the claſs of animals, inaſmuch as they uſually adhere, or grow to rocks, &c. and yet it is certain that theſe creatures are real animals. But loco-motion alone is not ſufficient to conſtitute the generic difference of animals; nor indeed does it ſufficiently diſtinguiſh an animal from a plant. Many inſtances are produced, in which plants manifeſt loco-motive power. This is the caſe with thoſe denominated ſenſitive plants, many of which, upon the ſlighteſt touch, ſhrink back, and fold up their leaves; as the ſnail, on the ſlighteſt touch, retires into its ſhell. There are ſome, on which if a fly perches, inſtantly cloſe and cruſh the inſect to death. Plants alſo change their poſition and form in different circumſtances and ſeaſons; they take advantage of good weather, and guard themſelves againſt bad weather; they open their leaves and flowers in the day, and cloſe them at night; ſome cloſe before ſun-ſet, and ſome after; ſome open to receive rain, and ſome cloſe to avoid it; ſome follow the ſun, and ſome turn from it; the leaves of ſome plants are in conſtant motion during the day, and at night they ſink to a kind of reſt or ſleep. It has alſo been obſerved that a plant has a power of directing its roots for procuring food; and that it has a faculty of recovering its natural poſition after it has been forced from it. A hop-plant, for inſtance, in twiſting round a pole, directs its courſe from ſouth to weſt, as the ſun does; if it be tied in the oppoſite direction, it dies; but if it be left looſe in this direction, it will regain its natural courſe in a ſingle night. A honey-ſuckle proceeds in a certain direction till it be too long to ſuſtain itſelf; it then acquires ſtrength by ſhooting into a ſpiral form; and if it meet with another plant of the ſame kind, both theſe coaleſce for mutual ſupport, one twiſting to the right and the other to the left. Lord Kaimes mentions many other inſtances in which plants manifeſt a faculty of loco-motion; and, perhaps, in almoſt as eminent a degree as ſome animals. Muſcles, *e. g.* are fixed to one place as much as plants; nor have they any power of motion, beſides that of opening and ſhutting their ſhells; nor do they ſeem, in this reſpect, to have any ſuperiority, with regard to the powers of motion, to the ſenſitive plant and others of a ſimilar kind.

In

In order, therefore, to form a complete and ſatisfactory diſtinction between animals and vegetables, as well as minerals, it is neceſſary to combine with ſpontaneous loco-motion, which they unqueſtionably poſſeſs in a more perfect degree than plants, the powers of ſenſation. Theſe ſeem to be unexceptionably diſtinguiſhing and characteriſtic. However, M. Buffon (Nat. Hiſt. by Smellie, vol. ii. p. 6.), after allowing that, although progreſſive motion conſtitute a perceptible difference between an animal and a vegetable, this diſtinction is neither general nor eſſential; proceeds to ſtate, that ſenſation more eſſentially diſtinguiſhes animals from vegetables. But he adds, that this diſtinction is neither ſufficiently general nor decided. If ſenſation, he ſays, implied no more than motion conſequent upon a ſtroke or impulſe, the ſenſitive plant enjoys this power; whereas, if by ſenſation we mean the faculty of perceiving, and of comparing ideas, it is uncertain whether brute animals are endowed with this faculty. If it ſhould be allowed to dogs, elephants, &c. whoſe actions ſeem to proceed from motives ſimilar to thoſe by which men are actuated, it muſt be denied to many ſpecies of animals, particularly to thoſe that appear not to poſſeſs the faculty of progreſſive motion. If the ſenſation of an oyſter, *e. g.* differ in degree only from that of a dog, why do we not aſcribe the ſame ſenſation to vegetables, though in a degree ſtill inferior? In examining the diſtinction which ariſes from the manner of feeding, he obſerves, that animals have organs of apprehenſion, by which they lay hold of their food: they ſearch for paſture, and have a choice in their aliment. But it is alleged, that plants are under the neceſſity of receiving ſuch nouriſhment as the ſoil affords them, without exerting any choice in the ſpecies of their food, or in the manner of acquiring it. However, if we attend to the organization and action of the roots and leaves, we ſhall ſoon be convinced, that theſe are the external organs by which vegetables are enabled to extract their food; that the roots turn aſide from a vein of bad earth, or from any obſtacle which they meet with, in ſearch of a better ſoil; and that they ſplit and ſeparate their fibres in different directions, and even change their form, in order to procure nouriſhment to the plant. From this inveſtigation he concludes, that there is no abſolute and eſſential diſtinction between the animal and vegetable kingdoms; but that Nature proceeds by imperceptible degrees from the moſt perfect to the moſt imperfect animal, and from that to the vegetable; and that the freſh-water polypus may be regarded as the laſt of animals and the firſt of plants. After examining the diſtinctions, this author proceeds to ſtate the reſemblances which take place between animals and vegetables. The power of reproduction, he ſays, is common to the two kingdoms, and is an analogy both univerſal and eſſential. A ſecond reſemblance may be derived from the expanſion of their parts, which is likewiſe a common property, for vegetables grow as well as animals; and though ſome difference in the manner of expanſion may be remarked, it is neither general nor eſſential. A third reſemblance reſults from the manner of their propagation. Some animals are propagated in the ſame manner, and by the ſame means, as vegetables. The multiplication of the ſacceron, or vine-fretter, which is effected without copulation, is ſimilar to that of plants by ſeed; and the multiplication of the polypus by cuttings, reſembles that of plants by ſlips. Hence it is inferred, that animals and vegetables are beings of the ſame order, and that Nature paſſes from the one to the other by imperceptible degrees; ſince the properties in which they reſemble one another are univerſal and eſſential, while thoſe by which they are diſtinguiſhed are limited and partial. Dr. Watſon, biſhop of Llandaff, has examined, with his uſual judgment, the diſtinguiſhing marks between animals and vegetables. See Eſſ. iii. in the fifth volume of his Chemical Eſſays, 12mo. 1787. He rejects, as inſufficient, both *figure* and *ſpontaneous motion*; and if *perception* be ſubſtituted in their ſtead, it will be found to be a criterion that is in many reſpects liable to exceptions. However, the ingenious and learned prelate produces many chemical, phyſical, and metaphyſical reaſons, which ſerve to render the ſuppoſition not altogether indefenſible, that vegetables are endowed with the faculty of perception. Dr. Percival, likewiſe, in a paper read before the Literary and Philoſophical Society of Mancheſter, produces ſeveral arguments to evince the perceptive power of vegetables. From the reaſoning adduced by both theſe ingenious writers, of which a more particular account will be given in the ſequel of this work (ſee PLANTS and VEGETABLES), thoſe who duly advert to it, will, we conceive, incline to the opinion, that plants are not altogether deſtitute of perception. But on a queſtion that has perplexed and divided the moſt ingenious and inquiſitive naturaliſts, it is very difficult to decide. If we extend to the vegetable kingdom that kind of vitality with which ſenſation and enjoyment are connected, there will remain no diſcernible boundary between this and the animal kingdom; and that which has been conſidered as the diſtinctive characteriſtic of animals, and by which they are ſeparated from vegetables, will be aboliſhed. For a diſcuſſion of this queſtion more in detail, ſee BRUTE, INSTINCT, *Phyſiology* of PLANTS, and particularly the article SENSATION. Before we cloſe this article, we ſhall add, that the principle of ſelf-preſervation belongs to all animals; and it has been argued, that this principle is the true characteriſtic of animal life, and that it is unqueſtionably a conſequence of ſenſation. There is no animal, when apprehenſive of danger, that does not put itſelf into a poſture of defence. A muſcle, when it is touched, immediately ſhuts its ſhell; and as this action puts it into a ſtate of defence, it is aſcribed to a principle of ſelf-preſervation. Thoſe who adopt this reaſoning, allege, that vegetables do not manifeſt this principle. When the ſenſitive plant, for inſtance, contracts from a touch, it is no more in a ſtate of defence than before; for whatever would have deſtroyed it in its expanded ſtate, will alſo deſtroy it in its contracted ſtate. They add, that the motion of the ſenſitive plant proceeds only from a certain property called IRRITABILITY; and which, though poſſeſſed by our bodies in an eminent degree, is a characteriſtic neither of animal nor vegetable life, but belongs to us in common with brute-matter. The ſenſitive plant, after it has contracted, will ſuffer itſelf to be cut in pieces, without making the leaſt effort to eſcape. This is not the caſe with the meaneſt animal. An hedge-hog, when alarmed, draws its body together, and expands its prickles, thus putting itſelf in a poſture of defence. When thrown into the water, the ſame principle of ſelf-preſervation prompts it to expand its body and ſwim. A ſnail, when touched, withdraws itſelf into its ſhell; but if a little quick-lime be ſprinkled upon it, ſo that its ſhell is no longer a place of ſafety, it is thrown into agonies, and endeavours to avail itſelf of its loco-motive power, in order to eſcape the danger. Muſcles and oyſters alſo, though they have not the power of progreſſive motion, conſtantly uſe the means which Nature has given them for ſelf-preſervation.

We ourſelves poſſeſs both the animal and vegetable life, and ought to know whether there be any connection between vegetation and ſenſation, or not. We are conſcious that we exiſt, that we hear, ſee, &c. but of our vegetation we are abſolutely unconſcious. We feel a pleaſure in gratifying the demands of hunger and thirſt; but we are totally ignorant of the proceſs by which our aliment is formed into

chyle, the chyle mixed with the blood, the circulation of that fluid, and the feparation of all the humours from it. If we then, who are more perfect than other vegetables, are utterly infenfible of our own vegetable life, why fhould we imagine that the leaft perfect vegetables are fenfible of it? We have within ourfelves a demonftration that vegetable life acts without knowing what it does; and if vegetables are ignorant of their moft fagacious actions, why fhould we fuppofe that they have any fenfation of their inferior ones; fuch as contracting from a touch, turning towards the fun, or advancing to a pofe? As to that power of irritability which is obferved in fome plants, our folids have it when deprived both of animal and vegetable life; for a mufcle cut out of a living body will continue to contract, if it be irritated by pricking, after it has neither fenfation nor vegetation. The following moral reafon has alfo been fuggefted againft believing vegetables to be endued with fenfation: if this were the cafe, they would fuffer pain when they were cut or deftroyed, and their ftate would be very unhappy if they had not the leaft power to avoid the injuries daily offered them. Accordingly it is maintained, that the goodnefs of the Deity is confpicuous in not giving to vegetables the fame fenfations as to animals; and as they have no means of defence, we may conclude from this circumftance, that they were granted as food to animals. Encycl. Brit. On the other hand, thofe who are of opinion that plants poffefs powers of perception, allege that their hypothefis recommends itfelf by its confonance to thofe higher analogies of nature, which lead us to conclude, that the greateft poffible fum of happinefs exifts in the univerfe. The bottom of the ocean is overfpread with plants of the moft luxuriant magnitude; and immenfe regions of the earth are overfpread with perennial foreft. Nor are the Alps, or the Andes, deftitute of herbage, though buried in depths of fnow: and can it be imagined that fuch profufion of life fubfifts without the leaft fenfation or enjoyment? Let us rather, with humble reverence, fuppofe, that vegetables participate, in fome low degree, of the common allotment of vitality; and that one great Creator hath appointed good to all living things, "in number, weight, and meafure." Percival, ubi fupra.

For an account of the various fyftems that have been adopted in the diftribution of animals, fee ZOOLOGY. See alfo MAMMALIA, BIRDS, AMPHIBIA, FISHES, INSECTS, and WORMS. For other particulars relating to their number, analogous ftructure, fagacity, inftinct, &c. fee COMPARATIVE ANATOMY, with the articles referred to under that head, BRUTE, GENERATION, INSTINCT, MIGRATION, OVIPAROUS, VIVIPAROUS, &c. &c.

ANIMALS make the principal figures in *Heraldry*, both as bearings and as fupporters, &c.

ANIMAL is alfo ufed adjectively to denote fomething that belongs to, or partakes of, the nature of an animal body. Thus we fay *animal* FOOD, *animal* ECONOMY, &c.

Moraliits frequently oppofe the *animal* part, which is the fenfible, fleffy part of a man, to the rational part, which is the underftanding.

ANIMAL *actions* are thofe peculiar to animals, or which belong to animals as fuch:

Such are SENSATION and *mufcular* MOTION.

ANIMAL *earth*. See EARTH.

ANIMAL *flower*, a name indifcriminately applied to a variety of different creatures in the VERMES tribe, that bear fome refemblance to a flower; and is fynonymous with fea anemone, urtica marina, or fea-nettle, &c. Thefe, for the moft part, belong to the *molluſca* order in the Linnæan fyftem, as the actiniæ, and holothuriæ; yet the fame is given to the tubulariæ and hydræ, which belong to an entirely different order, the *zoophyta* of Linnæus. See ACTINIA, ANIMONE, *(ſea,)* HOLOTHURIA, TUBULARIA, and HYDRA.

ANIMAL *functions*, among *Phyſicians*. See FUNCTION.

ANIMAL *glue*. See GLUE.

ANIMAL *gods*, *dii animales*, in *Mythology*, thofe into which human fouls are converted by means of certain religious ceremonies.

Labeo has written expreſsly on the animal gods.

ANIMAL *heat*. See HEAT.

ANIMAL *hunger*. See HUNGER.

ANIMAL *liquors*. The common opinion is, that all the animal liquors, excepting chyle and milk, are of an alcalefcent nature; but M. Queſnay, in his book Sur l'Oeconomie Animale, affirms, that our gelatinous liquors contain a very acefcent falt, capable of refifting a heat of two hundred degrees. The proof of which, fays he, offers itfelf daily to every one: who is it that has not remarked, that broth made with flefh, well freed from fat, when corrupted, becomes as four as verjuice? The foundation on which M. Queſnay builds his doctrine concerning animal liquors, is the feparation of milk into its oily, cheefy, and watery fubftances. Med. Eff. Edinb.

ANIMAL *magnetiſm*. See MAGNETISM.

ANIMAL *manures*, in *Agriculture*, are all fuch as are formed from the decompofition of animal fubftances of any kind, as flefh, blood, hair, wool, bones, fat, &c. Agricultural writers conſider them, in general, as more powerful in their effects, in promoting vegetation, than fuch as are derived from vegetable matters. However, on account of their being ſeldom procured in large quantities, they are moftly made ufe of in the ftate of mixture or combination with other materials, either of the earthy or littery kinds; in both which cafes they may be highly beneficial. In the former by the action of the ammoniac, which is conftantly formed in large quantities, during the decompofition and decay of animal matters on the mould, and rendering it more ſuitable for the ſupport of plants; and, in the latter, by their well known property of promoting fermentation, and thus haftening the reduction of the materials into the ftate of manure. See MANURE.

ANIMAL *matter*, in *Chemiſtry*. The ancient diviſion of all natural bodies into the three grand claſſes of *mineral*, *vegetable*, and *animal*, a diviſion founded upon ſimple obſervation, and not upon pre-conceived theory, may ſtill be retained as a claſſification of ſome practical utility to the chemiſt, though infinitely leſs ſo than to the phyſiologiſt.

A complete knowledge of the chemiſtry of animal matter would comprehend an intimate analyſis of all the materials out of which it is formed, and of their mode of combination; whereby, from a few ſimple elements, the great variety of aliments uſed by the living animal are produced: it would alſo require a minute examination into the proceſs of digeſtion and aſſimilation of food, ſtep by ſtep, in order to trace the curious and intereſting converſion of inanimate matter into an integrant part of the living animal; and more than all, it would include an inveſtigation into the moſt ſecret receſſes of nature, in order to determine how far the known laws of chemical affinity are affected by animal organization, and by the vital principle. The very imperfect progreſs which has been made in this branch of chemical inquiry ſhews the great and almoſt inſuperable difficulties which attend its purſuit; and, notwithſtanding the real diſcoveries made by modern chemiſts, and the ſelf-complacency with which they are ſo often brought forward, little elſe can be related on the chemiſtry of animal matter, than a collection

lection of detached facts and unconnected experiments, from which no plauſible theory of the proceſs of animalization has been deduced, and but little aſſiſtance has been afforded to the ſcience of phyſiology, and perhaps ſtill leſs to the cure of diſeaſe.

Before we enumerate the particular parts of animal matter which have afforded the greateſt ſcope to chemical experiment, it may be proper to premiſe a few remarks on the materials out of which animal matter is formed; on the mode in which they are elaborated within the living body; and on the chemical properties which appear to be common to every part of the animal kingdom.

Two principal functions, poſſeſſed, apparently, by every living creature, prepare the materials out of which the animal body is conſtituted, and from which it draws perpetual ſupplies: theſe are, *digeſtion* and *reſpiration*.

The food taken in by the mouth is the moſt obvious and abundant ſource of ſupply to the body; and this cannot be ſaid to have become an integrant part of the animal which receives it, till it has been prepared in the ſtomach by the proceſs of digeſtion, and till the chyle, or nutritive part which it furniſhes, has been further aſſimilated in the lymphatics, and, at laſt, added to the maſs of circulating blood.

The vegetable kingdom furniſhes, directly or indirectly, the whole of alimentary matter, except the common diluent, water. Hence, chemiſts have with great propriety directed much of their inquiries relating to this ſubject, to an examination of the characteriſtic differences which exiſt between vegetable and animal matter in general, and ſome important facts have appeared, which we ſhall preſently relate. The *ultimate* analyſis of vegetables, or that which reduces them to their ſimpleſt forms, furniſhes us with very few materials. Of theſe, water is by far the moſt abundant ingredient; carbonaceous matter the next in quantity, and equally conſtant; and chemical analyſis will alſo ſhew a certain portion of hydrogen and of oxygen unconnected with the compoſition of water, and a few ſaline and earthy parts, which, from their conſtant occurrence, have a claim to be conſidered as neceſſary conſtituents of vegetable matter. In tracing the decompoſition of vegetable aliment, however, it ſhould be remembered, that theſe materials are preſented to the animal organs, not merely as ſo much hydrogen, carbon, and oxygen, but in the intermediate and already very compounded forms of farina, ſugar, mucilage, and the like; forms in which their tendency to chemical change is much ſtronger than when they are reduced to their ſimpleſt mode of exiſtence.

With regard to that very large proportion of aliment which is furniſhed from the animal kingdom itſelf, forming ſo much of the food of man, and the whole nutriment of many entire claſſes of living creatures, this, it is obvious, is ſtill produced indirectly from vegetable matter, and the art of chemiſtry has not yet been able to detect any very ſenſible difference between the firſt, and the ſubſequent reſults of aſſimilation by animal organs. The moſt accurate chemical analyſis could not determine with any certainty, whether a given portion of animal ſubſtance was a part of a carnivorous or a herbivorous animal; and this ſingle circumſtance ſhews, perhaps, as much as any other, the very imperfect ſtate of our knowledge of the changes produced during digeſtion in the living organs.

A chemical change equally important with digeſtion, and ſtill more uniform and conſtant in its operation, is the action of the external air on the animal fluids through the medium of reſpiration. The part which immediately receives the action of the air, is the blood whilſt circulating in the extreme branches of the pulmonary arteries and veins in the cells of the lungs. Under the articles RESPIRATION, and BLOOD, we ſhall relate more at large the facts that have been diſcovered by the ſucceſſive labours of ſome of the moſt ingenious philoſophers which the world has produced, which prove inconteſtably the analogy between this proceſs and that of combuſtion, and its connexion with the animal temperature. There can be no doubt that reſpiration is a chemical proceſs, the operation of which, as it is exerted on the general maſs of circulating fluid, is extended through every part of the living body; and perhaps its effects are more peculiarly and excluſively *chemical*, than moſt of the other animal functions. Reſpiration too may properly be conſidered as the laſt ſtep in the proceſs of the aſſimilation of food, ſince the chyle, when thoroughly elaborated, is thrown into the maſs of blood returning to the heart, whence it directly paſſes to the lungs (entirely in ſome claſſes of animals, and partially in others), and is ſubjected to the chemical action of the external air, before it renews the round of circulation to ſupply the different purpoſes of the body.

As a defective reſpiration, in the caſe of original malconformation as well as of diſeaſe, produces a train of diſorders which are very ſtrongly and pointedly marked, we may infer that the chemical analyſis of the ſeveral parts of the body, if we had the means of ſufficient accuracy of examination, would readily indicate the deficiency in ſo powerful a chemical agent as the atmoſpherical air. Opportunities for ſuch an examination have not, however, been ſufficiently frequent, nor is it certain that, in the preſent ſtate of chemical knowledge, they could be rendered very concluſive.

In conſidering the mode whereby alimentary matter is *aſſimilated*, or undiſtinguiſhably blended with the ſolids and fluids of the living animal in which this function is going on, a very intereſting inquiry preſents itſelf, namely, to determine how far this proceſs is purely *chemical*, (that is, conducted by the ſame laws of ſimple and complex affinity which operate on inanimate matter), and how far it is affected by the circumſtances of the *living principle*. In favour of the former opinion the following arguments may be urged: firſt, that the food, whether derived from the vegetable, or the animal kingdom, or from a mixture of both, is a ſubſtance which ſtrongly tends to ſpontaneous decompoſition, in whatever ſituation it is placed; and that, *cæteris paribus*, it is more or leſs digeſtible in proportion to its greater or leſs diſpoſition to chemical change. Likewiſe, as we have before mentioned, it is already a very compounded mixture, compoſed of ſimple elements indeed, but united by very complex affinities; and when in the form of animal fleſh, of vegetable farina and the like, it is infinitely more liable to chemical change than if it were reduced to its elementary parts. Secondly, it may be urged, that a part at leaſt of the preparation which the food undergoes in the organs of digeſtion is obviouſly a ſeries of chemical proceſſes. By the action of the teeth, of the gizzard, and ſimilar apparatus, the mechanical proceſs of *comminution* is performed: to this ſucceeds *maceration* in the ſaliva, in the gaſtric liquor, and in other animal ſecreted juices: the contractile power of the ſtomach affords conſtant *preſſure* and *agitation* to the materials which it contains: a ſeparation of the different parts of the heterogeneous maſs under digeſtion, or a ſpecies of *filtration*, is performed by the lacteals and the meſenteric glands: during the courſe of circulation, a moſt intimate *mixture* takes place between the freſh ſupply of nutritive matter from the aliment, and the animal juices already contained in the veſſels; and laſtly the newly aſſimilated chyle undergoes a proceſs ſimilar to *combuſtion*, whilſt in a ſtate of intimate diviſion within the ultimate ramifications of the

pulmonary

pulmonary veſſels. To this it may be added, that the temperature of the animal in which theſe ſeveral proceſſes are carrying on, is found by experiments out of the body to be highly favourable to that gradual and complex chemical change which educes from animal or vegetable matter the greateſt variety of important products.

Thirdly, it may be alleged, in anſwer to the forcible objection which will immediately ariſe to an explanation of digeſtion on purely chemical principles, from the impoſſibility of carrying on the ſame proceſs *out* of the body, that the chemiſt cannot imitate animal digeſtion, becauſe he has not all the materials at command, and eſpecially becauſe he cannot conſtruct, by mechanical means, any apparatus reſembling in the moſt diſtant degree the curious, beautiful, exquiſitely elaborated and complicated organs which nature has furniſhed for this important proceſs. This imitation has appeared ſo hopeleſs, that no ſuch attempt has, to our knowledge, been made; for the valuable and intereſting experiments of the late eminent phyſiologiſts, Spallanzani and Hunter, on what may be called, a partly *artificial* digeſtion, which will be mentioned in a future part of this work, do not come under this point of view.

It is far from our intention, however, to deny that in this, as well as in other functions of the body, the vital principle is to be eſteemed as an agent *ſui generis*, of the higheſt importance; and, from the diſturbance which certain affections of the nervous ſyſtem will directly produce on the whole proceſs of digeſtion, we cannot, perhaps, at any period truſt to merely chemical facts for an explanation of its phenomena. The difficulty of inveſtigation into the ſubject, which at all times is great, is moreover conſtantly increaſing in proportion as the proceſs of aſſimilation advances, and at laſt becomes inſurmountable, from the impoſſibility of gaining acceſs to the interior parts of the animal ſtructure, without producing a total derangement of the functions, and deſtroying life.

The chemiſt muſt, therefore, content himſelf with examining in detail the properties of animal matter, wherein very ſenſible differences may be detected, both between different parts and organs, and between the ſame parts and ſpecies, taken at the ſeveral periods of life, at different ſtates of activity, and under the various circumſtances of health and diſeaſe.

Chemiſts have long directed their attention to diſcover ſome characteriſtic properties common to every ſpecies of animal matter, whereby it might be diſtinguiſhed from the products of the vegetable kingdom. Formerly the method of analyſis was principally directed to the proceſs of diſtillation in a retort, by a heat, at firſt gentle, and afterwards increaſed gradually, till every part of the animal matter was volatilized, and only a fixed reſidue of very difficult combuſtion, called *caput mortuum*, remained in the retort. The difference between animal and vegetable matter, when ſubjected to diſtillation, is highly important, and is well laid down by the celebrated Neuman, one of the moſt ſkilful and accurate chemiſts of his time. "Animal ſubſtances," he obſerves, "a few excepted, on being diſtilled in cloſe veſſels, by a ſtrong fire, give over, not a manifeſt acid liquor as vegetables do, but an urinous or volatile alkaline one, and commonly more or leſs of a concrete volatile alkaline ſalt, together with an empyreumatic oil more fetid than the oils of vegetables, and of a different kind of fœtor. On calcining the remaining coal in open veſſels, and elixating the aſhes with water, we ſometimes obtain a portion of a kind of fixed ſaline matter, but very rarely a perfect alkali, like that extracted from the aſhes of vegetables." In the analyſis by fire, therefore, the production of ammonia, or volatile alkali, is the moſt ſtriking circumſtance which characterizes animal matter; and hence the preparation of ſal ammoniac, ſalt of hartſhorn, and a variety of the ammoniacal ſalts, from the diſtillation of horn, bones, urine, camel's dung, and other animal matter, which forms a very extenſive branch of chemical manufactures.

Animal PUTREFACTION, conſidered as a method of chemical analyſis, gives reſults ſimilar to thoſe of diſtillation, particularly in the production of the volatile alkali; and hence it has long been remarked by the manufacturers of this alkali, that the product is much increaſed by ſuffering the materials to undergo a certain degree of putrefaction.

Chemiſts, however, were fully aware that the exiſtence of ammonia, in its alkaline ſtate, in freſh animal matter, could not with certainty be inferred from its appearance after diſtillation, but only the preſence of the materials out of which the volatile alkali may be compoſed. So, the author laſt quoted expreſsly obſerves, that "the volatile alkalies obtained from animals are artificial productions, never found to exiſt naturally in any animal ſubſtance in its perfect ſtate. They are generated by the action of fire, and by putrefaction, and not by any known power beſides."

The method of analyſis, by ſimple diſtillation, has another imperfection (beſides that of the introduction of an alkali, *formed* by the proceſs, and not previouſly contained in the ſubſtance examined), which is, that it confounds in a few common products of diſtillation, a variety of parts, which in their natural ſtate poſſeſs very ſpecific and diſtinguiſhing qualities. This is particularly the caſe with thoſe active and acrid ſubſtances, which produce ſuch powerful effects, either as medicines or poiſons. It cannot but be a very imperfect analyſis which exhibits no ſtriking difference between the mildeſt and the moſt acrimonious ſubſtances; between the common articles of food, and thoſe animal products of which the minuteſt portion introduced into the living body is capable of exciting the moſt violent commotions.

Modern chemiſtry has added to the analyſis by fire, the uſe of a more refined and delicate mode of experimenting, the advantage of which we ſhall preſently ſhew; though it muſt be confeſſed that it ſtill throws little, if any, light on thoſe inquiries into the animal body which are the moſt intereſting to the naturaliſt and phyſician.

Another important difference between animal and vegetable matter when analyſed by fire, is found in the fixed reſiduum which remains after diſtillation in cloſe veſſels. In vegetable matter this is compoſed principally of charcoal, in a very pure and eaſily combuſtible ſtate, and of a ſmall proportion of vegetable aſhes, from which a fixed alkali is procurable. In animal matter, the coal which remains is very difficult of combuſtion, and leaves, for the moſt part, a large proportion of PHOSPHORIC ſalts, generally united with lime. Likewiſe, if the animal matter be mixed with a fixed alkali before calcination, the PRUSSIC *acid*, a ſubſtance peculiarly of animal origin, is found in the reſidue of combuſtion.

The great energy with which the nitrous acid acts upon almoſt every ſubſtance immerſed in it, has long rendered it a moſt valuable inſtrument of analyſis to the chemiſt; but as this acid is itſelf more or leſs decompoſed in by far the greater number of operations in which it is employed, a previous knowledge of the intimate nature of this acid is requiſite, in order to enable the chemiſt to explain the appearances which it produces when in chemical action. This having been obtained by the ingenious reſearches of ſeveral eminent chemiſts, among whom we may particularly mention the names of Cavendiſh and Prieſtley, the uſe of the nitrous acid has thrown conſiderable light on the nature of

animal matter. The experiments of M. Berthollet on this ſubject (Mem. Acad. des Sciences, 1780 and 1785), are ſo complete and original, as to leave little further to be done by ſubſequent experimenters, to explain the ultimate compoſition of the great maſs of animal matter.

M. Berthollet began his operations by treating various animal ſubſtances with nitrous acid, in the ſame method which Bergman had purſued in order to obtain that acid from ſugar, which has been termed the *ſaccharine* or *oxalic*. He choſe ſilk for his firſt experiment, on account of the apparent uniformity of its compoſition. On diſtilling ſilk with ſeven or eight times its weight of nitrous acid, it was ſoon attacked by the acid, gave out copious red fumes, and preſently diſſolved into a clear bluiſh liquor. This, on cooling, yielded a conſiderable quantity of cryſtals of oxalic acid, exactly ſimilar to that obtained from ſugar by a ſimilar treatment. Beſides this acid, however, there was found ſwimming on the ſurface of the liquor, when cooled, a quantity of oily or greaſy matter, which again diſſolved by heat, and remained in intimate combination with the ſolution of the oxalic acid. To obtain this greaſy matter, M. Berthollet obſerves, leſs of the nitrous acid ſhould be uſed than is neceſſary to give the largeſt product of oxalic acid.

This excellent chemiſt then repeated the experiment with a variety of animal matters, in all of which he found ſimilar reſults, though with a wide difference in the reſpective proportions of animal greaſe, and oxalic acid. Of all the ſubſtances uſed, wool was found to give the greateſt quantity of oxalic acid. From ſix gros M. Berthollet obtained ſomewhat more than half the weight of the cryſtallized acid, whereas ſugar itſelf only gives about one third of its weight. Skin and hair gave nearly the ſame reſults as wool. On the other hand, animal muſcle or fleſh, deprived as much as poſſible from any adhering fat, yielded, with nitrous acid, a very large portion of the abovementioned greaſe, and a very ſmall quantity of oxalic acid, which could hardly be ſeparated by cryſtallization from the greaſe which the liquor contained. Sixteen ounces of veal, reduced by drying to four ounces, yielded three gros (eight of which make an ounce) of oxalic acid, and a ſmall portion of greaſe. Thirty-two ounces of whites of eggs, hardened by boiling, and reduced by drying to two ounces, gave two gros and a half of acid, and a moderate quantity of greaſe.

The author then proceeds to ſome remarks on the nature of this peculiar greaſy matter, which deſerve attention.

Vegetable ſubſtances, he obſerves, though certainly containing oil in their compoſition, when treated with nitrous acid, have their oil ſo entirely deſtroyed by its action, that no traces of it can be detected after this operation. Animal matter, on the contrary, always yields more or leſs of an oily or greaſy ſubſtance after diſtillation with nitrous acid, which greaſe in part adheres ſtrongly to the oxalic acid, and makes it difficult of cryſtallization, and in part combines with the diſtilled acid, giving it an unuſual yellow colour, and the diſagreeable odour of all animal oils. This latter portion may be ſeparated chiefly, but not entirely, by ſaturating the acid with an alkali, when the animal oil concretes into a ſtiff greaſe.

The animal oil differs alſo from the vegetable, particularly in giving much volatile alkali by diſtillation, whereas the vegetable yields an empyreumatic acid. It is to be obſerved, that the oil, both animal and vegetable, which is here ſpoken of, is not that which in animals is ſeparated in the form of fat, and is ſecreted in the cells of the adipoſe membranes; and in vegetables, is depoſited in the oil cells of ſeeds and fruits, or united with mucilage and farina in the emulſive plants; but it is an oil which ſeems to be moſt intimately united with every animal and vegetable ſubſtance, and never appears in the form of oil or greaſe, unleſs when ſeparated by ſome powerful chemical agent, ſuch as the nitrous acid.

We have mentioned it to be the moſt ſtriking characteriſtic of animal matter, to yield a certain quantity of ammonia by diſtillation *per ſe*; and we ſhall now return to this ſubject, which indeed is directly connected with all that has preceded, and examine into the cauſe of this product. Under the article AMMONIA, we mentioned how much chemiſtry was indebted to the ſucceſsful labours of M. Berthollet for a knowledge of the exact proportion of the conſtituent parts of this alkali, and particularly of the theory of its production during the decompoſition of animal matter.

Ammonia is formed of about three parts of azot, or animal mephitis, as it is ſometimes termed, and one of hydrogen. A ſimple and convincing proof that it is not originally contained in animal matter in the form of an alkali, is, that after animal ſubſtances have been diſſolved in nitrous acid, no nitrated ammonia can be detected by the minuteſt examination. But the conſtituent parts of the volatile alkali muſt be contained in the animal matter, otherwiſe it could not yield it by ſimple diſtillation. Dr. Prieſtley has obſerved, that when animal fleſh is immerſed in nitrous acid, there is an immediate diſengagement of gas which is chiefly phlogiſticated (*azotic*) air, but ſometimes mixed with nitrous gas, and with fixed air. With the ſame view, M. Berthollet added to an ounce of ſilk (Mem. Acad. des Sciences, 1785), ſix ounces of concentrated, pale, nitrous acid, at the temperature of 70°. Nearly 120 ounce meaſures of gas were diſengaged without heat, of which a ſmall part was abſorbed by lime water, and was fixed air, and the remainder gave all the appearances of azotic air. The ſilk being entirely diſſolved, a ſmall portion of the greaſy matter which we have mentioned above, concreted, and was ſeparated from the ſolution. Lime-water being added, no precipitation took place, which was a proof that no oxalic acid had yet been formed by the action of the nitrous acid, for, adding afterwards a drop of oxalic acid, an immediate precipitate appeared. The ſolution being then gently warmed, a violent effervеſcence took place, nitrous gas was given out in abundance, with the production of much heat, and the ſolution *now* contained a conſiderable quantity of oxalic acid. From this experiment it appears, that there are two diſtinct periods of the operation of nitrous acid on animal matter; the firſt, its action without heat; the ſecond, after heat has been applied. The firſt produces a large portion of nearly pure azotic gas, and it is intereſting to determine whence is its origin, as azot is a conſtituent part of nitrous acid, as well as of animal matter: it is rendered highly probable, however, that the azotic gas produced in the firſt inſtance, owes its origin to the animal matter, and not to the nitrous acid, ſince the latter is capable of acting afterwards with equal energy, as if heat had been applied immediately, and of giving as much nitrous gas. Moreover, M. Fourcroy has obſerved, that the nitrous acid, after being digeſted *without heat* upon animal matter, is able to ſaturate as much alkali as before the proceſs, which is as convincing a proof of its non-decompoſition as we can well have. Therefore, we may conſider it as well eſtabliſhed, that when nitrous acid and animal matter are digeſted together, without uſing artificial heat, the azotic gas which is produced in ſuch abundance ariſes ſolely from the animal ſubſtance; that at this period no oxalic acid is formed, but ſome of the peculiar greaſy matter is produced. Afterwards, on heating the mixture, the nitrous acid is itſelf rapidly decompoſed, forming the nitrous gas which eſcapes, and giving its oxygen to that part of the animal matter which furniſhes the baſis of the oxalic acid, beſides probably occaſioning other

changes

changes in which, as the component parts of the nitrous acid are alſo found in animal matter, the exact operation of the materials furniſhed by each can not be diſtinguiſhed.

The proof of the exiſtence of azot in animal matter being thus eſtabliſhed, we can readily account for the formation of ammonia during diſtillation *per ſe*, or putrefaction, by an union of the animal azot with hydrogen, which may be furniſhed alſo from the animal ſubſtance, perhaps from the decompoſition of water, which is abundantly contained in every part of the animal kingdom.

Another proof of the connexion between the azot of animal matter, and the production of ammonia, has been furniſhed in the following ingenious manner by M. Berthollet. For this purpoſe he made comparative experiments between the inflammable gas of marſhes, the gas furniſhed by the diſtillation of ſugar, of charcoal, and of oil, and the gas yielded by ſilk diſtilled *per ſe*. Of theſe four latter ſubſtances (for the former may be neglected for our preſent purpoſe), the ſugar, charcoal, and oil, are vegetable, and give no ammonia by diſtillation; the latter is animal, and, like all animal matters, produces this alkali. The gas furniſhed by each was expoſed to lime water, and detonated with oxygen, in order to abſorb every thing but the azot. Now, as the ſilk, being of animal origin, contained much more azot than the other ſubſtances, it ought to have left a much greater reſiduum of azotic gas, unleſs the latter entered into ſome new combination during the diſtillation of the ſilk, by which its form of azotic gas would be loſt. As the reſiduum was not ſenſibly greater than the reſt, the azot muſt have aſſumed a new form during diſtillation, and this could have been no other than the volatile alkali which was directly diſſolved in the water, through which the diſtilled gaſſes paſſed unto the recipient.

Experiments of a later date than thoſe of M. Berthollet, juſt cited, have ſhewn a diſengagement of azotic gas, or a production of ammonia from animal matter, by the action of ſome other of the more powerful acids, and even of the fixed alkalies; but the operation of theſe is not yet ſatisfactorily explained, nor does it illuſtrate in ſo ſtriking a manner the compoſition of the animal kingdom.

The limits between animal and vegetable matter, laid down by the preſence of azot and the production of ammonia, though for the moſt part ſufficiently preciſe, are, in a few inſtances, ſurpaſſed.

Theſe are, by thoſe vegetable products, which have been termed *vegeto-animal*, becauſe they reſemble certain correſponding animal matters in the characteriſtic properties above mentioned.

The *gluten* of wheat, and ſome other parts of vegetables, bears a conſiderable affinity to animal gluten in various properties, and, like it, contains azot, and yields ammonia. The *albumen* found in the freſh juice of the ſucculent parts of the tetradynamious plants, is equally ſimilar to the albumen of animals; and the vegetable fungi, when under putrefaction, exhibit to the chemiſt appearances ſtrongly reſembling thoſe of decompoſing animal matter.

In the analyſis of animal matter, we have principally dwelt on the operation of the nitrous acid, as it has been the means of elucidating this ſubject in a peculiar manner, and as it furniſhes a method of compariſon by which the action of other chemical agents may be inferred with conſiderable accuracy. A few words ſhould, however, be ſaid on the operation of other re agents in analyſis.

The effect of heat on animal matter varies according to the degree which is applied. A gentle warmth ſimply diſſipates the watery part, during which operation the ſubſtance generally loſes a great part (ſometimes by far the greateſt) of its weight and bulk.

Animal matter, when thus dried, is long preſerved from putrefaction, as moiſture is eſſential to this proceſs of decompoſition. So, bodies of animals that have been overwhelmed in the dry hot ſands of the African deſerts, are firſt thoroughly deſiccated, and then will remain in this medium for many years unaltered. A lower degree of warmth, however, if not ſufficient to evaporate the moiſture from animal ſubſtance, favours putrefaction, and increaſes all the tendencies to decompoſition. On the other hand, animal matter, ſo periſhable in itſelf, is preſerved to all appearance abſolutely unaltered, whilſt expoſed to a ſevere freezing cold. The blood (which when at reſt in a moderate temperature, even within the blood-veſſels, but eſpecially when drawn out, very ſpeedily coagulates), if ſuddenly frozen before coagulation, retains for a while its original properties; and when thawed in a gentle warmth, at *firſt* becomes liquid; and *afterwards* coagulates. In like manner, animal fleſh employed for food may be preſerved, when frozen, for any length of time; and, if thawed gradually, retains all its properties, even to the peculiar flavour which it poſſeſſed at firſt. A degree of heat from about 150° to that of boiling water, begins to produce upon animal matter certain chemical changes independent of the mere evaporation of water: the moſt important of theſe is the coagulation of the albumen, which is an abundant and almoſt conſtant ingredient in the animal juices. Under the article of albumen we have given the opinions of chemiſts concerning the cauſe of the ſingular property of coagulation by heat, which, however, is ſtill not very clearly aſcertained. Albumen, when once coagulated, is no longer ſoluble in boiling water, and hence it may be ſeparated with eaſe from any watery ſolution in which it may be contained. A heat conſiderably greater than that of boiling water cauſes animal matter to ſwell conſiderably, to twiſt in every direction as if it ſtill retained ſome degree of irritability; to ſoften or melt down, to exhale a copious denſe vapour of a fœtid ſmell; and, according as the heat is regulated, to yield an empyreumatic oil, an ammoniacal liquor, and often the pruſſic acid, with a conſiderable quantity of carbonic and hydrogen gaſſes, ariſing from the total decompoſition of the ſubſtance employed.

Water is another re-agent in the analyſis of animal matter, which may often be employed with conſiderable advantage. All the ſoft parts of animals, when kept immerſed in cold water for a conſiderable time, appear to become thoroughly penetrated with this liquor, have their texture ſoftened, and their bulk enlarged, and yield to its diſſolving power all their ſaline, gelatinous, and albuminous contents. This ſolution is likewiſe conſiderably aſſiſted by the commencement of putrefaction, which ſoon takes place in moiſt animal matter at a moderate warmth. The gluten or coagulum of the blood is, however, inſoluble in water, when it has once ſeparated by coagulation from the circulating liquor; and hence, by long and repeated effuſion of cold water, the coagulum of blood may be freed from the red globules which give it its colour, and from every other extraneous matter, and at laſt remains in a ſtate of great purity, in the form of a grey, tenacious, and elaſtic ſubſtance. Muſcular fleſh may be, in like manner, brought, by mere waſhing with cold water, into a ſimilar ſtate of purity. Animal oil or fat, which is naturally mixed with a kind of mucilage, may alſo be freed from it by melting, and repeated mixture with water, aſſiſted by ſtrong agitation. Heated water is a more active agent in ſoftening the texture of animal matter, and extracting its ſoluble part; and the aſſiſtance of a boiling temperature renders completely ſoluble every kind of condenſed

denſed animal membrane, ſuch as ſkin, cartilage, tendon, and the like. At the ſame time, however, heat coagulates the albumen, and renders it inſoluble in water, ſo that to obtain the full action of water on animal matter, it ſhould be uſed firſt cold, or only moderately warmed, and afterwards heated to ebullition. But there is no ſoft part of animal matter which can reſiſt the united action of water and heat, when a temperature much above the boiling point is employed, by means of Papin's digeſter. Gluten, albumen, gelly, and ſalts, are then all brought down to complete ſolution; the oil alone, for the moſt part, remaining unmixed. Papin's digeſter, therefore, when judiciouſly employed, may prove an inſtrument of ſome importance in animal analyſis: but its uſe is attended with this inconvenience, that the ſubſtances diſſolved in water by its powerful aſſiſtance, cannot be ſeparated from each other by any means with which we are acquainted.

The cauſtic alkalies are alſo employed in the analyſis of animal matter, particularly as a ſolvent for gluten and coagulated albumen, after the action of water has been exhauſted. The ſolution of animal matter in alkali, which is the moſt familiar to us, is that of oil or fat, forming the well-known compound, Soap. It would be of advantage to the experimental chemiſt if the operation of the alkalies were here confined to the oily ingredient, as this is ſo little ſoluble in any other menſtruum. But the inconvenience of uſing theſe powerful re-agents is ſimilar to that of employing Papin's digeſter, for they act with great energy on all the ſoft parts of animals indiſcriminately, and confound the whole in one ſaponaceous maſs. This, indeed, may be conſidered in general as the principal obſtacle to any ſatisfactory analyſis of animal matter, that all the methods which the chemiſt can employ, are too general in their operation, and little calculated to mark thoſe ſhades of difference in the animal compoſition, which, though perhaps ſlight when chemically conſidered, certainly produce very important effects on the functions of the *living* body.

The chemiſtry of animal matter appears to us to be ſtill too little known to admit of any ſcientific arrangement which can give juſt and comprehenſive views of this extenſive, intereſting, and complicated ſubject. We ſhall, therefore, refer the reader to the ſeveral articles under their reſpective heads, which include, either generic diſtinctions, ſuch as gluten, albumen, gelly, and the like; or ſpecific ſolids and fluids, ſuch as bone, blood, milk, ſkin, &c. The detail of a variety of important experimental inquiries which have been made by ſeveral eminent chemiſts, affords an abundance of intereſting matter, which promiſes a copious harveſt of diſcovery to the follower of this branch of chemical purſuit.

Animal *motion* is the ſame with what we call *muſcular motion*.

It is divided into two branches; natural or involuntary, and ſpontaneous.

Animal *oil*, ſee Oil.

Animal *ſecretion* is the act whereby the divers juices of the body are ſecreted or ſeparated from the common maſs of blood, by means of the glands. See Secretion.

Animal *ſpirits* are a fine ſubtle juice or humour in animal bodies; ſuppoſed by many to be the great inſtrument of muſcular motion, ſenſation, &c.

The ancients diſtinguiſhed ſpirits into three kinds, *viz. animal, vital*, and *vegetative*: but the moderns have reduced them to one ſort, *viz. animal*; about the nature of which, and the matter whence they are formed, great diſputes have ariſen among anatomiſts, though their exiſtence has never been fairly proved.

In the Hiſtory of the Royal Academy of Sciences at Paris, an. 1759, there is an ingenious memoir on this ſubject by Mr. Bertin. He undertakes to prove, that the nervous fluids, or animal ſpirits, circulate; that if they depart from the brain, they return to it by the nerves. In ſhort, he propoſes to form the courſe of this fluid into a ſyſtem of circulation, leſs demonſtrable, indeed, to the ſenſes than that of the circulation of the blood, but, in other reſpects, grounded on equally ſolid reaſons.

As it is hard to define what could never yet be brought under the judgment of our ſenſes, all that we ſhall here offer concerning them, is, that they muſt needs be extremely ſubtile bodies, which eſcape all manner of examination by the ſenſes, though ever ſo well aſſiſted; and pervade the tracts of the nerves, which yet have no diſcovery of cavity or perforation; nor could ever by any experiment be collected; yet are conſtantly moving in vaſt quantities, as they muſt of neceſſity be, to perform all thoſe mighty operations which are aſcribed to them. However, the antiquity of the opinion claims ſome reverence.

By the help of theſe ſpirits we are furniſhed with a vaſt number of precarious ſolutions of great *phenomena*; and without them we muſt leave a great chaſm in the philoſophical hiſtory of animal bodies; but, after all, the *phenomena* that would, in this caſe, be unexplained, are, perhaps, to us inexplicable.

They are ſuppoſed to be ſeparated in the brain from the ſubtileſt parts of the blood; and thence carried by the nerves to all the parts of the body, for the performance of all animal and vital functions; and the diſcovery of the Galvanic *electricity* will probably throw conſiderable light on this obſcure ſubject. See Nervous Fluid.

Animal *ſubſtances*, comprehend all the component parts of animals, of what uſe or intention ſoever they may be.

Animal *foſſile ſubſtances*, thoſe found buried in the earth at various depths, and embodied among various *ſtrata*.

Theſe are principally of four kinds: 1. Sea ſhells. 2. The teeth, bony palate, and bones of fiſhes. 3. The bones of land *animals*. And, 4. complete fiſh. See *Foſſile* Bones, *Foſſile* Shells, Marine *remains*, and *Foſſile* Ivory.

Animal *ſubſtances, fermentative quality of*. See Ferment, and Fermentation.

Animal *ſyſtem*, imports the whole claſs of beings endowed with animal life.

In which ſenſe *animal ſyſtem* amounts to the ſame with what chemiſts and others call the *animal kingdom*.

Animal is alſo ſometimes applied, in a figurative ſenſe, to artificial or moral things.

Hobbes conſiders government as a huge complex animal, under the denomination of *Leviathan*.

The reaſon of the appellation is founded on the analogy between an animal and a political body. The ſovereign, or legiſlative power, anſwers to the ſoul; the magiſtrates, to the limbs or members; rewards and puniſhments are the nerves; riches, the ſtrength; counſellors, the faculty of memory; equity, reaſon; ſedition, ſickneſs; civil war, death.

ANIMALCULE, Animalculum, a diminutive of animal, and applied, in a general manner, to thoſe creatures whoſe true figure cannot be diſcerned without the help of glaſſes, and more eſpecially of ſuch as are inviſible to the naked eye.

Animalcules are uſually divided into two, and, by ſome, into three diſtinct ſections, *viſible, microſcopical*, and *inviſible*: the firſt, though viſible, cannot be accurately diſ-

cerned without the help of glaſſes; the ſecond are diſcoverable only by the microſcope; and the laſt are merely preſumed to exiſt, for they are ſtill unknown. The exiſtence of the latter cannot well be diſputed, though it cannot be aſſerted, unleſs we conclude, that the microſcope has not yet arrived at its higheſt degree of perfection. Reaſon and analogy give ſome ſupport to the conjectures of naturaliſts in this reſpect: animalcules are diſcerned of various ſizes, from thoſe which are viſible to the naked eye, to ſuch as appear only like moving points under the microſcopic lenſes of the greateſt powers; and it is not unreaſonable to imagine, therefore, that there are others which may ſtill reſiſt the action of the microſcope, as the fixed ſtars do that of the teleſcope with the greateſt powers hitherto invented.

ANIMALCULES, *viſible*; amongſt theſe are included an amazing variety of creatures by no means of an analogous nature. Thoſe numerous creatures which crowd the water in the ſummer months, changing it ſometimes of a deep or pale red colour, green, yellow, &c. are of this deſcription. The larger kinds are chiefly of the inſect, or vermes tribes, and of which the monoculus pulex is particularly remarkable, being ſometimes found in ſuch abundance, as to change the water apparently to a deep red. A ſimilar appearance is likewiſe occaſioned by the cercaria mutabilis, when it varies in colour from green to red; vorticella faſciculata alſo changes it to green; and rotatoria to yellow. To this ſection we muſt alſo refer many of the acarus and hydrachna genera, and a multitude of other creatures, that will be noticed hereafter.

ANIMALCULES, *microſcopical*.—The microſcope diſcovers legions of animalcules in moſt liquors, as water, vinegar, beer, dew, &c. They are alſo found in rain and ſeveral chalybeate waters; and in infuſions of both animal and vegetable ſubſtances, as the ſeminal fluids of animals, pepper, oats, wheat and other grain, tea, &c. &c.

Thoſe who have made the moſt minute reſearches, and the moſt accurate inquiries into the natures of the ſeveral objects ſubjected to their ſenſes, have found that the ſubſtances, upon which they employed their curioſity, were often quite different from what at firſt they appeared to be. Thus, for inſtance, the whole earth has been found repleniſhed with an inexhauſtible ſtore of what we ſhould leaſt of all ſuſpect, that is, an infinite number of animalcules floating in the air we breathe, ſporting in the fluids we drink, or adhering to the ſeveral objects we ſee and handle. The conjectures and hypotheſes relating to the production, generation, ſtructure, and uſes of theſe animalcules, have been as various as were ever contrived by caprice, or embraced by credulity. Not to bewilder ourſelves, however, in theſe labyrinths, but to confine our aſſertions to actual diſcoveries, by the aſſiſtance of the microſcope we not only perceive that ſuch animalcules exiſt, but are alſo enabled, in ſome degree, to determine their ſhapes, and the various peculiarities of their motion.

The contemplation of animalcules has made the ideas of infinitely ſmall bodies extremely familiar to us. A mite was anciently thought the limit of littleneſs; but we are not now ſurpriſed to be told of animals twenty-ſeven millions of times ſmaller than a mite.

Minute animals are found proportionably much ſtronger, more active, and vivacious than large ones. The ſpring of a flea in its leap, how vaſtly does it outſtrip any thing greater animals are capable of! A mite, how vaſtly faſter does it run than a race-horſe! M. de l'Iſle has given the computation of the velocity of a little creature ſcarce viſible by its ſmallneſs, which he found to run three inches in half a ſecond: ſuppoſing now its feet to be the fifteenth part of a line, it muſt make five hundred ſteps in the ſpace of three inches; that is, it muſt ſhift its legs five hundred times in a ſecond, or in the ordinary pulſation of an artery, Hiſt. Acad 1711, p. 23.

The exceſſive minuteneſs of microſcopical animalcules conceals them from the human eye. One of the wonders of modern philoſophy is, to have invented means for bringing creatures to us ſo imperceptible, under our cognizance and inſpection: an object a thouſand times too little to be able to affect our ſenſe, ſhould ſeem to have been very ſafe. Yet we have extended our views over animals to whom theſe would be mountains. In reality, moſt of our microſcopical animalcules are of ſo ſmall a magnitude, that through a lens, whoſe focal diſtance is the tenth part of an inch, they only appear as ſo many points; that is, their parts cannot be diſtinguiſhed, ſo that they appear from the vertex of that lens under an angle not exceeding a minute. If we inveſtigate the magnitude of ſuch an object, it will be found nearly equal to $\frac{3}{10000}$ of an inch long. Suppoſing, therefore, theſe animalcules of a cubic figure, that is, of the ſame length, breadth and thickneſs, their magnitude would be expreſſed by the cube of the fraction $\frac{3}{10000}$, that is, by the number $\frac{27}{1,000,000,000,000}$, that is, ſo many parts of a cubic inch is each animalcule equal to.

Leeuwenhoeck calculates, that a thouſand millions of animalcula, which are diſcovered in common water, are not altogether ſo large as a grain of ſand. This author, upon examining the male ſperm of various animals, diſcovered in many, infinite numbers of animalcula not larger than thoſe above mentioned. In the milt of a ſingle cod fiſh, there are more animals than there are upon the whole earth, for a grain of ſand is bigger than four millions of them. The white matter that ſticks to the teeth alſo abounds with animalcules of various figures, to which vinegar is fatal; and it is known, that vinegar contains animalcules in the ſhape of eels. In ſhort, according to this author, there is ſcarcely any thing which corrupts without producing animalcules. Animalcules are ſaid to be the cauſe of various diſorders. The itch is known to be a diſorder ariſing from the irritation of a ſpecies of animalcula found in the puſtules of that ailment: whence the communication of it by contact from one to another is eaſily conceived, as alſo the reaſon of the cure being effected by cutaneous applications. On this foundation ſome have attributed the ſmall-pox and meaſles, and infectious diſeaſes; others the epilepſy, &c. to animalcules. Langius goes farther, and pretends to reduce all diſeaſes in general to the ſame principle; and many other chimerical theories have been formed upon the diſcoveries made by Leeuwenhoeck and other naturaliſts, on the ſubject of animalcula.

The diſcovery of animalcules in the ſemen of animals was made known to the world about the end of the year 1677, or beginning of 1678, both by Leeuwenhoeck and Hartſoker; but as the obſervations of the former are more particular, and his experiments more numerous than thoſe of the latter, the merit of the diſcovery is generally attributed to Leeuwenhoeck. According to this naturaliſt, theſe animalcules are found in the ſemen of male animals of every kind, and their appearance is much the ſame in all; nor do they differ in ſize, in proportion to that of the animal to which they belong. The bodies of all of them ſeem to be of an oblong-oval form, with long tapering ſlender tails iſſuing from them; and as by their ſhape they reſemble tadpoles, they have been frequently called by that name; though the tails of them, in proportion to their bodies,

cles, are much longer than the tails of tadpoles are; and it is obſerved, that the animalcules in the ſemen of fiſhes have tails much longer, and more ſlender, than thoſe in the ſemen of other animals, inſomuch that their extremities are not to be diſcerned without the beſt glaſſes.

These animalcules appear to be very vigorous and tenacious of life; for they have been obſerved to move long after the animals, from which they were taken, were dead; and ſeem to be peculiar to the ſemen, as nothing that has the leaſt appearance of life has been yet diſcovered in the blood, ſpittle, urine, gall, or chyle.

The production of animalcula infuſoria is very ſurpriſing. In four hours time, an infuſion of cantharides has produced animalcules leſs than even the tails of thoſe in the ſemen of animals; and it is ſaid, that hot mutton gravy, ſecured in a phial with a cork, and afterwards ſet among hot aſhes, to deſtroy as effectually as poſſible every living creature that could be ſuppoſed to exiſt in it, has, nevertheleſs, been found ſwarming with animalcules, after ſtanding a few days.

In the Philoſophical Tranſactions, vol. lix., is the following curious account of the animalcules produced from an infuſion of potatoes, and another of hemp-ſeed, by the late Mr. Ellis. "On the 25th of May, 1768, Fahrenheit's thermometer 70°, I boiled a potatoe in the New River water, till it was reduced to a mealy conſiſtence. I put part of it, with an equal proportion of the boiling liquor, into a cylindrical glaſs veſſel that held ſomething leſs than half a wine pint, and covered it cloſe immediately with a glaſs cover. At the ſame time I ſliced an unboiled potatoe; and, as near as I could judge, put the ſame quantity into a glaſs veſſel of the ſame kind, with the ſame proportion of New River water not boiled; and covered with a glaſs cover, and placed both veſſels cloſe to each other.

"On the 26th of May, twenty-four hours afterwards, I examined a ſmall drop of each by the firſt magnifier of Wilſon's microſcope, whoſe focal diſtance is reckoned at $\frac{1}{50}$ part of an inch; and, to my amazement, they were both full of animalcula, of a linear ſhape, very diſtinguiſhable, moving to and fro with great celerity; ſo that there appeared to be more particles of animal than vegetable life in each drop.

"This experiment I have repeatedly tried, and always found it to ſucceed in proportion to the heat of the circumambient air; ſo that even in winter, if the liquors are kept properly warm, at leaſt in two or three days the experiment will ſucceed.

"What I have obſerved are infinitely ſmaller than ſpermatic animals, and of a very different ſhape: the truth of which every accurate obſerver will ſoon be convinced of, whoſe curioſity may lead him to compare them; and, I am perſuaded, he will find they are no way akin.

"At preſent, I ſhall paſs over many curious obſervations which I have made on two years experiments, in order to proceed to the explaining a hint which I received laſt January from M. de Sauſſure, of Geneva, when he was here; which is, that he found one kind of theſe animalcula infuſoria that increaſe by dividing acroſs into nearly two equal parts.

"I had often ſeen this appearance in various ſpecies a year or two ago, as I found upon looking over the minutes I had taken, when I made any new obſervation; but always ſuppoſed the animals, when in this ſtate, to be in coition.

"Not hearing, till after M. de Sauſſure left this kingdom, from what infuſion he had made his obſervation; his friend, Dr. de la Roche, of Geneva, informed me, the latter end of February laſt, that it was from hemp-ſeed.

"I immediately procured hemp-ſeed from different ſeedsmen in different parts of the town. Some of it I put into New River water, ſome into diſtilled water, and ſome into very hard pump water. The reſult was, that in proportion to the heat of the weather, or warmth in which they were kept, there was an appearance of millions of minute animalcula in all the infuſions; and, ſome time after, oval ones made their appearance. Theſe were much larger than the firſt, which ſtill continued: theſe wriggled to and fro in an undulatory motion, turning themſelves round very quick all the time they moved forwards. I was very attentive to ſee theſe animals divide themſelves; and, at laſt, I perceived a few of the appearance of *fig.* 3. *a*, as it is repreſented by the firſt magnifier of Wilſon's microſcope: but I am ſo well convinced by experience that they would ſeparate, that I did not wait to ſee the operation: however, as the following ſketches, which I have drawn from five other ſpecies, will very fully explain this extraordinary phenomenon, there will be no difficulty in conceiving the manner of the firſt. See *fig.* 4, 5, 6, 7, 8.

"The proportion of the number of theſe animals, which I have obſerved to divide in this manner, to the reſt, is ſcarce 1 to 50; ſo that it appears rather to ariſe from hurts received by ſome few animalcula among the many, than to be the natural manner in which theſe kinds of animals multiply; eſpecially if we conſider the infinite quantity of young ones which are viſible to us through the tranſparent ſkins of their bodies, and even the young ones that are viſible in the young ones while in the body of the old ones.

"But nothing more plainly ſhews them to be zoophytes than this circumſtance, that when, by accident, the extremity of their bodies has been ſhrivelled for want of a ſupply of freſh water, the applying more freſh water has given motion to the part of the animal that was ſtill alive; by which means this ſhapeleſs figure has continued to live, and ſwim to and fro all the time it has been ſupplied with freſh water."

The preceding remarks of Mr. Ellis are particularly ſatisfactory, as they point out the manner in which animalcula of various other kinds may be produced by infuſions of vegetable matter; but it is probable he is miſtaken reſpecting the ſpecies generated in the infuſion of hemp-ſeed; and which is called volvex ovalis, or egg-ſhaped volvex. Perhaps this is volvex globulator, Linn., which is uſually ſpherical, but of an oval form at intervals, and eſpecially at the time the infant brood is ſeparated from the parent: for it ſeems at that moment to divide, and become two diſtinct animalcules, as Mr. Ellis mentions. Vide *Plate* III. of Vermes Infuſoria, Microſcopical Objects, &c. &c.

As the different ſpecies will be more fully noticed in their reſpective places, we ſhall conclude our remarks with a few obſervations on the doctrine of equivocal generation, and the different opinions that have ariſen reſpecting the origin and nature of animalcules in particular. Before the invention of microſcopes, the doctrine of equivocal generation, both with regard to animals and plants of ſome kinds, was univerſally received; but this inſtrument ſoon convinced every intelligent perſon, that thoſe plants which formerly were ſuppoſed to be produced by equivocal generation, aroſe from ſeeds; and the animals, in like manner, from male and female. But as the microſcope threw light upon one part of nature, it left another involved in darkneſs: for the origin of animalcula infuſoria, or the ſpermatic animals already mentioned, remains as yet as much unknown as that of many other kinds was, when the doctrine of equivocal generation reigned in full force.

The diſcovery of ſpermatic animalcules was thought to throw ſome light on the myſterious affair of generation itſelf; and the minute creatures were imagined to be each of them individuals of the ſame ſpecies with the parent. Here

the infinite number of theſe animalcules was an objection, and the difficulty remained as great as before; for, as every one of theſe animalcules muſt neceſſarily be produced from a male and female, to explain their origin by animalcular generation in the ſame manner, was only explaining generation by itſelf.

This hypotheſis, therefore, having proved unſatisfactory, others have been invented. M. Buffon, particularly, hath invented one, by which he at once annihilates the whole animalcular world; and in this he has been followed by ſeveral ingenious philoſophers. His hypotheſis is diametrically oppoſite to that of Leeuwenhoeck, who deſcribed many diſtinct ſpecies of the ſpermatic animalcula as living bodies, and conceived it neceſſary that one or more of them ſhould penetrate, or impregnate, the ovum, to effect the purpoſe of generation.

From a variety of experiments made on the human ſemen (mas.), M. Buffon concludes, that what have been called ſpermatic animals, are not creatures really endowed with life, but ſomething proper to compoſe a living animal; and he diſtinguiſhes them by the name of *organic particles*. The ſame individual kinds of animals he declares he has found in the fluids ſeparated from the ovaria of females; and for the truth of this appeals to the teſtimony of Mr. Needham, who was an eye witneſs of his experiments. He alſo brings an additional proof of his doctrine from Mr. Needham's obſervations on the milt of the calmar, a ſpecies of cuttle-fiſh. Here the ſpermatic animals, at leaſt what have only the appearance of life, are vaſtly larger than in any other creature, ſo as to be plainly viſible to the naked eye. After conſidering the organization of theſe particles very fully, he concludes, that they are not animalcula, or endowed with life; and infers, that all the moving bodies that are to be found in the infuſions of either animal or vegetable ſubſtances, are of a ſimilar nature. To diſcover whether all the parts of animals, and all the ſeeds of plants contained moving organic particles, he made an infuſion of fleſh of different animals, and of the ſeeds of more than twenty different ſpecies of vegetables; and, after remaining ſome days in cloſe glaſſes, had the pleaſure of ſeeing organic moving particles in all of them. In ſome they appeared ſooner, in others later; ſome preſerved their motions for months, and others ſoon loſt it. Some, at firſt, produced large moving globules, reſembling animals, which changed their figure, ſplit, and became gradually ſmaller. Others produced only ſmall globules, whoſe motions were extremely rapid; and others produced filaments, which grew longer, ſeemed to vegetate, and then ſwelled, and poured forth torrents of moving globules. This obſervation gave riſe to a new ſyſtem; Baron Munchauſen, perceiving that the laſt mentioned moving globules, after moving for ſome time, began to vegetate, concluded they were at firſt animals, and then plants: an hypotheſis which Mr. Ellis endeavoured to overturn, by aſſerting, that they were no other than the ſeeds of that genus of fungi called *mucor*, or mouldineſs; and that their motion is owing to numbers of minute animalcules attacking them for food.

M. Buffon is not, however, content with denying life only to thoſe beings where the ſigns of it are moſt equivocal, but includes, in the ſame rank of organic particles, almoſt every animal too ſmall to be diſcovered by the naked eye; and even ſome of thoſe whoſe motions are evidently perceptible to the naked eye. He obſerves, that "almoſt all microſcopic animals are of the ſame nature with the moving bodies in the ſeminal fluids, and infuſions of animal and vegetable ſubſtances. The eels in paſte and vinegar, &c. are all of the ſame nature, and derived from the ſame origin. There are, perhaps, as many beings that either live or vegetate, produced by a fortuitous aſſemblage of organic particles, as by a conſtant and ſucceſſive generation. Some of them, as thoſe of the calmar, are only a kind of machine, which, though exceedingly ſimple, are very active. Others, as the ſpermatic animalcules, ſeem to imitate the movements of animals. Others reſemble vegetables in their manner of growth and extenſion. There are others, as thoſe of blighted wheat, which at pleaſure can be made alternately to either live or die, and it is difficult to know to what they ſhould be compared. There are ſtill others, and in great numbers, which are at firſt a kind of animal, then become a ſpecies of vegetables, and again return alternately to their vegetable ſtate. The eels in paſte have no other origin than the union of the organic particles of the moſt eſſential part of the grain. The firſt eels that appear are certainly not produced by other eels; but though they are not propagated themſelves, they fail not to engender other living eels. By cutting them with the point of a lancet, we diſcover ſmaller eels iſſuing in great numbers out of their bodies. The body of this animal ſeems to be only a ſheath, containing a multitude of ſmaller animals, which perhaps are other ſheaths of the ſame kind, in which the organic matter is aſſimilated into the form of eels."

The accurate experiments of Baker, Ellis, Muller, Corti, Roſſredi, and many others, ſufficiently refute the inconcluſive reaſoning of Buffon; and we cannot do better than conclude, in the words of a late ingenious writer, Mr. Adams, who has treated at ſome length on the ſame ſubject in his Eſſays on the Microſcope.

"Though we can by no means pretend to account for the appearance of moſt animalcula, yet we cannot help obſerving, that our ignorance of the cauſe of any phenomenon is no argument againſt its exiſtence. Though we are not, for inſtance, able to account in a ſatisfactory manner for the origin of the native Americans, yet we ſuppoſe M. Buffon himſelf would reckon it abſurd to maintain, that the Spaniards, on their arrival there, found only ORGANIC PARTICLES moving about in diſorder. The caſe is the very ſame of the eels in paſte, to whoſe animation he objects. They are exceedingly ſmall in compariſon with us; but, with the ſolar microſcope, Mr. Baker has made them a more reſpectable appearance, ſo as to have a diameter of an inch and an half, and a proportionate length. They ſwam up and down very briſkly; the motion of their inteſtines was very viſible; when the water dried up, they died with apparent agonies, and their mouths opened very wide. Now, were we to find a creature of the ſize of this magnified eel gaſping in a place where water had lately been, we ſhould certainly never conclude it to be merely an ORGANIC PARTICLE, or fortuitous aſſemblage of them, but a fiſh. Why then ſhould we conclude otherwiſe with regard to the eel in its natural ſtate, than that it is a little fiſh? In reaſoning on this ſubject, we ought ever to remember, that however eſſential the diſtinction of bodies into great and ſmall may appear to us, they are not ſo to the Deity, with whom, as Mr. Baker well expreſſes himſelf, 'an atom is a world, and a world but as an atom." Were the Deity to exert his power a little, and give a natural philoſopher a view of a quantity of paſte filled with eels, from each of whoſe bodies the light was reflected as in the ſolar microſcope; our philoſopher, inſtead of imagining them to be mere organic particles (as the paſte would appear a little mountain), would probably look upon the whole as an aſſemblage of ſerpents, and be afraid to come near them. Whenever, therefore, we diſcover beings, to appearance endowed with a principle of ſelf-preſervation, or whatever we make the characteriſtic

racteriſtic of animals, neither the ſmallneſs of their ſize, nor the impoſſibility of our knowing how they came there, ought to cauſe us to doubt of their being animated."

ANIMALIZED *Matter* of *Vegetables*. See VEGETO-*Animal Matter*.

ANIMALLY, in *Geography*, a town of Hindoſtan, in the Coimbetore country, 35 miles weſt of Daraporum, and 18 ſouth of Coimbetore. N. lat. 10° 40′. E. long. 77°.

ANIMATE, ANIMATED, ſomething endued with life, or a living ſoul.

In mechanics, *animate power* is uſed to denote a man, or brute; in contradiſtinction to *inanimate power*, as ſprings, weights, &c.

Naturaliſts and philoſophers differ extremely in aſſigning the characters, ſubjects, and ſpecies of animate bodies. Some include ſtocks and ſtones in this rank; others exclude brutes themſelves.

Some of the ancient philoſophers have held all nature to be *animated*; that the ſun, the earth, the planets, rivers, trees, ſtones, &c. are ſo many animals; others, that the whole ſyſtem is only one huge animal, informed with a ſoul, or *anima mundi*. Plato, in Timæo. Morhoff. Polyh. Phil. lib. ii. p. 1. cap. 11.

ANIMATED *Horſe-hairs*. See GORDIUS SETA.

ANIMATED is alſo uſed to denote a thing impregnated with vermin or ANIMALCULES.

In this ſenſe the whole earth may ſeem to be animated; ſince in every part of it we meet with an infinite number of animals, either viſible or inviſible; they are found in air, water, earth, plants, and even in the hardeſt ſtones; and there is, perhaps, no animal known which does not breed numbers of others in the different parts of its body.

ANIMATED *mercury*, among *Chemiſts*, ſignifies quickſilver, impregnated with ſome ſubtle and ſpirituous particles, ſo as to render it capable of growing hot when mingled with gold.

ANIMATED *needle*, a needle touched with the loadſtone, or MAGNET.

ANIMATION, ſignifies the informing of an animal body with a ſoul.

Thus the *fœtus* of the womb is ſaid to come to its animation, when it begins to act as a true animal; or after the female that bears it is *quick*, as the common mode of expreſſion is.

The learned are not agreed about the time when the female becomes quick; ſome compute it at forty days after conception; others fix it about the middle of the term of GESTATION.

T. Fienus Gardinius, Verde, Fort. Licetus, F. de Bonnonia, have written expreſsly on the animation of the FOETUS; Fr. Zanellis, on the animation of the SEED.

ANIMATION is alſo uſed by ſome *Mechanical Philoſophers* for the act of ſoliciting the deſcent of a body, ſo as to give it continually new degrees of ACCELERATION.

ANIMATON is alſo uſed, by *Alchemiſts*, for the operation of fermenting a white foliated earth, with a kind of philoſophical or celeſtial water or ſulphur.

ANIMATION is alſo uſed, in a moral or figurative ſenſe, for the act of giving life and force to a diſcourſe, or the like.

ANIMATION is alſo uſed by *Hermetic Philoſophers*, to denote a certain ſtate of perfection to which a body is brought by ſome appropriate proceſs, in virtue whereof it becomes capable of producing ſome extraordinary *phenomena*.

ANIMATION, *ſuſpended*, for the method of treatment in caſes of, ſee DROWNING.

ANIME, ANIME *& caneamum*, in *Pharmacy*, a kind of reſin, whereof there are two kinds, the *weſtern* and *eaſtern*. The *weſtern* flows from an inciſion of a tree in Braſil and New Spain, and in the iſland of Antigua, called *courbaril*, a ſpecies of HYMENÆA; and by Piſo, itaiba: the liquid juice, according to Piſo, running down from the tree, ſinks into the ground, and is afterwards dug up; ſo that the larger maſſes are often full of earth.

The *eaſtern* gum anime, which is a finer ſort, is diſtinguiſhed into three kinds: the firſt is white; the ſecond blackiſh, in ſmell like myrrh; the third pale, reſinous, and dry.

The ſmall tears are the pureſt; it has little taſte, but an agreeable ſmell; it eaſily breaks between the teeth, but if chewed for ſome time, it ſoftens, and becomes adheſive. Laid on red-hot iron, it melts immediately, catches flame, and burns quickly away, leaving a ſmall quantity of white aſhes. It gives but little or nothing to water, but diſſolves entirely in rectified ſpirit; the ſolution being of a yellow colour, with the odour of the anime, and a warm, pungent, bitteriſh taſte. A ſmall portion of eſſential oil is obtained by diſtilling with water a large quantity of anime. This reſin has often been confounded with gum copal.

The Braſilians are ſaid to employ anime in fumigations for pains proceeding from cold and rheumatiſm; they alſo chew it for the relief of colics and flatulencies; it has been alſo recommended in catarrhal and paralytical affections; and applied for complaints of this kind, bruiſes, &c. in liniments and plaſters. With us, however, it is rarely, if ever, made uſe of for any medicinal purpoſe. The Indians prepare from it an excellent varniſh. Lewis and Murray. In our ſhops we have only the American ſorts of this reſin.

ANIMÉ, in *Heraldry*, a term uſed by the French heralds, when the eyes of any rapacious animal are borne of a different colour. The Engliſh blazon it *incenſed*.

ANIMELLÆ, the glands under the ears, &c. called alſo *lacticinea*.

ANIMETTA, in *Eccleſiaſtical Writers*, denotes the pall or cloth wherewith the cup is covered in the euchariſt.

ANIMI *deliquium*. See LIPOTHYMIA and SWOONING.

ANIMOTHA, in *Ancient Geography*, a town of Arabia, according to the notitia imperii.

ANINA, a town of India, on the other ſide of the Ganges, according to Ptolemy.

ANINACHA, was alſo, according to Ptolemy, a town of India beyond the Ganges.

ANINETUS, ANINETUM, or ANITATUM, in *Geography*, a town of Aſia under the patriarchate of Conſtantinople.

ANINGA, in *Commerce*, a root growing in the Caribbee iſlands, of uſe in the refinement of ſugar.

The decoction of this root is found a more certain, as well as more innocent means of clarifying ſugar, than the ſublimate and arſenic uſed for this purpoſe, before the diſcovery of the *aninga*.

ANIO, or ANIEN, of Statius (lib. i. v. 20.), in *Ancient Geography*, now IL TEVERONE, a river of Italy, riſes in Mount Treba or Trevi, towards the frontier of Abruzzo, paſſes through the country of the Æqui, then ſeparates the Latins from the Sabines, forms three large lakes in its courſe, and running through the Tiburtine territories, it precipitates itſelf from a great height, and forms a rapid cataract, whence Horace "Præceps Anio." It falls into the Tiber, about three miles to the north of Rome, not far from Antemnæ. The epithet, formed from the name of this river, is Anienus; and this was ſaid to be the name of the god of the river.

ANIOIA, in *Geography*, a town of Italy, in the kingdom of Naples, 13 miles ſouth-eaſt of Nicotera.

ANJOU, ſo called from the ancient *Andes*, or *Andegavi*, a province of France before the revolution, about ſeventy miles

miles long and ſixty broad; is bounded to the eaſt by Touraine, to the ſouth by Poitou, to the weſt by Bretagne, and to the north by the river Maine. The capital is ANGERS; beſides which, the chief towns are La Fleche, Chateau-Gontier, Saumur, Briſac, Beauge, Paſſavant, Beaufort la Valee, Beaupreau, &c. It has many rivers, ſix of which are navigable; namely, the Loire, Vienne, Thoué, Loire, Mayenne and Sarte. The climate is temperate, and the face of the country agreeably diverſified with hills and vallies. The productions of the ſoil are wine, chiefly white, grain, peas and beans, flax, hemp, and various kinds of fruit-trees, particularly walnuts and apple-trees. The fine paſtures of Anjou furniſh rich breeds of cattle; it has alſo ſeveral coal and iron mines, and good quarries of ſlate, ſtone, and marble; there are alſo ſaltpetre works, and ſome glaſs-houſes: its commerce principally conſiſts of wine, brandy, grain, cattle, cloths, ſtuffs, ironmongery, &c. It formerly conſiſted of two counties, which, towards the end of the ninth century, were united; and it was annexed to the crown by Philip Auguſtus, in the year 1202. The departments of Mayne and Loire, the Sarte and the Mayenne, now contain a part of this province.

Anjou Cabbage, in *Botany*. See CABBAGE.

ANJOUAN, or ANJUAN, in *Geography*, a very ſmall iſland of Africa, in the Ethiopic ocean. It is ſituated in the Mozambique gulf, between Madagaſcar and the coaſt of Zanguebar. The ſoil is fertile, and it produces excellent fruits.

ANIRITTE, in *Ancient Geography*, a people of the northern part of Marmarica, according to Ptolemy.

ANISCALPTOR, in *Anatomy*, a muſcle, otherwiſe called LATISSIMUS *dorſi*.

ANISE-SEED, *aniſum*, *aniſum herbariis*, *aniſum vulgare*, in the *Materia Medica*, a medicinal ſeed, produced by an umbeliferous plant of the ſame name, which is a ſpecies of PIMPINELLA, an annual plant, growing naturally in Egypt, Syria, and other eaſtern countries; and cultivated for culinary and medicinal uſes in France, Spain, Malta, Upper Saxony, and Thuringia. It was cultivated here in the time of Turner, in 1551; but our ſummers are ſeldom warm enough to bring the plant to perfection. The ſeeds are annually imported from Malta and Spain; and the ſeeds of Spain, which are ſmaller than thoſe of France and Germany, are accounted the beſt.

Aniſe-ſeeds are roundiſh and ſtriated, flatted on one ſide and pointed at one end, of a pale colour inclining to green. They have an aromatic ſmell, and a pleaſant warm taſte, accompanied with a degree of ſweetneſs. They totally give out their virtue to rectified ſpirit; the tincture is of a bright lemon colour, and agreeable taſte. The ſpirit diſtilled from the filtered tincture has a light taſte of the ſeeds, but the greateſt part of their virtue is left behind in the extract, which is a pleaſant, ſweetiſh, moderately warm, and not very pungent aromatic. Infuſed in water, they impart a little ſmell, but ſcarcely any taſte; and in diſtillation they give out their whole flavour. With the water riſes an eſſential oil, to the quantity of an ounce or more from three pounds; this oil is of a yellowiſh colour, and it congeals, when the air is not ſenſibly cold, into a butyraceous white concrete; its ſmell is extremely durable and diffuſive, but in taſte is milder and leſs pungent than that of any other diſtilled vegetable oil.

The ſeeds likewiſe yield by expreſſion an oil of greeniſh colour, leſs grateful taſte, and ſtrongly impregnated with the flavour of the ſeeds; ſixteen ounces, lightly moiſtened by being expoſed to the ſteam of boiling water, are ſaid to afford one ounce. This oil is compoſed of a groſs, inſipid, inodorous one, ſuch as the common expreſſed oils, and a part of the eſſential oil of the ſeed, on which the flavour depends. The eſſential oil is contained in the outer thin ſkin of the ſeeds, and the expreſſed oil in the kernel itſelf.

Aniſe-ſeeds, which are ranked among the four greater hot ſeed, have been long employed as a carminative and aromatic; they have alſo been eſteemed uſeful in pulmonic complaints, and to poſſeſs, like thoſe of fennel, a power of promoting the ſecretion of milk, and on this account given to nurſes; in proof of which it is alleged from Geoffroy, that the odour is perceived in the milk. But their chief uſe is in flatulent colics, in the gripes to which children are ſubject, in flatulent pains and obſtructions of the breaſt, in weakneſs of the ſtomach and indigeſtion, in diarrhœas, and for ſtrengthening the tone of the viſcera and inteſtines in general: and hence they were called by Van Helmont, "Solamen inteſtinorum." The eſſential oil, which is the only officinal preparation of aniſeeds now directed by the Pharmacopeias, is uſually grateful to the ſtomach, and may be taken in the doſe of twenty drops. In diſeaſes of the breaſt, the oil is preferred; but in flatulencies and colics, the ſeeds, in ſubſtance, are ſaid to be more effectual. It is aſſerted, that the oil is poiſonous to pigeons. A ſpirituous water prepared from a mixture of equal parts of aniſeed and angelica, by drawing off a gallon of proof ſpirit from half a pound of each of the ſeeds, is commonly kept in the ſhops, and proves an elegant carminative cordial. They are uſefully combined with the purgatives that are adminiſtered in flatulencies and gripes. Lewis. Newman. Murray. Bergius.

ANISE-SEED, *ſtarry*, *aniſum ſtellatum*, is a ſeed thus called from the affinity it bears in ſmell to the common aniſe-ſeed, and the ſtar like figure of its *capſulæ ſeminales*. It is the produce of a ſmall tree growing in Tartary, China, and the Philippine iſlands, which is the ILLICIUM *aniſatum* of Linnæus.

It was firſt brought into Europe from the Philippine iſlands by an Engliſh mariner, named Thomas Candy, Candiſh, or Cavendiſh, in his return from a voyage round the world in the year 1601. The natives call it *damor* and *zingi*; the Europeans ſometimes *foeniculum Sinenſe*, or Chineſe fennel; botaniſts, *aniſum Indicum*, *aniſum peregrinum*, *aniſum exoticum Philippinarum inſularum*, *cardamomum Siberienſe*, *badianum*, &c. In ſmell and taſte this reſembles the common aniſe-ſeed; but with the aromatic taſte is combined a ſweetneſs, and in both reſpects it is ſtronger. The capſules or huſks affect the tongue more than the ſeed, but the flavour of the ſeeds is accompanied with a greater ſweetneſs. The ſeeds afford in diſtillation with water, the largeſt quantity of eſſential oil; and the capſules yield with ſpirit, the moſt acrid, reſinous extract. The oil is more limpid, and more fragrant, than that of the common aniſe-ſeeds; and the ſpirituous extract is much warmer and more pungent: for medical purpoſes, the capſules and ſeeds are bruiſed together.

Its virtues are of the ſame kind with thoſe of the common aniſe ſeed, only that it is ſweeter, more grateful, penetrating, and aromatic. It is reputed a general cordial and ſtrengthener, and uſed for this purpoſe in the eaſtern countries, and in ſome parts of Europe; but it has not been received in practice among us, and is rarely found in the ſhops.

The Chineſe uſe it in the preparation of their tea, and they chew it for ſweetening their breath; and after their example, the Dutch alſo uſe it in this liquor, pretending it makes it more pleaſant.

The wood is alſo imported into Europe, where it is employed in works of marquetry and moſaic: it is alſo called *anil*. Lewis. Murray. Newman. Cartheuſer.

ANISIFOLIUM, in *Botany*. See LIMONIA.

ANISOCALIUM,

ANISOCALIUM, a name given by ſome naturaliſts to the SERTULARIA MYRIOPHYLLUM of Linnæus; myriophillum pelagicum of Zanich. Ginann, &c.; muſcus maritimus, filicis folio of C. Bauh. and pheaſants' tail coralline of Ellis. See MYRIOPHYLLUM, SERTULARIA.

ANISOMARATHRUM, in *Botany*. See SCANDIX.

ANISUM *Africanum*. See BUBON.

ANISUS, or ANASUS, in *Ancient Geography*, a river of Norica, which falls into the Danube.

ANITHA, a town of Arabia Petrea, according to Ptolemy.

ANTIGORGIS, a town of Hiſpania Bœtica, mentioned by Livy (lib. xxv. c. 32.), when deſcribing the campaign of Cornelius and Scipio, who advanced to this town, and encamped in the ſight of the enemy, from whom they were ſeparated by the river.

ANIUS, a river called *Æas* by Stephan. Byz.; and by Livy, *Aous*; which diſcharges itſelf into the Adriatic to the ſouth of Apollonia.

ANIUS, *Lugo Sudatorio*, a place of Campania, near Puteoli.

ANIZA, in *Geography*, a town of Arabia, 200 miles north-weſt from Jamama.

ANIZY LE CHATEAU, a town of France, in the department of the Aiſne, and chief place of a canton, in the diſtrict of Chauny, eight miles north-eaſt of Soiſſons, and ten ſouth-eaſt of Chauny.

ANKER, ANCHOR, a liquid meaſure chiefly uſed at Amſterdam, &c.

The *anker* is the fourth part of the *awn*, and contains two *ſtekans*; each *ſtekan* conſiſts of ſixteen *mengles*, the *mengle* being equal to two Paris pints.

ANKER, in *Geography*, a river of England, which riſes about one mile and a half ſouth-weſt of Hinkley, in Leiceſterſhire, and joins the Tame at Tamworth, in Warwickſhire.

ANKEVEEN, a town of the United Netherlands, in the State of Utrecht, one mile and a half ſouth-weſt from Naerden.

ANKLE, *Joint of the*, in *Anatomy*, is made by the appoſition of the aſtragalus, or upper bone of the foot, to the lower part of the tibia and fibula, which are, for that purpoſe, tied together by a ſtrong band of ligaments both before and behind.

The tibia and fibula ſend down two proceſſes, called malleoli, which are applied to the ſides of the aſtragalus, ſupport it in its ſituation, and render the joint very ſecure. The form of the bones allows them to be moved chiefly forwards and backwards, ſo that the joint is accounted a ginglymus. When the back part of the aſtragalus is moved forwards, the toes are pointed to the ground, and the foot is ſaid to be extended; in the contrary poſition, it is ſaid to be bent upon the leg.

When the joint is bent, the form of the aſtragalus ſo exactly correſponds to the ſpace in which it is received between the tibia and fibula, that no motion can take place; but when it is extended, the narrow back-part of the aſtragalus coming forwards between the malleoli, a ſpace exiſts between the bones, and a motion of the aſtragalus from ſide to ſide (ſuch as takes place in directing our ſteps) is permitted.

In this joint we have the uſual apparatus of cartilages to cover the ends of the bone; a capſule to contain the ſynovia; portions of fat, denominated ſynovial glands; and reſtraining ligaments to bind the bones together (ſee JOINT, *Structure of*). The capſule of that joint appears in front a little looſe, ſo that it can be pinched up with a pair of forceps, and here alſo are ſeen thoſe portions of fat which have been accounted ſynovial-glands: behind, the capſule is covered by bands of reſtraining ligaments which conceal it, and ſtrengthen that part of the joint; but the principal ſtrength and reſtraint to the improper motions of the joint is found, as is common in ginglymoid articulations, at the ſides. The internal lateral ligament (ligamentum deltoides malleoli interni of Weitbrecht), which is radiated, extends from the point of the malleolus internus to the aſtragalus and os calcis. The external lateral ligament (ligamentum malleoli externi perpendiculare, Weitbrecht), extends from the point of the malleolus externus to the os calcis. There are alſo two other bands of ligaments paſſing from the fibula to the aſtragalus, one in front, and the other behind the laſt-mentioned ligament. Weitbrecht mentions theſe under the names of ligamentum malleoli externi, anterius & poſterius. Theſe ligaments are in a ſtate of great tenſion, and prohibit any motion when the joint is bent; but are relaxed, and allow of that motion which is uſeful in the direction of our ſteps when it is extended.

ANKLE, *luxation of*, in *Surgery*; ſee LUXATION and DISLOCATION.

ANKUN, in *Geography*, a town of Germany, in the circle of Upper Saxony and principality of Anhalt; is ſo near to Zerbſt on the weſt, that it is denominated a ſuburb to that city, but has a corporation of its own.

ANLERY, a town of France, in the department of the Nyevre, and chief place of a canton, in the diſtrict of Decane, 15 miles eaſt from Nevers.

ANN, *Cape*, is the point of land, in the town of that name, or GLOUCESTER, which forms the north ſide of Maſſachuſett's Bay, as Cape Cod does the ſouth ſide. It was ſo named in honour of Ann, conſort of king James I. N. lat. 42° 45'. W. long. 70° 17'.

ANN, *St.* is the chief town of the province of Parana, in the eaſtern diviſion of Paraguay, in South America.

ANN, *St.* a lake in Upper Canada, to the north of Lake Superior, which ſends its waters north-eaſterly into James's Bay, through Albany River. Its north-eaſtern point lies in N. lat. 50°. W. long. 88°.

ANN, *Fort*, in the ſtate of New York, lies at the head of Battyzaux navigation, on Wood Creek, which falls into South Bay, Lake Champlain, near Skeneſborough.

ANN'S, *St.* a port, on the eaſt ſide of Cape Breton iſland, accommodating fiſhing-veſſels, and lying on the north-weſt ſide of the entrance into Labrador Lake. N. lat 47°. W. long. 60°.

ANN'S, *St.* a ſmall town on the river St. John's, in the province of New Brunſwick, about 80 miles from St. John's, and almoſt oppoſite to Frederick-town. It is at preſent the ſeat of government.

ANN'S, *St.* ſometimes called *Egane*, lies at the bottom of a bay, on the north-eaſt part of Borneo iſland, in the Eaſt Indies. N. lat. 5° 50'. E. long. 116° 20'. This bay, called *St. Anne's Bay*, is a very conſiderable bay of the Eaſtern Ocean, oppoſite to St. Michael's iſlands. It has a free and open entrance, a good depth of water, and ſafe anchorage.

ANN'S, *St.* a bay of Campeachy, in the gulf of Mexico, in N. lat. 18° 10'. and W. long. 92° 25', nearly ſouth-weſt from Cape Condecedo.

ANN'S, *St.* is a harbour on the north coaſt of the iſland of Jamaica, in N. lat. 18° 54', and W. long. 77° 12'. It is a good anchoring-place, and the largeſt ſugar ſhips may lie with their ſides cloſe to the wharf.

ANN'S, *St. Point*, is to the larboard of the entrance into Milford Haven, on the coaſt of Wales.

Ann's, *St. Point*, is alſo in the ſtraits of Magellan, in that part which bends to the ſouth, and on the weſt ſide of it, on the Patagonian ſhore, four leagues from Cape Froward, the moſt ſoutherly point of the American continent. Here are good wooding, watering, and fiſhing.

Ann's, *St. Port, Arglas*, or *Killough*, lies on the eaſt coaſt of Ireland, between Carlingford and Strangford.

ANNA is one of the three principalities into which Arabia Deſerta is divided.

Anna is alſo one of the chief cities of the above principality, and was formerly a famous market town, though it is now not much frequented. It is ſituated in N. lat. 33° 57′, E. long. 42° 10′, on the river Euphrates, in a fruitful and pleaſant ſoil, and has two ſtreets which are divided by the river: that on the Meſopotamia ſide is about two miles long, and thinly peopled by tradeſmen; that on the oppoſite ſide is about ſix miles in length, and this part is inhabited by the principal people. Every houſe has ſome ground belonging to it, which produces a variety of excellent fruit-trees, as lemons, oranges, citrons, quinces, figs, dates, pomegranates, and olives: ſome of the flat ground is ſown with corn and other grain, which it yields in great abundance. The city is the common rendezvous of all the robbers that infeſt the country; here they hold their council, and ſettle their plans of depredation, and from hence they diſperſe themſelves into all parts of the deſert. This is one of the great thoroughfares through which the caravans paſs to and from Aleppo Tripoli, Damaſcus and Bagdad, and ſome other parts of the Turkiſh empire; and it is with difficulty, ſuch is the character of the inhabitants, that the Turkiſh aga and the janizaries, who are kept here, can levy the tribute impoſed by the Turks on all the commodities carried through this city. Mod. Un. Hiſt. vol. xxxvi. p. 440.

Anna, in *Ancient Geography*, is a town of Paleſtine, to the north of Jericho. Joſephus calls it *Aina*; and Berkelius thinks it is the ſame with Kana.

Anna, a town placed by the periplus of Scylax on the coaſts of Lydia; ſuppoſed to be *Anzia*, or *Anæa*, which belongs to Ionia or Caria.

ANNABERG, in *Geography*, a mine town of Germany, in the circle of Erzgebirg and electorate of Saxony, five miles ſouth-ſouth-weſt from Wolkenſtein. The occupation of its inhabitants conſiſts partly in mining, but chiefly in the lace-trade. The ſilver-mines of Schreckenberg are not far from the town.

ANNABI, the name of mountains in Independent Tartary, ſuppoſed by M. d'Anville to be thoſe of Altai; but they are evidently thoſe of Alak, called by ſome Muſart, on the north of Little Bucharia.

ANNABON, or Annobon, or *Happy Year*, the name given to an iſland of Africa by the Portugueſe, who diſcovered it on New Year's Day, in 1526. This iſland lies to the eaſt of St. Matthew, in S. lat. 1° 50′, and E. long. 5° 10, 25 leagues ſouth from St. Thomas iſland, and 45 from Cape Lopez Gonſalvo. According to Pyrard, it is five or ſix French leagues in circuit; but Baudrand makes its compaſs ten leagues. It has two high mountains, which being almoſt always covered with clouds, occaſion frequent rain. It has a number of fertile vallies, producing Turkey corn, rice, millet, potatoes, yams, bananas, pine-apples, citrons, oranges, lemons, figs, tamarinds, and other delicious fruits. This iſland alſo affords oxen, hogs, ſheep, goats, and poultry, in great plenty, and abundance of fiſh; but the only mercantile production is cotton, which is ſaid to be equal to any produced in India; the quantity, however, is ſmall. The governor is a Portugueſe; but the majority of the inhabitants are natives, who pay him implicit obedience, and are bigoted in their attachment to the Roman Catholic faith. There are two rocks on the ſouth-eaſt end of the iſland, which are dangerous to ſhipping: they are inhabited by a number of birds, ſo tame, that the ſailors frequently feed and catch them with their hands. Ships, ſailing for Europe from the Cape of Good Hope, frequently make this iſland; and the right road for them is on the north-eaſt ſide, where they may anchor in ſix or ſeven fathoms water, and good ground.

The climate is wholeſome, and the air clear and ſerene. Every part of the iſland is watered by pleaſant brooks and freſh-water ſprings, which, in all high tides, become brackiſh: the banks are covered with palms, from which the inhabitants obtain their wine by inciſion; and among other fruits, this iſland produces a ſpecies of black nut of a purgative quality. Moſt of the dwellings on this iſland are cane-huts: the inhabitants are meanly clothed; the women have the upper part of the body naked; they carry their children on their backs, and ſuckle them over the ſhoulder; the men wear a linen-girdle round the loins, with a ſmall flap before. Mod. Un. Hiſt. vol. xi. p. 459.

ANNABURG, formerly called *Lochau*, a town of Germany, in the Electorate of Saxony, and in a prefecturate of the ſame name. This town is ſituated on an iſland, and contains a citadel which Anne, conſort to the elector Auguſtus, cauſed to be rebuilt in the year 1572; whence the name. N. lat. 51° 42′. E. long. 12° 54′.

Anna Comnena, in *Biography*, was the daughter of the emperor Alexius Comnenus I. by his wife Irene, and no leſs diſtinguiſhed by her talents than her rank. She was born at Conſtantinople in 1083, and devoted herſelf to the ſtudy of literature and philoſophy, by which ſhe acquired the reputation of the moſt learned lady of her age. Upon the death of Conſtantine, the ſon of Michael Ducas, her intended huſband, ſhe married Nicephorus Bryennius, a young nobleman of diſtinction; on whoſe behalf ſhe joined with the empreſs Irene in ſoliciting her father, in his laſt illneſs, to diſinherit his ſon. When this ſcheme failed, ſhe excited a conſpiracy for depoſing her brother; and upon her huſband's impeding its ſucceſs, ſhe lamented that nature had miſtaken their ſexes, as he ought to have been the woman. Her plot was defeated; and Anna was puniſhed by the confiſcation of her property, which, however, was reſtored to her by the emperor; but ſhe loſt her whole influence at court. Having loſt her mother firſt, and afterwards her father in 1118 (ſee Alexius I.), and her huſband in 1137, ſhe endeavoured to ſoothe her mind in retirement, by compoſing a hiſtory of her father's reign; a work that was finiſhed in 1148, ſtill extant, and preſerved in the collection of Byzantine hiſtorians. "This hiſtory was written," ſays Mr. Gibbon (Hiſt. vol. ix. p. 83. 8vo.), "with an elaborate affectation of rhetoric and ſcience, that betrays in every page the vanity of a female author." Nevertheleſs, it forms an uſeful contraſt to the degrading and partial ſtatements of the Latin hiſtorians. Zonaras gives her an excellent character, and informs us, that ſhe engaged vigorouſly in the purſuit of learning, and had a peculiar attic elegance in her ſtyle; and being endued with a genius ſuited to elevated contemplations, ſhe improved her natural abilities by intenſe ſtudy, for ſhe was perpetually reading, or converſing with men of learning. Gen. Dict.

ANNAGH, in *Geography*, an iſland on the weſt coaſt of Ireland, about five miles in circumference, between the iſle of Achil and the main land of the county of Mayo. N. lat. 53° 58′. W. long. 9° 39′.

Annagh, a ſmall iſland of Ireland, in Lough Conn, in the county of Mayo, eight miles from Killala.

Annagh *iſland*, a ſmall peninſula on the weſt coaſt of Ireland, and weſt coaſt of the county of Mayo.

Annagh Uan, a ſmall iſland on the ſouth-weſt coaſt of the county of Galway, 22 miles weſt from Galway.

Anna Ivanowna, in *Biography*, the ſecond daughter of the Czar Ivan Alexiowitch, elder brother of the Czar Peter the Great, was born in 1693, married in 1710 to Frederick-William, duke of Courland, left a widow in 1711, and advanced to the Ruſſian empire on the deceaſe of Peter II. in 1730. Her counſels were under the abſolute direction and influence of Erneſt John Biren, a favourite of mean deſcent. Notwithſtanding attempts to prevent his coming to Ruſſia, he appeared immediately upon her arrival at Moſcow; and formed a party, by whoſe influence the crown was offered to Anna, with the deſpotic authority poſſeſſed by her predeceſſors. Biren governed with vigour and capacity; but with ſuch rigour, that more than 20,000 perſons are ſaid to have been ſent to Siberia during this reign, though the empreſs herſelf was of a gentle and merciful diſpoſition. The influence of Biren was ſo great, that though he treated the empreſs with arrogance and diſreſpect, he was able to carry any meaſure by a mere threat of returning to Courland, of which ſhe made him grand duke. He lived in a ſtyle of magnificence ſuperior to her's; and ſhe had no table of her own, but uſed to dine with his family. The election of a king of Poland, a treaty to be concluded with Perſia, and a war with the Turks, were the tranſactions that occupied Anne in the firſt years of her reign. Auguſtus, elector of Saxony, ſupported by Ruſſia and Auſtria, became king of Poland, under the name of Auguſtus III. In 1735, Ruſſia made a formal ſurrender of all her Perſian poſſeſſions, for which the Ruſſian merchants obtained mercantile privileges, to a conſiderable extent, in the territories belonging to Perſia. The empreſs alſo, on this occaſion, concluded a defenſive treaty with the Shah againſt the Turks. Although, during the reign of Anne, the Ruſſians and Auſtrians combined their forces, and threatened to ſhake the Ottoman empire, yet the expectations that were formed from the united efforts of theſe two powers were utterly diſappointed. The Auſtrians made overtures of peace to the Turks; and inſtead of having made new conqueſts, they were obliged to reſtore Belgrade, the rampart of Hungary againſt the Turks; and the articles agreed upon between the Porte and Auſtria, were ſigned at Belgrade, September the 1ſt, 1739. Soon after this event, the vizier manifeſted a diſpoſition to negociate even with Ruſſia, nor was the empreſs averſe from the meaſure: accordingly, on the 18th of September, a peace was effected between the court of St. Peterſburgh and the Porte. The conditions of this peace were, that Azof ſhould be evacuated, together with its territory, and lie waſte as a boundary between the two empires. Ruſſia, however, was allowed to build a fortreſs on the Don, and the Porte was at liberty to conſtruct another in the Kuban. The Greater and the Leſs Kabardia were to remain unoccupied as a frontier. The Ruſſians were prohibited from keeping a fleet either in the Palus Mœotis, or in the Euxine; and the Ruſſian merchants had licence only to carry on commerce in Turkiſh bottoms, in the latter. The Moldau, and all the other conqueſts made by the Ruſſians, were reſtored to the Turks. In this conteſt, ſo diſadvantageouſly terminated, Ruſſia had loſt above 100,000 men, and expended prodigious ſums of money. Soon after the concluſion of peace with the Turks, the Ruſſians were threatened by Sweden; but before the ſtorm could burſt from theſe threatening appearances, the empreſs Anne died, in 1740, aged 47; and left the crown to her grand-nephew, Ivan, under the regency of Biren. Anne, during her reign of 10 years, acquired ſome portion of fame, by completing many things that had been begun by her uncle Peter I. Although her war with the Turks did not redound to much benefit, yet it convinced the Porte of the ſuperiority of the Ruſſian arms. The canal along the Ladoga lake, commenced under Peter I. conducive to the eaſier conveyance of proviſions to St. Peterſburgh, was completely finiſhed under Anne, in 1738. Anne renewed the project for inveſtigating whether any connexion ſubſiſted between North America and Siberia, and for exploring thoſe regions that were unknown. Anne likewiſe, by the advice and aſſiſtance of Count Munich, improved the diſcipline of the Ruſſian army; and eſtabliſhed a ſeminary for the military education of young men of good families. With a view to the extenſion of commerce, Anne was induced to relinquiſh the Perſian provinces; ſhe ſought for expert and induſtrious artiſans and manufacturers, and procured for the country a great number of manufacturers in woollen ſtuffs and ſilk. She executed a new treaty of commerce with Great Britain, and governed at home with gentleneſs and equanimity, except in caſes where puniſhment was thought neceſſary, which ſhe inflicted with ſeverity. The manners of the court at Peterſburgh, during her reign, took a ſofter and politer turn; drunkenneſs was diſcouraged, and the more decent pleaſures of muſic and dancing were promoted.

Under Anne, the number of ſubjects was augmented by the return of the Zaporogian Coſſacks to their ſubmiſſion to the Ruſſian ſceptre; the territory of the empire was alſo enlarged by the ſubmiſſion of the Kirghiſes; and thus the commerce between Ruſſia and China was ſecured againſt the interruption which had been occaſioned by the hoſtilities of the neighbouring Ruſſian tribes. The reign of Anne would have been more happy for Ruſſia, and her memory had in greater honour, if her favourite Biren had not abuſed the confidence ſhe repoſed in him, and rendered a multitude of perſons and families completely wretched. Tooke's Hiſt. of Ruſſia, vol. ii. p. 207—239.

ANNALE, in ſome *Middle-Age Writers*, denotes a day held every year in commemoration of the dead. In which ſenſe annale amounts to the ſame with what is otherwiſe called anniverſarium.

Annale is more particularly applied to the maſſes celebrated, during the ſpace of a year, for the dead.

Annales *libri*, in the *Civil Law*, denote books wherein the acts and proceeding of a whole year were contained.

In which ſenſe *annales* ſtand oppoſed to *ſemeſtres libri*, wherein the acts and conſtitutions of ſix months were contained. See Annals.

Annales *baculi*. denote a kind of wooden almanacks uſed among our anceſtors, called alſo *runſtocks*, or *clogs*.

Annales, in *Middle Age Writers*, denote yearlings, or young cattle of a year old, or under two.

Annales alſo denote a kind of rent, or annual revenue.

ANNALIS *Actio*, in the *Civil Law*, denotes an action which may be put in practice any time within the year. In the like ſenſe we meet with *annale decretum*, or *negatum*, *annalis reſciſio*, &c.

Annalis *clavus*, in *Roman Antiquity*, the nail which the prætor, conſul, or dictator, fixed every year in the wall of Jupiter's temple, on the ides of September, to ſhew the æra or number of years from the building of Rome. This cuſtom was afterwards changed, and the years were reckoned by the consuls.

Annalis *exceptio*, a kind of privilege anciently granted the people of Italy, that whoever had made a contract could not be compelled to the performance or payment of what had been

been agreed on within the year. Some extend this privilege ſo as to render it ſtill more grievous, by computing the year excluſive of all holidays.

ANNALIS *Lex*, a law fixing the age for enjoying the different offices at Rome, which was firſt made by L. Villius or L. Julius, a tribune of the commons, A. U. 573; and hence his family had the ſurname of *Annales*. Liv. lib. xl c. 45.

ANNALS, an hiſtorical account of the affairs of a ſtate, digeſted in the order of years.

The difference between *annals* and *hiſtory* is variouſly aſſigned by various authors. Some ſay that hiſtory is properly a recital of things which the author has ſeen, or been a by-ſtander to. What they build upon is, the etymology of the word; hiſtory in the Greek, ſignifying the knowledge of things preſent; and, in effect, ἱστορέω properly ſignifies *to ſee*. On the contrary, annals, ſay they, relate to the tranſactions of others, and ſuch as the writer never ſaw.

Of this opinion the great annaliſt, Tacitus himſelf, ſeems to have been; becauſe the firſt part of his work, which treats of former times, he calls annals; but when he comes down to his own times, he changes his title, and calls it hiſtory. According to Sempronius Aſellio, annals are a bare relation of what paſſes each year; whereas hiſtory relates not only to the tranſactions themſelves, but alſo to the cauſes, motives, and ſprings of them. The annaliſt merely ſtates his facts, but the hiſtorian reaſons and deſcants on them.

Of this laſt opinion Cicero appears to have been, becauſe when ſpeaking of annaliſts, he ſays, *Unam dicendi laudem putant eſſe brevitatem, non exornatores rerum, ſed tantum narratores*. He adds that hiſtory, in its original, was the compoſition of annals. Cicero relates the origin of annals: to preſerve the memory of tranſactions, the *pontifex maximus*, ſays he, wrote what paſſed each year; and expoſed it on a table, in his own houſe, where every one was at liberty to read it. This they called *annales maximi*; and this cuſtom was kept up till the year of Rome 620. *Annales maximi* conſiſted of eighty books. They were moſt of them deſtroyed in the burning of the city by the Gauls. After the time of Sylla the pontifices ſeem to have diſcontinued the cuſtom of compiling annals; but ſeveral private perſons compoſed hiſtorical accounts of the Roman affairs, which, from their reſemblance to the pontifical accounts in the ſimplicity of their narration, they likewiſe ſtiled annales; as Cato, Pictor, Piſo, Hortenſius, and Tacitus. The like annals were kept from the earlieſt ages by the Egyptians, Babylonians, Perſians, Chaldeans, &c.

The Annals of Grotius is a book finely written, and contains excellent materials. Grotius is not ſo particular as Strada, but more profound, and comes much nearer to Tacitus.

ANNAMATIA, in *Ancient Geography*, a place of Lower Pannonia.

ANNAMETHUS, an iſland in the Indian ocean, according to Pliny, who makes it dependent on Arabia Felix.

ANNAMOOKA, in *Geography*. See ANAMOOKA.

ANNAN, the capital of Annandale, in Scotland, is a ſmall town, and royal borough, pleaſantly ſituate on a river of the ſame name, which abounds with ſalmon, and is navigable, within half a mile of the town, for veſſels of 250 tons burden. The river at the town is croſſed by a bridge of five arches. It was formerly a place of trade, but lying contiguous to the Engliſh border, and in the track of their weſtern incurſions, it was often pillaged, deſtroyed, and burned: the laſt of theſe deſtructive inroads was in the reign of Edward VI. when Lord Wharton, preſident of the Marches, burned the town, and demoliſhed the church. In this town, there was formerly a caſtle which was built by the Bruces, after they became lords of Annandale. The export-trade of Annan at preſent conſiſts of grain; and a building for carding and ſpinning of cotton has lately been erected, and there are ſome appearances of increaſe. N. lat. 54° 40′. W. long. 3°.

ANNAND, WILLIAM, in *Biography*, a Scots epiſcopalian divine, was the ſon of William Annand, miniſter of Air, and born in that town in 1633. His father was obliged to quit Scotland in 1638, on account of his loyalty to the king, and attachment to epiſcopalian government; and he was admitted, in 1651, a ſcholar in the univerſity of Oxford. Having completed his education, and diſtinguiſhed himſelf by his loyalty and zeal for epiſcopalianiſm, he removed to Scotland in 1662; and in 1676, he was nominated to the deanery of Edinburgh. He died in 1689, and was interred in the Greyfriars church at Edinburgh. The titles of his works, which he wrote in Engliſh, are as follows, *viz.* "Fides Catholica;" or, The Doctrine of the Catholic Church, in Eighteen Great Ordinances, &c. Lond. 1661-2, 4to. "Panem Quotidianum;" or, Daily Bread, in Defence of ſet Forms of Prayer. Lond. 1662, 4to. "Pater Noſter;" or, Our Father, an explanation of the Lord's Prayer. Lond. 1670, 8vo. "Myſterium Pietatis;" or, The Myſtery of Godlineſs, Lond. 1672, 8vo. "Doxologia." Lond. 1672, 8vo. "Dualitas;" including "Lex Loquens;" or, The Honour of Magiſtracy: and "Duorum Unitas;" or, The Agreement of Magiſtracy and Miniſtry, &c. Biog. Brit.

ANNANDALE, in *Geography*, a diſtrict or diviſion of Dumfries-ſhire, in Scotland, the capital of which is ANNAN. Upon the death of David II. in 1371, the lordſhip of Annandale deſcended to Thomas Randolf, earl of Murray; and by his ſiſter Agnes, was transferred to the Dunbars, earls of March: after their forfeiture, it paſſed to the Douglaſſes, who loſt it in the ſame way; and from them it went to Alexander, duke of Albany, who loſt it by his rebellion againſt his brother king James III. From his time, it continued in the hands of the king, and was the great key of the weſtern border. This diſtrict is a fertile vale, about 24 miles long and 14 broad: it was formerly, on account of its vicinity to England, ſubject to depredation, ſo that it was left uncultivated; but of late, the culture it has undergone has given it a new aſpect.

Annandale formerly conſtituted part of the Roman province of Valentia: and as the wall of Severus terminated here, it abounds with Roman ſtations and antiquities. Some of the Roman camps are preſerved; and the traces of a military road are viſible in different parts of the country. Annandale is a marquiſate belonging to the Johnſtones, and the chief of that name.

ANNANO, a ſtrong fort of Italy in the duchy of Milan, ſituate on the river Tanaro; twice taken by the French, and reſtored to the Duke of Savoy in 1706. N. lat. 44° 40′. E. long. 8° 30′.

ANNANORE is a Portugueſe factory, lying on the weſtern coaſt of the peninſula of India, 21 leagues nearly S. E. from Goa.

ANNA PERENNA, in *Mythology*, the ſiſter of Dido; of whom fable relates, that ſhe fled with Æneas to Italy, where ſhe fell a ſacrifice to the jealouſy of Lavinia, and was drowned by her in the river Numicus, whence ſhe was denominated the Numician nymph. It is certain, that the Carthaginians and Romans paid her divine honours. It is ſaid, that the ſurname *Perenna* was derived, "a perennitate cultus," from the perpetuity of her worſhip. The feaſt of this deity was celebrated by the Romans in the ides of March, on the banks of the Tiber; on which occaſion the people

people devoted themſelves to every kind of amuſement and pleaſure. Ovid refers to this goddeſs, in the third book of his Faſti. Some writers maintain, that Anna was the moon, becauſe its revolutions formed "annum," the year.

ANNAPOLIS, in *Geography*, a river of Nova Scotia, riſes in the eaſt, and paſſes into the bay of Fundy, through the baſon of its own name; on the ſouth ſide of which, at the mouth of the river, ſtands *Annapolis Royal*. The tide flows up this river thirty miles; and it is navigable for ſhips of any burden 10 miles; for thoſe of 100 tons, 15 miles; and for boats, within 20 miles of Horton.

ANNAPOLIS, a county on the above river, adjoining to King's county, having five townſhips, *viz.* Wilmot, Granville, Annapolis, the chief towns Clare and Monckton, and chiefly inhabited by Canadians, Iriſh, and New-Englanders.

ANNAPOLIS *Royal*, called by the French *Port Royal*, when a colony was ſettled here by M. de Ponts in 1605; is the chief town of a county of this name, and ſtands on the ſouth ſide of the river and bay of Annapolis.

This is reckoned the fineſt harbour in the world: it is two leagues long, and one broad; and has a ſmall iſland called Goat Iſland, almoſt in the middle of the baſon, which is ſaid to be large enough to contain ſeveral thouſand ſhips; its depth of water is no where leſs than four or five fathoms; the bottom is good; and ſhips may be ſecured from all winds. The entrance, however, is difficult, ſo that only one ſhip can paſs in or out at a time; and it muſt go ſtern foremoſt, on account of the ſtrong current and tides: the fogs alſo are very great here. The gulf through which ſhips paſs into the bay is about three quarters of a mile wide and about one and a half long; and on each ſide the land is rocky and mountainous. The town is not large, but has ſome very handſome buildings. It is fortified, and cannot be eaſily attacked except by bombardment. The fort in its preſent ſtate is capable of containing about 100 men. Furs are here exchanged by the Indians for European goods. N. lat. 45° 10′. W. long. 64° 5′.

ANNAPOLIS is alſo the chief town of Ann-Arundel county, and the capital of the ſtate of Maryland. It ſtands at the mouth of the Severn, 30 miles ſouth of Baltimore, 32 eaſt by north from the federal city, 72 ſouth-weſt from Wilmington, and 132 ſouth-weſt from Philadelphia. It was formerly called Severn; and in 1694, it was made a port and town. It is ſituated on a peninſula formed by the river and two ſmall creeks; and affords a beautiful proſpect of Cheſapeak bay, and the eaſtern ſhore beyond it. This town is the wealthieſt of its ſize in the United States. The houſes, about 300 in number, are ſpacious and elegant, indicating great wealth: the ſtate-houſe is a noble building, and ſtands in the centre of the city, whence the ſtreets diverge in every direction. N. lat. 38° 56′ 15″. W. long. 75° 8′.

ANN-ARUNDEL, the name of a county in Maryland, which lies between Patapſco and Patuxent rivers, and has Cheſapeak bay to the ſouth-eaſt. Its chief town is Annapolis. This county contains 22,598 inhabitants, of whom 10,131 are ſlaves.

ANNAT, or ANN, in *Scots Law*, denotes half a year's ſtipend, which the law allows to the executors of the miniſters of the church of Scotland, over and above what was due to the miniſter himſelf, for his incumbency.

ANNAT, FRANCIS, in *Biography*, a French Jeſuit, confeſſor to Louis XIV. was born at Rovergue, in 1590. Having taught philoſophy ſix years, and theology ſeven years, in the Univerſity of Toulouſe, he was invited to Rome to be cenſor-general of the books publiſhed by the ſociety, and theologiſt-general. On his return to France, he was diſtinguiſhed by ſucceſſive offices of honour to which he was appointed, and at length he was made confeſſor to the king, in which poſt he continued for 16 years; nor was he allowed to retire from court till within about four months of his death. It is ſaid, though not with much authority, that when Madame de la Valiere was taken into the royal favour, he entreated permiſſion to lay down his office. During his long connexion with the court, he never employed his intereſt in providing for his poor relations. He was chargeable, however, with the crime of perſecuting thoſe who profeſſed new opinions, and particularly the Janſeniſts; and he has been reproachfully denominated "The Flail of Heretics." He died at Paris in 1670. His writings, chiefly on the controverſy with the Janſeniſts, are numerous; and the principal of them were collected in three volumes, and printed at Paris in 1666. Gen. Dict.

ANNATES, ANNATA, in *Eccleſiaſtical Writers*, denote a year's income, due anciently to the pope upon the death of any biſhop, abbot, or pariſh-prieſt; and to be paid by his ſucceſſor.

ANNATES are alſo called from the Latin *annus*, YEAR; becauſe their rate is after the value of one year's purchaſe; and they are the ſame with what of later days are called *primitiæ*, or *firſt-fruits*; with this only difference, that firſt-fruits with us are paid to the king.

The invention of annates is aſcribed, by a late writer, to Anthonin, biſhop of Epheſus, who exacted from all biſhops conſecrated by him, a ſum proportionate to the annual revenues of their ſees. The council of Epheſus, held in 400, condemned this exaction, but not till Anthonin was dead. It was long after that annates got footing in the weſtern church. The time when they were firſt introduced is very obſcure. Clement V. is ſaid to have been the firſt pope who impoſed annates on England for three years, to which Edward I. immediately conſented; but the parliament boldly oppoſed it; the pope's bull was declared abuſive, and the king revoked his conſent. Polydore Virgil (Inv. et Rer. lib viii. c. 2.) ſays, that the council of Vienne, which was held in 1311, under Clement V. made an effort to ſuppreſs the annates; a circumſtance which ſhews they ſubſiſted in his time. John XXII. the ſucceſſor of Clement, publiſhed a bull, whereby he reſerved the firſt year's fruits of all eccleſiaſtical benefices that continued vacant for three years, archbiſhoprics, biſhoprics, and abbaſies, being exempted; but by degrees the firſt fruits were exacted, without obſerving whether the benefices were vacant three years or not. Benedict XII. who ſucceeded John, followed his example; and it was alſo imitated by ſucceeding popes; but the authority of their bulls extended no farther than their own lives. In 1399, during the ſchiſm of the antipopes, Boniface IX. iſſued the firſt bull for eſtabliſhing perpetual annates; not merely to be granted as a charitable ſupply on extraordinary occaſions, but as a matter of right annexed to the dignity of the ſovereign: ſo that he decreed what was local and particular, to be univerſal and perpetual. Before his time, the annates were not fixed, and the clergy often refuſed to pay them; but afterwards, the tax was not only impoſed at pleaſure, but frequently doubled, tripled, and quadrupled. However, it was always a grievance complained of and remonſtrated againſt both by the people and the clergy. There were even popes who condemned annates; and the ſecular princes frequently objected to the payment of them, forbidding any money to be carried out of their dominions on this account. See Lenfant's Hiſt. of the Council of Conſtance, vol. ii. p. 147, &c. Nic. de Clamangis, A Maſſa, Galleſius, Campegius, and Funandus Cordubenſis, have written expreſsly concerning annates.

Matthew Paris, in his Hiſtory of England, for the

year 746, relates, that the archbiſhop of Canterbury, in virtue of a grant or conceſſion of the pope, received annates of all the benefices that became vacant in England. Before this time, among the laws of king Ina, who began his reign in the year 712, there is an order for the payment of them. But, in after-times, the holy ſee thought fit to take theſe away from the biſhops and archbiſhops, and appropriate them to themſelves. And from the popes, the parliament under Henry VIII. took them, paſſing an act in 1532, againſt levying them, and gave them to the crown. 25 Hen. VIII. cap. 20. Finally, queen Anne reſtored them to the church by appropriating them to the augmentation of poor livings. See FIRST FRUITS.

ANNATTA, in *Geography*, the name of a river and bar in the iſland of Jamaica, nearly north from the town of Kingſton, on the north ſide of the iſland. N. lat. 18° 32'. W. long. 76° 4'.

ANNATTOM. See ANATTOM.

ANNE, in *Biography* and *Hiſtory*, queen of England, was the ſecond daughter of king James II. by his firſt wife Anne Hyde, and was born in 1664. In 1683, ſhe married prince George, brother to the king of Denmark, by whom ſhe had ſeveral children, though none of them lived to maturity. Upon the progreſs of the prince of Orange, and the retreat of the king, prince George, who was under the influence of lord Churchill, afterwards duke of Marlborough, as well as ſome other perſons of diſtinction, retired to the camp of the advancing prince. When this news reached London, the princeſs Anne, dreading the king's diſpleaſure, withdrew herſelf, in company with the biſhop of London and lady Churchill, and fled to Nottingham. The intelligence of her flight was the occaſion of great diſtreſs to her father; becauſe he foreſaw, in this incident, the total expiration of his royal authority; and becauſe he was abandoned by a child, whom he had always regarded with the moſt tender affection. "God help me," cried he, in the extremity of his agony, "my own children have forſaken me!" Upon her diſappearance, ſo violent were the prejudices that prevailed, the unhappy father was thought to have put her to death; and if the truth had not been ſeaſonably diſcovered, the populace, and even the king's guards themſelves, might have been engaged, in revenge, to commence a maſſacre of the prieſts and Catholics. Upon the ſettlement of the crown, in 1689, on the prince and princeſs of Orange, it was enacted by the Convention-bill, that the princeſs of Denmark ſhould ſucceed after the death of the prince and princeſs of Orange. Accordingly, ſhe aſcended the throne, on the death of king William III. in 1702. The ſplendour and importance of her reign were owing more to the circumſtances of the times, and to the influence of her miniſters and favourites, than to any diſplay or exertion of talents on her own part: as ſhe poſſeſſed no energy of mind, and her diſpoſition was meek and timid, ſhe ſurrendered herſelf to the direction of others, and diſtinguiſhed herſelf merely, or principally, by a ſtrong predilection for tory principles in church and ſtate. "Mildneſs, timidity, and anxiety," ſays Dr. Somerville, "were conſtitutional ingredients in the temper of this princeſs; and to their influence chiefly we may aſcribe moſt of the intereſting occurrences in her government and private life." Under the guidance of the counſels of the ducheſs of Marlborough, to which ſhe had been accuſtomed to ſurrender herſelf in the earlier period of her life and reign, ſhe purſued the projects for reducing the power of Louis XIV. of France, which her predeceſſor had begun; and after a ſeries of ſucceſſes, more glorious to her arms than profitable to the nation, the war cloſed by the peace of Utrecht, in 1713. Much more important to the proſperity of the nation, than all the brilliant ſucceſſes of Marlborough's campaigns, was the UNION of England and Scotland, which took place on the 1ſt of May 1707. The contention of parties was very violent during almoſt the whole of the queen's reign; and more eſpecially towards the cloſe of it, when it was apprehended that the queen, and thoſe in whom ſhe confided, wiſhed to ſecure the ſucceſſion to her exiled family; and when ſhe evidently favoured the tories in ſuch meaſures, as juſtly alarmed the whigs and the friends of conſtitutional liberty. Of this kind was the SCHISM-BILL, which, after violent debates during its progreſs through both houſes, obtained the royal aſſent on the 25th of June 1714. But the death of the queen, Auguſt the 1ſt, in the ſame year, the very day in which this bill was to take effect, rendered it in a great meaſure ineffectual. The queen's death, in the 50th year of her age and 13th of her reign, was occaſioned by a dropſy, contracted or aggravated by her habits of living. Although Queen Anne had no energy of mind, ſhe was not deficient in underſtanding, and her private character was amiable. She has been charged, however, by ſome, with the crime of deſerting her father in his diſtreſs. This charge has been obviated by the peculiar circumſtances in which ſhe was placed, and by the ſtate of the nation, when her huſband, by his example, countenanced this meaſure. "The habit (ſays Dr. Somerville) of a blind deference to the advice of lord and lady Churchill, and a conſcientious anxiety for the Proteſtant religion, expoſed to the extremity of danger, ſtifled the emotions of filial tenderneſs, in a moment of ſingular perplexity and agitation, and precipitated her into an action which would have been inexcuſable, if it had been the reſult of cool deliberation, and originated from motives of intereſt and ambition." In the management of her fortune this princeſs was economical, and yet ſhe was not deficient in charity; and ſhe even exceeded it in her bounty to her favourites. In the diſcharge of religious duties, ſhe was regular and exemplary; and ſhe manifeſted her zeal for the ſafety and proſperity of the church in various ways; ſome of which, indeed, were reckoned as impolitic and unjuſt; and particularly by augmenting, at her own expence, the livings of the poor clergy. See AUGMENTATION. "She poſſeſſed a conſiderable degree of taſte for the fine arts, amuſed herſelf with muſic and painting, and delivered her public ſpeeches with a melodious propriety, that charmed the ears of her audience. The deceitfulneſs of grandeur, as a criterion of happineſs, was remarkably verified in the life and reign of queen Anne. We behold a nation riſing, under her auſpices, to the ſummit of proſperity. Whilſt ſignal ſucceſs crowned her military exertions abroad, agriculture, commerce, manufactures, ſcience, and literature, advanced with rapid ſteps at home; every event, and every improvement, which contribute to the opulence, the power, and the renown of a nation, diſtinguiſh the reign of queen Anne as the moſt propitious and brilliant recorded in the annals of Britain. But when we follow this princeſs into retirement, and ſurvey the incidents of her private life, how much are we ſtruck with the diſtinction between external grandeur and perſonal felicity! She ſurvived a numerous family of children; the Duke of Glouceſter, deſtined by the act of ſettlement to ſucceed her, lived to the age of 12, and exhibited early bloſſoms of every accompliſhment that could elevate the hopes of a nation, and delight the heart of a parent. The poſſeſſion of a crown, held upon the condition of ratifying the degradation and exile of her own family, muſt have coſt her many a pang, which ſhe durſt not impart to her moſt confidential friends. Whilſt looked up to as the firſt potentate in Europe, and loaded with congratulations upon the ſucceſs of her arms, ſhe was a ſlave in her own houſe; and ſubjected to daily

daily affronts and mortifications, from the inſolence and uſurpations of her own ſervants. Emancipated, at length, from her chains, ſhe only entered upon a new ſcene of vexation and trial; and all her remaining days were embittered by the jealouſies of her people, the turbulence of faction, and the contentions and outrage of a diſtracted cabinet." By her ſubjects, whoſe prejudices coincided with her own, ſhe was honoured with the title of the "Good Queen Anne." Without attaching much merit to the queen herſelf, as either a patron or promoter of literature, the period of her reign was diſtinguiſhed as a kind of Auguſtan age of Engliſh learning, on account of the number of admirable and excellent writers who flouriſhed at this time.

Anne *of Auſtria*, queen of France, the daughter of Philip III. king of Spain, by Margaret of Auſtria, was born in 1604, and married to Louis XIII. in 1615. From this connexion, ſhe did not derive much happineſs; for Cardinal Richelieu contrived to perſuade the king that ſhe was concerned in conſpiracies againſt his life. Suſpicions were thus excited, which rendered it neceſſary for her to anſwer interrogatories; and on her confeſſion, to aſk pardon of the king, and promiſe to alter her conduct. When the king died, in 1643, ſhe was declared ſole regent during the minority of her ſon Louis XIV. Her whole confidence was repoſed in Cardinal Mazarin; who ruled with ſuch deſpotiſm, that diſcontents aroſe, which produced a civil war, and obliged her to fly with her ſon from Paris, and to ſolicit the aſſiſtance of the great Condé. In the conflicts and viciſſitudes of this period, the queen manifeſted great firmneſs: at length, the young king aſſumed the reigns of government, in 1661; and the queen retired, to paſs the remainder of her life in pious exerciſes. In 1666, ſhe died of a cancer, after having endured the pains of it with exemplary patience. In early life, the court of France was much indebted to her for its characteriſtic politeneſs and amenity. Nouv. Dict. Hiſt.

Anne Boleyn, queen of Henry VIII. of England, was the daughter of ſir Thomas Boleyn, employed by Henry in various embaſſies, by a daughter of the duke of Norfolk; and born in 1507. At an early age ſhe was taken to Paris, and reſided there for a conſiderable time. Here ſhe acquired a vivacity of manners and converſation, which was further ſet off by her perſonal charms. Henry, whoſe attachments were very variable, was enamoured when he ſaw her; and as he could not obtain the favour he ſolicited on any other terms, he haſtened to ſeek a divorce from Catharine of Arragon, and whilſt the grant of it was delayed, he married Anne Boleyn in November 1532; and publicly declared her queen in the April following. In September ſhe was delivered of a daughter, who was afterwards the famous queen Elizabeth. Anne Boleyn had imbibed the principles of the reformers during her reſidence with the ducheſs of Alençon; and her influence was for ſome time uſefully employed in widening the breach between the king and the court of Rome; and in overthrowing the power of that haughty favourite cardinal Wolſey. But her enemies were aſſiduous in their endeavours to ſupplant her; and the king's new paſſion for lady Jane Seymour, tended to inflame thoſe jealouſies of her conjugal fidelity which the levity of her carriage had excited, and in ſome meaſure juſtified. Having been accuſed of adultery with ſeveral officers of the houſehold, and with her own brother, lord Rochford, ſhe was brought to her trial for high treaſon, found guilty on very inſufficient evidence, and ſentenced to be beheaded: the ſentence was executed in May 1536. At her death, ſhe confeſſed indiſcretion, but perſiſted in denying any ſerious guilt. Her letter to the king, written after her condemnation, enhances her character and underſtanding in our eſtimation. Many calumnies have been circulated againſt this queen, by the bigotry of the Catholics, on account of the ſervice ſhe rendered to the cauſe of the Reformation. It is not poſſible to aſcertain her innocence with regard to the crime charged againſt her; but as an approved writer obſerves, "it ſeems much leſs certain that ſhe was criminal, than that her huſband was a capricious and bloody tyrant." Burnet's Hiſt. Reformation, vol. iii. p. 113. Hume's Hiſt. vol. iv. p. 79—159.

Anne, St. *of Sleſwick Holſtein*. This order was inſtituted in the year 1738, by Charles VI. emperor of Ruſſia. The badge of the order *is a croſs, compoſed of four large rubies ſet in gold, the angles between the croſs ſet with diamonds, and on the centre a medallion with the figure of St. Anne.* It is worn pendant to a broad crimſon velvet ribbon edged with yellow. The ſtar of the order is of ſilver, with eight equal points or rays; on the centre a red croſs on a gold ground, with the following motto written on a red ground, Amantibus juſtitiam, pietatem, fidem.

ANNE's, St. *Bay*, in *Geography*. See St Ann's.

Anne's, St. *Bay*, is a bay on the coaſt of Labrador, in North America, between Davis's inlet on the north, and Cape Charles, which is the north point of the entrance into the ſtraits of Beileiſle, on the ſouth. It is about N. lat. 54°, and W. long. 57°.

Anne's, St. *Cape* and *Iſland*, lie ſouth by eaſt from Sierra Leone river, on the weſt coaſt of Africa. The cape is the north-weſt point of the iſland, which is a narrow ſlip of land, near 80 miles in length from weſt by north to eaſt by ſouth. The inner paſſage within the channel is called Furno of St. Anne.

Anne, St. Larpana, or Rota, is one of the Ladrones, or Marianne iſlands, at the diſtance of ſeven leagues from Guam, and is about 45 miles in circumference, ſituate in N. lat. 14°. This is a pleaſant and fertile iſland, finely diverſified with riſing grounds, covered with lofty trees, and beautiful plains of a rich black ſoil, and very well watered. There are two excellent ports, one on the ſouth, and the other on the north-weſt ſide of the iſland.

Anne Chares, *Iſland* and *Road*, lie on the eaſt ſide of St. Thomas iſland, under the equator, and 40 leagues weſt from the mouth of the river Gabon, on the continent of Africa. This iſland is only a great rock, and the road is under its lee.

Anne's, St. *Gulf*, is round Cape Blanco, the moſt weſterly point of Africa, which forms a peninſula, as this gulf runs up northerly within the land, which bears away towards the eaſt. It is a large bay, with good ſandy ground.

Anne, *Cape Queen*, lies on the coaſt of Greenland, in the Northern Ocean, in N. lat. 64° 15′, and W. long. 50° 35′.

Anne's, Queen, *Foreland*, lies on the northern main from Hudſon's Straits, in N. lat. 64° 8′, and W. long. 74° 41′.

Anne's, St. *Harbour*, is in the iſland of Martinico, and has good anchorage and a ſafe port.

Anne's, St. in *Eccleſiaſtical Hiſtory*, is a feſtival of the Chriſtian church, celebrated by the Latins on the 26th of July; but by the Greeks, on the 9th of December. It is kept in honour of Anne, or Anna, the mother of the Virgin Mary.

ANNEALING, or as it is popularly called, *Nealing*. See Nealing.

ANNEBAUT, in *Geography*, a town of France, in the province of Normandy, ſituate on the Rille, and enjoying the title of marquiſate.

ANNECY,

ANNECY is a city of Savoy, and capital of the Genevois, ſeated between Chambery and Geneva, on a lake to which it gives name, at the mouth of the river Sier, which paſſes through it. This lake is about 10 miles long and 3 wide. Annecy is the ſee of a biſhop, whoſe dioceſe includes Faucigny, Chablais, the country of Gex, and part of Bugey. It has piazzas in ſeveral ſtreets for ſheltering the people from rain, ſeveral collegiate and pariſh churches, and convents for men and women. It is 10 miles ſouth of Geneva, and 21 north-north-eaſt of Chambery. N. lat. 45° 56'. W. long. 5° 57'.

ANNECY, *Old*, is now a village half a league north-eaſt of Annecy. It was formerly a conſiderable town.

ANNERY is the name of one of the tribes who inhabit the deſerts round Palmyra, which is remarkable for the fineſt breed of horſes in the world; the other is the Mowalli, who are much better ſoldiers, but fewer in number, and little inferior in the excellence of their horſes. The Annery poſſeſs the country towards the ſouth-weſt, at the back of Libanus, about Bozra, down the Hawran; and ſouthward towards the borders of Arabia Petrea and mount Horeb. The Mowalli inhabit the plains eaſt of Damaſcus to the Euphrates, and north to near Aleppo.

ANNESEL, in *Ancient Geography*, a place of Africa, ſituate, according to Antonine, in the track of the "Septis Magna," to Alexandria.

ANNESLEY, ARTHUR, in *Biography*, earl of Angleſey, and lord privy-ſeal in the reign of Charles II. was the ſon of Sir Francis Anneſley, bart. Lord Mount-Morris, and Viſcount Valentia in Ireland, and born at Dublin in 1614. At the age of 16 years, he was ſent to the univerſity of Oxford, where he purſued his ſtudies with ſuch aſſiduity, as to engage the eſteem of ſeveral reſpectable perſons, who conſidered him as an honour to Magdalen College, with which he was connected, and a young man of great hopes. At the commencement of the diſpute between king Charles I. and his parliament, he inclined to the royal cauſe, and ſat in the Oxford parliament in 1643. He afterwards abandoned the king's party, and was admitted into the confidence of the other; and was deputed in 1645, by the parliament, as one of the commiſſioners at Ulſter, where he concluded the buſineſs with which he was entruſted, to univerſal ſatisfaction, and very much to the benefit of the Proteſtant cauſe in Ireland. In his negociation with the Marquis of Ormond, lord lieutenant of that country, in 1647, he exerciſed prudence and temper, and brought the negociation to a happy iſſue. On his return to England he ſteered a kind of middle courſe between the extremes of party violence; had no concern with the king's trial and death; and on account of his oppoſition to ſome of the illegal acts of Cromwell, he was put among the number of ſecluded members. After the death of Cromwell, when there were appearances of the revival of the old conſtitution, he joined with thoſe who determined to recal the king, and entered into a correſpondence with him. After the reſtoration, he was rewarded for his ſervices on this occaſion with a barony and an earldom; and he manifeſted his loyalty, by ſitting as one of the judges on the trial of the regicides. Having been employed at home and in Ireland in ſeveral important offices, he was made privy-ſeal in 1673. At the time when it was the practice to contrive popiſh plots, he was charged by Dangerfield, at the bar of the houſe of commons, with an attempt to ſtifle evidence in this matter; and yet he was the only lord, who, in the houſe of peers, diſſented from the vote of the commons, aſſerting the belief of an Iriſh popiſh plot. On this account, he was unjuſtly charged with being a ſecret papiſt. In 1682, when the ſucceſſion produced a conſiderable degree of agitation, he repreſented, in ſtrong terms, and in a memorial to the king, the fatal conſequences of the duke of Norfolk's attachment to popery; and freely enjoined on the king his obligation to govern according to law. This freedom and faithfulneſs were not well received; and he was diſmiſſed from his office of privy-ſeal in 1682. From this time, he lived very much in retirement; but his ambition was not aſleep; for it appears, that he conducted himſelf ſo as to ſecure the favour of the duke of York, when James II., to ſuch a degree, that he deſigned him for the office of lord chancellor, if the deſign had not been prevented by his death, in April 1686, in the 73d year of his age. He left ſeveral children by his wife, who was one of the co-heireſſes of ſir James Altham.

The earl of Angleſey appears to have been poſſeſſed of diſtinguiſhed talents, and extenſive and various learning. He was a good writer, and the author of ſeveral publications in politics and religion, as well as hiſtory. He was a ready, but not a graceful ſpeaker: he was indefatigable in buſineſs, and of a grave deportment, and ſober manners. His verſatility has been cenſured, and, perhaps, not unjuſtly; but we diſcover ſtrong traces of integrity in his conduct. He ſucceeded, probably, in too great a degree in ingratiating himſelf with men of all parties; and it does not much add to his reputation, that he was deſigned for chancellor at a time when Jefferies was at the command of the king. Biog. Brit.

ANNESLEY, SAMUEL, a non-conformiſt miniſter, was born at Haxeley, in Warwickſhire, about the year 1620, and educated at Oxford. Whilſt he was a ſtudent, he was diſtinguiſhed by his temperance and induſtry. From Calamy, it appears that he was ordained after the Preſbyterian mode; though Wood ſays, that he received epiſcopal ordination. He was chaplain to the earl of Warwick; and afterwards rector of Cliffe in Kent, a valuable living, with peculiar civil juriſdiction.

During the civil wars, he was zealouſly attached to the parliamentary intereſt; and, in 1648, preached a violent ſermon before the parliament, in which he inveighed againſt the king, who was then a priſoner in the Iſle of Wight.

Under the protectorate, he ſurrendered Cliffe, and was preſented to the vicarage of St. Giles's, Cripplegate. He was ejected in 1662, but continued preaching till his death, which happened in 1696. Anneſley had the reputation of being a pathetic preacher, as well as a pious, prudent, and very charitable divine, laying by the tenth part of his income for the uſe of the poor. Some of the ſermons which he publiſhed are contained in the "Morning Exerciſe of Cripplegate;" printed in 1674. Biog. Brit.

ANNET, in *Geography*, one of the ſmaller Scilly iſlands, near the ſouth-eaſt coaſt of England, about half a league from St. Agnes iſland.

ANNESTUS, in *Ancient Geography*, or ANNESTRUS, in town of Arabia Felix.

ANNEXATION, in a *legal ſenſe*, the act of joining or uniting ſome leſs conſiderable thing to a greater.

ANNEXED, ſomething joined to, or dependent on another.—Thus, we ſay, ſuch a farm, ſuch an advowſon, is annexed to ſuch a fee, ſuch a manor, &c. Charles VIII., in the year 1486, annexed Provence to the crown of France.

ANNIBALI, DOMENICO, in *Biography*. See DOMENICO.

ANNIENTED, or rather ANIENTED, formed of the verb *aneantir*, *to bring to nothing*, or *to annihilate*, a term ſometimes uſed in *law*-books, in the ſenſe of fruſtrated, or annulled.

ANNIHILATION, compounded of *ad*, *to*, and *nihil*, *nothing*, the act of reducing a ſubſtance into nothing; or of totally

totally deſtroying and taking away its exiſtence. Annihilations ſtands oppoſed to creation; the one ſuppoſes ſomething made out of nothing, the other ſomething reduced to nothing.

All annihilation muſt be metaphyſical, or ſupernatural; bodies naturally admit of changes and alterations in their form, but not of annihilation.

The ancient philoſophers in effect denied all annihilation as well as creation, reſolving all the changes in the world into new modifications, without ſuppoſing the production of any thing new, or deſtruction of the old.

By daily experience they ſaw compounds diſſolved, and in their diſſolution nothing periſhed, but their union or connexion of parts: when in death the body and ſoul were ſeparated, the man they held was gone, but the ſpirit remained in its original, the great ſoul of the world, and the body in its earth from whence it came; theſe were again wrought by nature into new compoſitions; and entered new ſtates of being which had no relation to the former. According to ſome, nothing is ſo difficult as annihilation; it requires the infinite power of the Creator to effect it; ſome go farther, and ſeem to put it out of the power of God himſelf. According to others, nothing is ſo eaſy; exiſtence is a ſtate of violence; all things are continually endeavouring to return to their primitive nothing; it requires no power at all: nay, what is more, it requires an infinite power to prevent it.

The Talapoins hold it the ſupreme degree of happineſs, to have the ſoul totally annihilated, and freed from the burden and ſlavery of tranſmigrations.

Some Chriſtians maintain, that God will annihilate the ſouls of the damned, after a certain term of puniſhment; and this annihilation, they ſay, is the ſecond death. Irenæus, according to M. du Pin, was of this opinion. See DEATH, HELL, and PUNISHMENT.

ANNIHILATION is alſo uſed, in *Political Arithmetic*: thus, when the capital ſtock of any public fund is reduced, ſo much as is reduced is ſaid to be annihilated.

ANNI NUBILES, among *Law Writers*, the legal age at which a maid becomes fit for marriage; which is at twelve years.

ANNIS *Communibus*. See COMMUNIBUS.

ANNISEED. See ANISE-SEED.

ANNIVERSARY, is properly the yearly return of any remarkable day; anciently alſo called a *year-day*, or *mind-day*; that is, a memorial day.

The word is from *annus* and *verto*, on account of its returning every year.

ANNIVERSARY *days*, *dies anniverſarii*, among our anceſtors, more particularly denote thoſe days on which the martyrdoms of the ſaints were yearly celebrated in the church; as alſo days whereon, at every year's end, men were wont to pray for the ſouls of their deceaſed friends. *Anniverſaria dies ideo repetitur defunctis, quoniam neſcimus qualiter eorum cauſa habeatur in alia vita.* This was the reaſon given by Alcuinus, in his Divine Offices. The firſt origin of anniverſary days is referred by ſome writers to Pope Anacletus, and by others to Felix I.

ANNIVERSARY *winds*, are thoſe which blow conſtantly at certain ſeaſons of the year.

Theſe are otherwiſe called Etefian winds; ſuch are the TRADE *winds* and MONSOONS.

ANNIVERSARY is more particularly uſed for the *annale*, or maſs, rehearſed daily for the ſpace of a year after a perſon's death.

ANNIUS, of Viterbo, or JOHN NANNI, in *Biography*, a Dominican monk, was born, in 1427, and diſtinguiſhed as an impudent impoſtor. Furniſhed with talents and learning, he employed himſelf in writing books from his own invention, which he introduced to the world as genuine remains of ſeveral ancient authors, in "Seventeen books of Antiquities." This curious collection contained ſeveral tracts of Archilochus, Xenophon, Beroſus, Manetho, Megaſthenes, Philo, Q. F. Pictor, M. Cato, Antoninus Pius, Sempronius, &c. &c. This work was firſt publiſhed at Rome in 1498; a ſecond edition was publiſhed by Venetus at Venice; and in 1552, it was publiſhed in 8vo. at Antwerp. The editor pretended to have found the books at Mantua; and the impoſition was for ſome time ſucceſsful. Voſſius and Bayle mention ten advocates for the genuineneſs of theſe writings. On the other hand, the moſt approved critics examined theſe pieces, and pronounced them ſpurious; and this judgment is now univerſally received. Annius died at Rome in the year 1502. Gen. Dict.

ANNOBON, in *Geography*. See ANNABON.

ANNO *Domini*, q. d. *in the year of our Lord*; the computation of time from the EPOCHA of the incarnation of Jeſus Chriſt. This is generally inſerted in the dates of all public writings, with an addition of the year of the king's reign.

ANNOISANCE, in *Law*. See NUISANCE.

ANNOMINATION, *annominatio*, in *Rhetoric*, the ſame with what is otherwiſe called PARONOMASIA.

ANNONA, *Guanabanus* of Plum. in *Botany*, a genus of the *polyandria polygynia* claſs and order, of the natural order of *coadunatæ*, and the *anonæ* of Juſſieu: its characters are, that its *calyx* is a perianthium three-leaved and ſmall, leaflets cordate, concave, and acuminate; the *corolla* has ſix petals, cordate, and ſeſſile; the three alternate interior ones leſs; the ſtamina have ſcarcely any filaments, anthers very numerous, placed on the receptacle; the *piſtillum* is a roundiſh germ, placed on a roundiſh receptacle; ſtyles nine, ſtigmas obtuſe, numerous, covering the whole germ; the *pericarpium* a berry, very large; roundiſh, clothed with a ſcaly bark, one-celled (or a compenna berry, as in *Vahus*); *ſeeds* very many, hard, ovate-oblong, placed in a ring, and neſtling. Martyn enumerates ten, Willdenow eighteen, and Gmelin nineteen ſpecies. 1. A. *muricata*, rough-fruited cuſtard apple, or ſour ſop, guanabanus of Plum. Araticu-ponhe of Mareg. Pif. and Ray, with leaves oval-lanceolate, ſmooth and acute, fruits muricate, petals ovate, the interior ones obtuſe, ſhorter. This is a middle-ſized tree, rarely above twelve or fourteen, or at moſt twenty feet high. It is a native of the Weſt Indies, common in every ſavannah of Jamaica, and flowering in the ſpring. The ſmell and taſte of the fruit, flowers, and whole plant, reſemble very much thoſe of black currants. There is a variety in Jamaica, with inodorous leaves, large flowers of a fulvous colour, and ſpherical mucronate fruits. It was cultivated here in 1656 by Mr. J. Tradeſcant, jun. 2. A. *tripetala*, A. *charimolia* of Miller, broad-leaved cuſtard apple, with leaves ovate, acute, pubeſcent beneath, flowers three-petalled, and petals lanceolate, coriaceous, and tomentoſe. This grows to a large tree, with numerous branches, in South America. The fruit is eſteemed by the Peruvians as one of their moſt delicate ſorts. It was cultivated in 1739, by Mr. Miller. 3. A. *ſquamoſa*, A. tuberoſa of Rumph. atamaram of Rheed and Ray, undulated cuſtard apple, or ſweet ſop, with leaves oblong, acute, and ſmooth, fruits obtuſely ſcaled, outer petals lanceolate and inner ones minute. This is a ſmall tree about eight feet high, and commonly a ſhrub; a native both of the Eaſt and Weſt Indies; the fruit is ſweet, and eaten in theſe countries; cultivated in 1739, by Miller. 4. A. *reticulata*, guanabanus fructu aureo, &c. of Plum. Anona-maram of Rheed and Ray, netted cuſtard apple, with leaves oblong-lanceolate, acute and ſmooth, fruits ovate and reticulate-areolate, outer petals lanceolate, and inner minute.

This is a tree growing to the height of twenty-five feet and more, with ſpreading branches; a native both of the Eaſt and Weſt Indies; and the fruit, according to Browne, is much eſteemed by many people; but Swartz ſays, that it is ſeldom eaten; cultivated at Hampton court in 1690. 5. A. *hexapetala*, A. *ſenſis* of Gmelin, long-leaved cuſtard apple, with leaves elliptic-oblong, acute, and ſmooth, petals ſpatulate, equal and acute; a native of China, and cultivated in the Eaſt Indies; introduced in 1758, by Hugh, duke of Northumberland: ſuſpected by Loureiro not to be different from the third ſort. 6. A. *paluſtris*, guanabanus paluſtris, &c. ſhining-leaved cuſtard apple, with leaves oblong, rather obtuſe and ſmooth, and fruits areolate. This is a ſmall tree, about a fathom in height; growing wild in ſoft marſhy places in Jamaica, and bears a fine ſweet-ſcented fruit, of no diſagreeable flavour; but it is ſaid to be a ſtrong narcotic, and on that account not eaten. It is called *alligator apple*: its wood is ſo ſoft, that it is uſed inſtead of corks to ſtop up their jugs and calabaſhes; and hence it is now univerſally denominated the *cork-wood* in Jamaica: introduced here in 1778, by Dr. T. Clarke. 7. A. *triloba*, triſid-fruited cuſtard apple, with leaves elliptic, acute, and ſmooth; flowers pendulous and campanulate, calyxes ovate, and petals many and oval. This tree's trunk is about the ſize of a man's leg, and its height about ten or twelve feet. All parts of it have a rank, if not a fœtid ſmell; and few, except negroes, reliſh the fruit; it uſually grows in low ſhady ſwamps, and in a very fat ſoil. It is a native of the Bahama iſlands, Carolina, Maryland, and Virginia; and the ſeeds are frequently brought to England, under the name of *papaw-tree*; introduced in 1736, by P. Collinſon, Eſq. 8. A. *glabra*, ſmooth cuſtard apple, with leaves lanceolate-ovate, and fruits conoid ſmooth: grows to the height of about ſixteen feet, has an eatable fruit, ſweet but ſomewhat inſipid; it is the food of guanas, and many other wild creatures. A native of North America. 9. A. *aſiatica*, Aſiatic cuſtard apple, with leaves lanceolate, ſmooth, ſhining, and marked with lines: a middle-ſized tree, with ſpreading branches; a native of the Eaſt Indies; cultivated there and in China. 10. A. *africana*, African cuſtard apple, with leaves lanceolate, pubeſcent: a native of America, though diſtinguiſhed by the epithet *africana*.

Theſe fruits are much eſteemed by the natives of the countries where they naturally grow; are eſteemed very cooling and wholeſome, and are frequently given to ſick perſons. 11. A. *ægyptiaca*, with elliptic leaves and globoſe fruits. 12. A. *aperemoa*, with leaves oblong, very entire, tomentoſe, and ſomewhat ſeſſile, and ſmooth fruits. Aubl. pl. Guian. 13. A. *paludoſa*, with leaves oblong, very entire, tormentoſe, under ruteſcent, and tuberculated fruits. Aubl. pl. Gui. 14. A. *punctata*, with leaves oblong, ſmooth and very entire, and punctated fruits. Aubl. 15. A. *longifolia*, with leaves linear-oblong, very entire and ſmooth, and punctated reticulated fruits. Aubl. 16. A. *ambotai*, with leaves ovate, acute, very entire, beneath ferruginous-tomentoſe tube. 17. A. *rufeſcens*, with leaves ovate-cordated, petiolate, beneath tomentoſe, and tomentoſe fruits. Aubl. 18. A. *amara*, with leaves cordated, ſmooth, petiolated, under yelloviſh, and tomentoſe fruits. Aubl. 19. A. *mucoſa*, with oblong leaves, areolated fruits, and external corolla monopetalous. Jacq. Obſ. Bot. This is reckoned by Willdenow, a variety of the A. *reticulata*. To thoſe ſpecies that have been above enumerated Willdenow adds—A. *pygmæa*, A. pygmæa of Bartram, with lanceolate acute leaves, and oblong acute petals, the interior the longer: a native of Florida: A. *obovata*, A. grandiflora of Bartram, with leaves obovate and ſomewhat obtuſe, oblong ſmooth fruit, obovate obtuſe petals, the exterior the larger: a native of Florida. A. *grandiflora*, with leaves ovate-oblong and petiolate, of Vahl; with leaves ovate-lanceolate, ſmooth, and very large flower, of La Marck; and with leaves ovate-oblong, fruit elliptic and ſomewhat rough, and petals pubeſcent and oblong, the interior the ſhorter, of Willdenow: A. *amplexicaulis*, with leaves cordate-oblong, acute, double-rowed, and embracing the ſtem, of La Marck; or with leaves cordate-oblong and embracing, of Willdenow: a native of Madagaſcar and of the iſland of Mauritius.

Culture, &c. The ſeventh ſort will thrive in the open air in England, if the ſituation be warm; but the plants muſt be trained up in pots, and ſheltered in winter for two or three years; and in the ſpring they may be turned out of the pots, and planted in the open ground. The other ſorts, which are natives of the hot parts of America, or the Eaſt Indies, are too tender to live in this country, unleſs they are preſerved in warm ſtoves: the ſeeds that are brought over muſt be ſown on a good hot-bed, or in pots of light earth, and plunged into a hot-bed of tanner's bark in February, which is the beſt time, that the plants may get ſtrength before the colds of autumn. They ſhould be kept in the bark-ſtove, and with careful management they will make great progreſs; but in warm weather, they ſhould have plenty of freſh air. As they advance in their growth, they ſhould be cautiouſly ſhifted into larger pots, conſtantly remain in the tan-bed; and they will thus be vigorous. They are preſerved for the ſake of the beauty of their leaves, as few of them flower, and none produce fruit in England. The ſtoves in which they are placed ſhould, during the winter ſeaſon, be kept to the ananas heat, as it is marked on the botanical thermometer. The earth ſhould be light and rich, and the tan-bed frequently turned over and refreſhed. In ſummer they ſhould have frequent waterings; but in winter they ſhould be ſeldom watered, not oftener than once a week in open weather; and in froſt, it will be ſufficient to water them once in two or three weeks. Martyn's Miller.

Annona, in *Ancient Writers*, denotes victuals, or proviſion, or corn for a year.

Annona *civilis*, the corn with which the granaries of cities were filled every year, for the ſubſiſtence of the citizens.

The tax, called the *annona*, or ſupply of corn for the uſe of the army and capital, was a grievous and arbitrary exaction, which, in the time of Juſtinian, exceeded, perhaps in a ten-fold proportion, the ability of the farmer, and his diſtreſs was aggravated by the partial injuſtice of weights and meaſures, and the expence and labour of diſtant carriage.

Annona *militaris*, the corn and other proviſion laid up in the magazines, for the ſubſiſtence of an army during the campaign.

In ancient writers we alſo meet with the phraſes *ſingulæ annonæ*, *binæ annonæ*, *ternæ annonæ*: with regard to which Salmaſius lays down this rule, that when annona occurs in the ſingular number, it includes not only corn, but fleſh, wine, oil, and other neceſſaries; whereas, when it is uſed in the plural number, it imports bread alone. Aquinus is not contented with this rule, but inſtead of it advances another, *viz.* that annona in the ſingular number includes all kinds of proviſion; and, in the plural, imports ſo many rations or pittances of bread, fleſh, and the like, diſtributed to ſo many men.

In this ſenſe, ſoldiers are ſometimes ſaid to have riſen to the benefit of five or more annonæ; that is, were entitled to ſo many rations. The Emperors Arcadius and Honorius took great

great pains to reduce this profuſion. Hence we read of *annonæ præfectus*, or *curator*, who ſuperintended the ſale of corn; *annonæ ſtructor*, who managed the military proviſions; *annonarius*, an officer appointed to diſtribute proviſions to the ſoldiers; and *annonarii*, denoting monopoliſts.

ANNONAGE, *annonagium*, a tax on corn.

Annonage is much the ſame with *frumentage*.

ANNONAY, in *Geography*, a town of France, in the department of the Ardeche, and chief place of a canton in the diſtrict of Mezen, four leagues north-weſt of Tournon, and 11 north of Privas. N. lat. 45° 15′. E. long. 4° 52′.

ANNOT, or Anot, a town of France, in the department of the lower Alps, and chief place of a canton, in the diſtrict of Caſtellane; two leagues weſt of Entrevaux, and three north-eaſt of Caſtellane.

ANNOTATION, formed of *ad*, and *nota*, note, a ſuccinct commentary, or remark on a book or writing; in order to clear up ſome paſſages, or to draw ſome induction or conſequence from it.

Annotation, in the *Civil Law*, denotes a kind of reſcript or grant from the emperor, ſigned with his own hand. But this annotation differed from a mere reſcript and a pragmatic ſanction.

It took its name from the note or ſubſcription at the bottom, which was in red letters.

ANNOTTO, in *Commerce*, a kind of red dye, brought from the Weſt Indies. This is otherwiſe denominated *arnatto*, *anate*, *attole*, and *roucou*.

It is procured from the pulp of the ſeed-capſules of a ſhrub called *achiotte* and *urucu*; the BIXA *orellana* of Linnæus, which grows ſeven or eight feet high, and produces oblong hairy pods, ſomewhat reſembling thoſe of a cheſnut. Within each of theſe are thirty or forty irregularly figured ſeeds, which are enveloped in a pulp of a bright red colour, and unpleaſant ſmell, ſomewhat reſembling the paint called red lead when mixed up with oil; and it was uſed as paint by ſome of the Indians, in the ſame manner as woad was uſed by the ancient Britons. The ſeeds, together with the red tough matter that ſurrounds them, are ſoftened in a wooden trough with water, until, by a kind of fermentation, which ſpreads a very naufeous ſmell, and by diligent ſtirring and pounding, the kernels are ſeparated from the pulp. This maſs is then ſtrained through a ſieve, and boiled; upon which a thick reddiſh ſcum, which is the pigment, ſeparates. When ſkimmed off, it is carefully inſpiſſated in another kettle; and after being completely cool, is moulded in roundiſh lumps, wrapt round with leaves of trees, and packed for ſale. It ſeems to partake of the nature of vegetable albuminous matter. The method of extracting the pulp, and preparing it for market, is ſimply by boiling the ſeeds in clear water, till they are perfectly extricated; after which the ſeeds are taken out, and the water left undiſturbed for the pulp to ſubſide. It is then drained off, and the ſediment diſtributed into ſhallow veſſels, and dried generally in the ſhade. See Roucou.

The annotto is now only prepared by the Spaniards. The Engliſh had formerly a manufacture at St. Angelo, now ruined. This drug is preferred by the dyers to indigo, and ſold one-fourth dearer. The double Glouceſter cheeſe is coloured with this dye, not with marygolds. Some of the Dutch farmers uſe it to give a rich colour to their butter, and great quantities are ſaid to be applied to the ſame purpoſe in the Engliſh dairies. The poor people uſe it inſtead of ſaffron; and it is ſometimes mixed as an ingredient in chocolate, during the grinding of the cocoa, in the quantity of about two drams to the pound, in order to give it a reddiſh colour; but the opinion of its being an earth has brought it into diſrepute, and this uſe of it has been diſcontinued. Some have recommended it as a good cordial, and a preſervative againſt retention of urine. It is uſed by the Spaniards in America as a gentle laxative, as an antidote to the dyſentery, and a ſtomachic. But it is never preſcribed for medical purpoſes in Europe.

To water it gives only a pale browniſh yellow colour, and is not ſoluble in that liquid, nor in ſpirit of wine; but, in order to be fit for dyeing, it requires an alkaline menſtruum, to which it gives a bright orange colour; and hence it is uſeful as an ingredient in VARNISHES and LACQUERS, and in dying wax of a vermilion colour. Wool and ſilk, boiled in a ſolution of it by alkaline ſalts in water, acquire a deep, but not a durable orange dye; for though it is not changed by alum or acids, it is diſcharged by ſoaps, and deſtroyed by expoſure to the air. It is ſaid to be an antidote to the poiſonous juice of *manihot*, or *caſſada*. The liquid ſold under the name of "Scot's nankeen dye," ſeems to be nothing but annotto diſſolved in alkaline ley.

See more of this artificial preparation, and the manner of making it, in Dr. Lewis's Commercium Phil. Techn. p 224, &c. or Neumann's Works, p. 433, &c. Murray, Med vol. iii. p. 392. Gren's Chem. vol. i. p. 443.

ANNUAL, ſomething which returns every year, or cloſes at the end of the year. Thus we ſay, an annual or yearly ſeaſt, office, commiſſion, rent, revenue, income, &c.

The annual motion of the earth, ſee proved under EARTH.

Annual is ſometimes uſed for the yearly rent or income of a prebendary, &c.

In which ſenſe *annuale* amounts to the ſame with what we otherwiſe call *annat*.

Annual is alſo uſed, in *Eccleſiaſtical Writers*, to denote a yearly office, ſaid for the ſoul of a perſon deceaſed on the day of his obit, or anniverſary.

Annual, in the Scotiſh *Law*, denotes any yearly revenue or due paid at certain times, either legal, as Martinmaſs and Whitſuntide; or conventional, as the parties agree.

In the acts of parliament made by Queen Mary, mention is made of *ground-annuel*, *fue-annuel*, and *top-annuel*; the meaning whereof is ſomewhat uncertain. See Annuel.

Annual *argument of longitude*. See Argument.

Annual *epacts*. See Epact.

Annual *equation* of the mean motion of the ſun and moon, and of the moon's apogee and nodes. See Equation.

Annual *leaves*, are ſuch leaves of plants as come up afreſh in the ſpring, and periſh in winter. Theſe ſtand oppoſed to *ever-greens*.

Annual *plants*, called alſo ſimply *annuals*, in *Gardening*, commonly ſignify ſuch plants as are of one year's duration, or which continue for the ſummer ſeaſon, or a few months only. In general, however, all ſuch plants as riſe from ſeed ſown in the ſpring, arrive at maturity in the ſummer or autumn following, producing flowers and ripe ſeed; and which afterwards periſh in their tops and roots, are conſidered as annuals. This laſt effect takes place in moſt ſorts in the autumn and winter following; though ſome hardy kinds, when late ſown, will ſtand over the winter until the enſuing ſpring, eſpecially thoſe of the eſculent ſorts; but very few of the flowering kinds remain longer than October or November, unleſs protected by a greenhouſe, garden-frame, or ſome other covering of a ſimilar nature.

The plants of this tribe are very numerous, as moſt of

thoſe of the herbaceous kinds, conſiſting of uncultivated plants, weeds, &c.; and alſo a number of cultivated garden and field plants, both of the eſculent and flowery ornamental kinds, are of this deſcription. The laſt ſort are often termed ſimply *annuals*. They are likewiſe very extenſive, and both of the hardy and tender kinds, ſome of which, from the peculiarity of their nature, and others from their producing beautiful flowers, are cultivated as ornaments to the flower garden and pleaſure ground, during the ſummer and autumnal ſeaſons.

The flowering annual plants are diſtinguiſhed by gardeners into the *hardy* and *tender* ſorts; the former being ſuch as are capable of being raiſed from ſeeds ſown on beds, borders, or other places in the natural and open ground; while the latter conſtantly require to be ſown, and to have in ſome degree the aid of hot-beds, in order to promote their healthy growth.

The firſt ſort, or the hardy annuals, are alſo moſtly ſown in places where they are deſigned to remain and flower without being tranſplanted, as many of them do not ſucceed under ſuch management; ſome, however, will anſwer in either method, and may be occaſionally tranſplanted.

But the tender annuals, after being ſown and brought to a proper ſtate of growth in hot-beds, are generally to be tranſplanted about May or June, either into pots or borders in the open ground.

1. *Hardy Annuals.*—The following are ſome of the principal of the hardy ſort of flowering annuals: *adonis*, or adonis flower; *alkekengi*, white flowered, blue, yellow berried, red berried; *amaranthus*, prince's feather, love lies bleeding, purple; *clyſſon*, white, ſweet ſcented; *amethyſtea*, blue; *balm*, moldavian; *belvedere*, or ſummer cypreſs; *calendula*, or cape marigold; *candy tuft*, white flowered, purple, large white, crimſon; *catch-fly*, lobels red flowered, white purple, caterpillar; *clary*, red topped, white topped; *convolvulus*, three coloured minor, minor blue and white, minor blue, major blue, great white, great ſtriped blue, great purple, red; *cyanus*, or bluebottle, blue-flowered, purple, white, red, ſtriped blue and white; *cucumber*, ſporting; *devil in a buſh*, blue flowered, white, nettle leaved; *fumatory*, yellow; *hawkweed*, yellow, red; *hedge-hog trefoil*, ſnail-ſhaped, prickly, turbinated, globular, orbicular, long crooked twiſted; *honeywort*, greater, leſs; *holly-hock*, Chineſe variegated, double flowered; *jacobæa*, or ragwort, purple flowered white; *Indian corn*, tall growing, dwarf; *kidney beans*, ſcarlet runner, dwarf ſcarlet, large white runner; *ketmia*, bladder; *larkſpur*, upright blue, upright purple, upright white, upright roſe-coloured, white rocket, roſe rocket, dwarf roſe rocket, dwarf white rocket, dwarf blue rocket, dwarf red rocket, branching, blue branching, white branching, double and ſingle flowered of all the different ſorts; *lavatora*, cretan red flowered, white, purple; *lupine*, dwarf yellow, large yellow, white, great hairy blue, great hairy roſe coloured, narrow leaved blue; *lychnis*, dwarf; *marigold*, double orange coloured, double yellow, double lemon coloured, gold coloured, party coloured, yellow ranunculus flowered, childing or proliferous, cape marigold; *mallow*, curled leaved, oriental; *mignonette*, odoriferous or ſweet ſcented; *naſturtium*, major or large growing, minor or dwarf; *nolana*, peruvian dwarf blue; *nigella*, or devil in a buſh; *panſey*, or heart's eaſe, common ſmall variegated, large Dutch variegated, large purple, yellow, purple and yellow, purple yellow and white; *peas*, ſweet ſcented, purple, white, painted lady, ſcarlet, tangier; *pea*, winged; *pea*, crown, white bloſſomed crown, painted lady crown, roſe coloured; *perſicaria*, oriental, red flowered, white flowered; *poppy*, large double purple, double red, white variegated, red and white ſpotted or carnation, dwarf red, dwarf purple, dwarf variegated, double and ſingle of all the different ſorts; *queen's balm*, *ſcabious*, purple ſweet, red flowered, white, ſtriped, hen and chicken flowered, ſtarry flowered; *ſnail trefoil*, *ſtock gilliflower*, ten weeks, purple flowered, red, white, ſcarlet dwarf French, wall-flower leaved red, wall-flower leaved purple, wall-flower leaved white; *ſtock virgin*, purple white; *ſnap dragon*, annual with white flowers, purple flowers, major or greater with flowers, purple white, yellow, ſcarlet, red and white, purple and white, red and yellow, white and red, yellow and red, yellow and white, ſcarlet gold dotted; *ſtrawberry ſpinach*, *ſun-flower*, annual, tall growing dwarf, double flowered of each ſort; *ſweet ſultan*, purple, red, white, yellow; *toad flax*, three-leaved yellow, three-leaved purple, three leaved blue, variegated, white, branching yellow, tobacco, hardy round leaved, Virginia long leaved, Virginia broad leaved; *Virginia* or *virgin's ſtock*, *Venus's looking glaſs*, purple, white; *Venus's navel wort*, blue flowered; *xeranthemum* or *eternal flower*, red, white, purple, double flowered.

The authors of the "Univerſal Gardener," in which the above liſt is contained, obſerve, that the general ſeaſon for ſowing all ſorts of hardy annual plants is in the ſpring, from about the middle or latter end of February to the middle or latter end of April, for the principal *blow*; and alſo ſome in May and the beginning of June, for ſucceſſional and late flowering, eſpecially thoſe of the quick flowering kinds of ſhort duration, as *candy tuft* and *virgin ſtock*, &c.

The order or method of ſowing all theſe is principally in little patches or clumps, to remain as mentioned above. Theſe patches ſhould be formed from about three or four, to five, ſix, or eight inches in diameter, at moderate diſtances, and in ſome ſort of regularity, towards the front, middle, and back parts of the borders or beds; and alſo in a varied manner in reſpect to the plants; the ſmaller growing ſorts being conſtantly ſown more or leſs towards the fronts of the borders, according to their degrees of growth; and the larger kinds more backwards, in the ſame proportion. Some may likewiſe be occaſionally ſown in pots; and in all of which, each ſort and reſpective varieties ſhould be ſown in ſeparate patches, &c. from about a quarter of an inch to half an inch or an inch in depth, or but little more, according to the ſizes of the different ſorts of ſeeds; obſerving in this buſineſs to generally looſen and break the earth a little, ſo as to render it fine for each patch, eſpecially if hard, ſtubborn, or cloddy; then drawing off a little depth of mould, according to circumſtances, to one ſide, ſow the ſeeds many or few together in the patches, proportionately to the ſizes of the reſpective plants, covering them regularly with the earth drawn aſide to the depth required; and thus proceed in general, always placing a ſmall ſhort ſtick, or ſome other mark, to each patch as the ſowing goes on, in order to diſtinguiſh the places.

Some may alſo be occaſionally ſown in drills, either in beds ſeparately, or on the borders; the low growing kinds towards the fronts, and the larger ſorts towards the back parts; in which order of growing may be had *virgin ſtocks*, *candy tuft*, *larkſpur*, *ſweet peas* of the different ſorts, *lupines*, *tenweek ſtocks*, &c.

After ſowing, if it be dry warm weather, it will be beneficial to give occaſional light waterings, both before and after the plants are come up, eſpecially during their more early growth; and when they are come up about an inch or two in height, thoſe in the patches will, in many ſorts, require thinning, eſpecially thoſe of a large, tall growth, and

buſhy kind, ſuch as *ſun-flowers*, *perſicaria*, *Indian corn*, *tobacco*, *belvedere*, *marigold*, &c.: ſome to one good plant in each patch; others to two or three plants, as *lavatora*, *curled and oriental mallow*, *ſtrawberry*, *ſpinach*, *Chineſe hollyhock*, *xeranthemum*, *amaranthus*, *ſcabious*, *ſweet ſultan*, and ſimilar kinds; and ſome alſo left in ſmall bunches, as *candy tuft*, *lupines*, *larkſpurs*, *ſweet peas*, *cyanus*, *naſturtium*, *convolvulus*, *Venus's looking-glaſs*, and *navel wort*, *mignonette*, *virgin ſtock*, *moldavian balm*, and many others of ſimilar growth. Or ſome tenweek ſtocks and mignonette may either remain thin in patches, or, where too thick, ſome of each ſort be tranſplanted in that order, three, four, or five together, or as required; alſo in many of the other ſorts, ſome may occaſionally be thinned out for tranſplanting, when required to ſupply deficiencies, &c. always performing the buſineſs, as much as poſſible, in ſhowery weather.

It is farther remarked by the ſame writers, that in the advancing growth of the plants, the principal culture is to keep them clean from weeds; and where any large ſorts remain too cloſe or crowded together, to thin them according to their growth in ſome regular order; and in the larger tall growing kinds, ſome will require the ſupport of ſticks, as alſo moſt of the climbing or trailing ſorts, particularly the ſweet peas, convolvulus major, and large naſturtium, &c.; and to the climbers, ſome upright ſmall branching ſticks, trimmed up a little regularly, ſhould be placed: the convolvulus and ſcarlet bean being volubilate, or twining climbers, will aſcend ſpirally upon any ſtraight upright ſtick, pole, or ſtake.

If it ſhould be required to have any deſirable ſorts of theſe hardy annuals of moderate growth to flower early, they may be forwarded by ſowing the ſeeds in pots in February or March, and placing them in a hot-bed, or more ſucceſsfully in a hot-houſe, &c.; ſuch as *ſcarlet* and other *ſweet peas*, *virgin ſtock*, *candy tuft*, *mignonette*, *tenweek ſtocks*, *dwarf lupines*, *dwarf larkſpurs*, *queen's balm*, and ſeveral others, eſpecially of ſimilar moderate growth.

As all the plants of this tribe of annuals generally produce plenty of ripe ſeed in autumn, care ſhould be taken to ſave proper ſupplies of the different beſt ſorts, as it ripens in perfection, in order to have plenty for ſowing the enſuing ſpring to raiſe a production of new plants for flowering the following ſummer. In ſome ſorts the ſcattered, or ſelf-ſown ſeeds, diſſeminated from the plants on the borders, will often come up naturally early in the ſpring; ſuch as *larkſpur*, *prince's feather*, *perſicaria*, &c.; and which, if permitted to ſtand, will flower ſooner than the ſpring ſown plants; but as many of theſe often riſe irregularly, they ſhould be tranſplanted while young into ſome regular order; and as they are only chance productions, they ſhould not prevent the regular ſowing.

2. *Tender Annuals.*—The principal ſorts of which are contained in the following liſt: *African marigold*, orange coloured, lemon coloured, deep yellow fiſtulous or quilled, waved flowered, dwarf, ſweet ſcented, double flowered of each ſort; *amaranthus*, *greater or true, *bloody, trailing or love lies bleeding; **balſam*, red, ſcarlet, purple, ſtriped, variegated, double; **baſil*, common greater upright, ſweet with broad leaves, fringed leaved, purple leaved, tricolor leaved, red flowered, purple flowered, long ſpiked, &c., leaſt or buſh baſil with hoary leaves, dark purple leaved, variable leaved, &c.; *calendula*, or cape marigold; **capſicum*, long podded, ſhort podded, heart podded, bell podded, angular podded, cherry podded, olive podded, red podded, ſcarlet podded, yellow podded; *China-aſter*, blue flowered, purple, red, white, ſtriped, variegated, bonnet flowered, quilled flowered, double and ſingle of each ſort; *Chineſe hollyhock*, variegated, double; *chryſanthemum*, yellow, white, cream coloured, ſulphur coloured, fiſtular or quilled, double and ſingle of each ſort; *convolvulus*, major, with deep purple flowers, red, blue, white, deep blue; **cucumber*, ſnake ſhaped; **egg plant* or *melangena*, white, fruited, purple fruited; *french marigold*, deep yellow, golden yellow, crimſon coloured velvetty, crimſon and yellow ſtriped, variegated crimſon and yellow, ſweet ſcented dwarf, double and ſingle of each ſort; *gourd*, orange, pear ſhaped, ſtriped pear ſhaped, lemon, top ſhaped, bottle or calabaſh buckler ſhaped or ſquaſh, carbuncled, warted, long taper, long crooked, horn ſhaped, large barrel ſhaped, large globular, large oval, hemiſpherical yellow, ſtone, coloured, fleſh coloured, ſandy coloured, party coloured, white, &c.; **globe amaranthus*, purple headed, white variegated, ſilver ſpiked; *Indian corn*, tall growing dwarf; *India pink*, bright red, purple white, red and white variegated, differently variegated, numerous, large imperial, double and ſingle of each ſort; **love apple*, red fruited yellow fruited, cherry ſhaped; **marvel of Peru*, red flowered, yellow, white, purple, ſtriped, long tubed flowered; **melon*, ſnake ſhaped or ſerpent cucumber; *mignonette*, ſweet ſcented; *nolana*, trailing blue; **palma chriſti*, major or tall growing, minor or leſſer, moſt broad leaved, leſſer leaved, &c.; *perſicaria*, oriental, red flowered, white; *ſultan flower* yellow; *ſtock gilliflower*, ten weeks, red, purple, white, ſcarlet, dwarf ſcarlet, dwarf white, wall flower leaved, white, wall flower leaved purple, double of each ſort; *tobacco*, Virginia long leaved, Virginia broad leaved; **tree-amaranthus*, **zinnia*, red flowered, yellow.

In reſpect to the culture of the more tender annuals, it is remarked in the ſame work, that they ſhould be moſtly either ſown in a moderate hot-bed in March or April, and the young plants forwarded a little in growth therein, till ſettled warm weather, in the middle or latter end of May; and then tranſplanted; or ſown in a bed of natural earth or warm border in April, protected under a garden frame or glaſſes, or at leaſt defended in cold nights by garden mats; and in either method to be tranſplanted, in May or beginning of June, into beds, borders, pots, &c. in the flower and pleaſure garden, to remain for flowering in ſummer and autumn. But that, where the convenience of a hot-bed is attainable, it is always adviſeable to raiſe a principal ſupply by that means for earlier tranſplanting and flowering, as a portion of the different ſorts may be ſown and raiſed in one hot-bed, ſmaller or larger, according to the quantity required; ſuch as a bed for one light, or for two or three light frames; or where conſiderable ſupplies are wanted, a larger extent of hot-bed will be neceſſary in proportion; making the bed or beds in March or the beginning of April, and defending them with a frame and lights, or hand-glaſſes; or in want of theſe, protecting them with an awning of mats in cold nights and bad weather, obſerving, in general, that only a moderate hot-bed, of about two feet thick in dung, will be ſufficient; earthing it at top five or ſix inches deep, with fine rich mould; in which ſow the ſeed in ſmall drills croſſways, drawn with the finger two or three inches aſunder, from half an inch to an inch deep, according to the ſize of the different ſorts of ſeeds, which ſhould be ſown regularly, each ſort ſeparately, and covered in evenly with the earth the ſame depth, giving them air occaſionally, by raiſing one end of the glaſſes an inch or two; or if a covering of mats, by taking them off, or turning them up in front in the day time; and, according as the plants advance in growth, admitting a larger portion of freſh air to ſtrengthen and harden them by degrees, giving alſo occa-

fionally gentle waterings. Continue in this manner the care of the young plants until advanced two or three inches in growth, when it will be of advantage to prick out a quantity of the principal forts into another moderate hot-bed, three, four, or five inches afunder; or others into natural beds of light earth under frames and glaffes, or to be defended occafionally by mats; but in deficiency of hot-beds, frames, &c. they may, in general, be pricked out in the middle or latter end of May into natural beds in the open ground; all of which fhould be watered at the time, and afterwards occafionally; and fhaded with mats from the fun, if convenient, till the plants have taken frefh root; obferving alfo to give thofe in the hot-beds and under-glaffes lefs or more air every mild day. When in three, four, or five weeks, in either of thefe beds, they have acquired a tolerable degree of ftrength and fize, as four, five, or fix inches growth, or more, according to the difference of the forts, they fhould all be finally tranfplanted about the middle or latter end of May and beginning of June, into the open ground on the beds, borders, and other compartments, and into pots, to remain for flowering, taking the opportunity of moift weather, if poffible, for the work; and, where convenient, to remove and replant fome forts with a little ball of earth adhering about the roots, as it will be of great advantage in their more early flowering; watering them as foon as planted out, and afterwards as occafion may require, till frefhly rooted, and they difcover figns of a renewal of growth.

It is added, that as where any of the above raifed plants have remained fome time in the feed bed not pricked out, they may probably have drawn one another up into a weekly growth, care fhould be taken to plant them out in May, as foon as the weather is fettled and favourably temperate, efpecially the more tender fpecies that have this mark * prefixed to them.

It is alfo obferved, that tenweek ftocks and mignonette may be fown in a hot-bed fo early as February, or any time in March, in order to raife a few plants to prick out into pots, three or four in each, for the earlieft flowering; or fome may be fown in March in the natural earth, or a warm border, under glaffes or other occafional fhelter, for early tranfplanting in April or May, into pots and flower borders, &c.

In the gourd kinds, when defigned to raife them in hot-beds, they fhould not be fown before April; for if fown earlier, they are apt to grow too large before the feafon becomes fufficiently warm to admit of planting them out in the open ground; or in the beginning or middle of May fome may be fown in the natural ground, both for tranfplanting, and in patches to remain.

But where hot-beds, frames, glaffes, and other fimilar conveniencies are deficient, many of the fpecies and varieties of this clafs, as has been juft obferved, may be raifed in the open ground, efpecially if not generally fown till the beginning, or towards the middle or latter end of April, according to the ftate of the feafon, fowing them in a warm border or other compartment, of light earth, or in pots placed in fimilar fituations; and when the plants are advanced feveral inches in growth, pricking them out into beds, or finally planting them out in May and the beginning of June. In this way they will all flower in tolerable perfection, but not generally fo foon by a few weeks, nor all in an equal degree of full growth and perfection, as thofe which are forwarded in hot-beds, or under the protection of frames, glaffes, &c. to a proper fize for earlier fetting out.

The forts that will occafionally the moft readily fucceed without the afiftance of hot-beds, &c. are the *African* and *French marigold*, *cryfanthemum*, *china-after*, *fultan flower*, *Indian pink*, *love lies bleeding*, *Chinefe hollyhock*, *perficaria*, *tobacco*, *tenweek ftock*, *nolana*, *mignonette*, and *Indian corn*; alfo gourds, if not fown till May; and fometimes *palma chrifti* and the *love apple*, in a temperate warm feafon. All thefe may be fown in beds or borders of natural earth, in warm fituations, as has been obferved, but not in moft of the forts before the middle of April; the plants being pricked or planted out in May or June into beds, borders, and pots, to remain for flowering.

In fowing the above forts in the natural ground for want of hot-beds, if the beds or borders in which they are fown be defended under frames or hand-glaffes, or fheltered with mats, it will be of much advantage in raifing the plants more fuccefsfully to a forwarder growth; and they will fooner attain proper ftrength for tranfplanting out and flowering.

There are fome however of this kind, that cannot be raifed in any tolerable perfection without hot-beds to bring them forward at firft to a proper growth for tranfplanting. But when in want of hot-beds, fow fome under glaffes about the middle or latter end of April or beginning of May; and when the plants are advanced a few inches in growth, in the latter end of May or beginning of June, plant them out into borders, beds, and pots. The method by means of pots, beds, frames, and glaffes, is, however, by much the beft.

In finally pricking out the plants in May and June, where they are to remain for flowering, fhowery weather is alfo of great advantage; and where any particular forts can be removed and replanted with little balls of earth about their roots, that method fhould not be omitted. The bufinefs may be performed in fome with a garden trowel to make proper apertures, as for thofe with balls of earth or full roots; and others with a dibble, according to their growth. In moft forts, planting them fingly, or one plant only in a place, and difpofing them in the borders. &c. in a diverfified manner, the fmaller forts more or lefs forward, and the larger kinds towards the middle and back parts, in fome proportion to their different degrees of growth, as before directed. Some of the other principal forts may alfo be placed in pots as required. But in the tenweek ftocks, and other fimilar plants, it is always adviseable to plant fome in patches, three or four plants together, about three inches apart, both in the borders and in pots, in order that, as being of fmall growth, their flowers together may appear more confpicuous, and have a greater chance of producing fome double flowered plants. Some mignonette and nolana, as being low plants, may alfo be planted in the fame order. The love apple and gourd being of extenfive rambling growth, may be planted againft a fouth wall, paling, treillage, &c. efpecially the love apple, in order to have their extending branches trained thereto, that they may ripen their fruit more effectually in autumn. Gourds of the fmall fruited kinds may be planted in a fimilar manner, or againft the railing of arbours, &c. in order to be trained up thereto in their advancing growth; others in capacious fpaces, in large borders, &c. to have room to extend along the ground, or to be trained up to ftrong tall ftakes. Moderate watering fhould be given directly in every cafe, efpecially in dry weather, and repeated occafionally till the plants have taken frefh root, and begun to grow.

The after-culture is chiefly to keep the plants clear from over-running weeds, and to give occafional fupport to thofe of large or tall growth; and fometimes where any branch out

out very irregularly, or in a rambling manner, in their advanced growth, as often happens in the African and French marigolds and cryſanthemum, &c. they ſhould be trimmed to the regular order: and ſome ſorts, as the love apple and the gourd kinds, if planted any where in the borders, being of a very rampant growth, be trained up to ſtrong ſtakes, as before obſerved, both to prevent their over-running the adjacent plants, and that their fruit may appear more conſpicuous, and ripen in greater perfection, eſpecially the love apple. And ſuch plants as have been planted in pots, will now be ready for moving in their reſpective pots occaſionally, when in flower, to adorn particular compartments of the garden or other places, as may be required; and as the earth in the pots dries very faſt in hot weather, they will require watering every day or two during the ſeaſon. All or moſt of theſe plants will be flowering in June or July, and continue, in general, till September or October; and the greater part of them are highly ornamental, though there are a few ſorts that are of little or no value for their flowers, as the capſicum, love apple, egg plant and gourd, being chiefly eſteemed for the appearance of their fruit; and the palma chriſti for its majeſtic growth and large palmated leaves. All the ſorts produce ripe ſeed in Autumn, and ſoon after wholly periſh: particular attention ſhould therefore be given to collect proper ſupplies of ſeed from the beſt flowering plants of the different ſorts: when dry, to be preſerved for uſe in the ſucceeding ſpring.

There is, in addition to the above, a ſtill more tender kind of annual plants; and which, according to the writers already mentioned, are ſuperiorly ornamental and curious; ſome in the beauty of their flowers, others in the ſingularity of their beautifully coloured leaves, as in the *amaranthus tricolor* and *bicolor*; ſome for the curioſity of their fruit, as in the *egg plant* and *ſnake melon*, &c.; and the *humble* and *ſenſitive plants*, from the ſingularly beautiful ſenſitive motion of their leaves; the *ice plant*, in its icy-like or cryſtalline appearance; and the *tree amaranthus*, both in its large tall growth branching widely around, and its vaſt pendulous flower-ſpikes often two or three feet long or more.

Theſe are chiefly comprehended in the following liſt:

3. *Tendereſt Annuals.*—*Amaranthus*, tricolor, bicolor, maximus or tree amaranthus, bloody, &c.; *balſamine* or *balſam*, double ſtriped, double ſcarlet, double purple, double bizarre; *broualia*; *cock's comb*, tall purple headed, dwarf purple, crimſon, buff coloured, yellow, branching; *convolvulus*, ſcarlet; *egg plant*; *globe amaranthus*; *humble plant*; *ice plant*, or diamond ficoides, oval leaved, pinnatifid leaved; *marvel of Peru*; *martynia*, purple flowered, red, white; *melon*, ſnake ſhaped; *ſtramonium*, double white, double purple, double ſtriped; *ſenſitive plant*, double flowered annual, common ſhrubby, humble; *zinnia*.

Theſe very tender annuals are all to be raiſed in hot-beds in the ſpring, under frames, &c. till May or June; and in order to obtain them in a tolerable degree of perfection, two different hot-beds, at three, four, or five weeks intervals, will be neceſſary for ſowing or raiſing them in: one the latter end of February, or any time in March, but not later than the beginning of April; the young plants, when about one, two, or three inches in height, being pricked out, ſome into ſmall pots ſingly, others in the earth of the bed, three or four inches aſunder, the whole being in the ſame bed if there be room enough, if not, into another hot-bed; and when they have advanced in growth, ſo as to crowd one another, they ſhould be removed into another hot-bed, under a deeper frame, or the frame raiſed at bottom occaſionally, as the plants riſe in height. Some ſhould be put in large pots, and others potted that were not ſo before, plunging the pots in the earth of the bed; or ſome may be put in the bed, ſix or eight inches aſunder: water is then to be given in general, and the glaſſes put on. The whole from their firſt growth, muſt have an admiſſion of freſh air every day, by raiſing the upper end of the glaſſes one, two or three inches, ſupplying them with moderate waterings. In this way they may be forwarded until the latter end of May, or ſome time in June, according to their growth or the temperature of the ſeaſon, as before ſuggeſted; but in the mean time, in their advancing ſtate, inure or harden them by degrees to the weather, particularly by gradually admitting a larger ſhare of air, or by ſometimes taking the glaſſes off entirely in warm days, &c.

The *humble* and *ſenſitive* plants ſhould, in general, be continued conſtantly under glaſſes, in a green houſe, &c. or in a room window within, in the full ſun; as, if fully expoſed to the open air, it would deprive them of much of their lively ſenſitive motion, in which curious ſingularity their principal merit conſiſts.

In order to raiſe ſome of the more curious ſorts of this kind of annuals in the greateſt perfection, ſuch as the tall *cock's comb*, *tricolor*, *bicolor*, *double balſams*, *ſtramoniums*, *globe amaranthuses*, *egg plants*, &c. it will be neceſſary to have two or three different ſucceſſional hot-beds under frames and glaſſes, at a month's interval; that is, a ſmall one in March, to ſow the ſeeds, and raiſe the plants an inch or two high in; a ſecond in April, of larger dimenſions, in which to prick out the young plants from the ſeed bed, three, four, five, or ſix inches aſunder; and ſometimes a third in May, for a larger frame to receive them when tranſplanted in pots to remain till June, and they grow to full ſize; obſerving that while they are in the ſecond and laſt hot-beds, the frames be occaſionally raiſed or augmented in depth, according as the plants riſe in height.

The firſt hot-bed for the ſeed ſhould be made, as already directed, of ſuitable dimenſions, and about two feet and a half deep in dung; the frame and glaſſes then put on, leaving one end of them open, to let out the rank ſteam of the dung; and in a few days, or when the firſt great ſteam and heat of the bed are gone off, the earth, which muſt be rich, light and dry, be put on four or five inches thick. The ſeeds of different ſorts may now be ſown, each kind ſeparately, in ſmall ſhallow drills, drawn with the finger, covering them with fine mould, from a quarter to half an inch deep, or with the very ſmall ſeeds but very thinly. The glaſſes are then to be put on again, ſetting one end of them a little open, for the evaporation of the riſing ſteam of the bed, covering them every night with garden mats. The plants moſtly appear in a few days, when freſh air muſt be judiciouſly and with caution admitted, by propping up the ends of the glaſſes about an inch or two every mild day; and when the earth becomes dry, a very ſlight ſprinkling of water be given in a ſunny forenoon. The glaſſes ſhould be moſtly kept cloſe in the nights; but if a ſtrong ſteam and heat take place, they may be raiſed a little at one corner, for air to enter, and the ſteam to paſs away, hanging the end of a mat over the tilted part, and continuing to cover the glaſſes with mats every night.

The care of the ſeedling plants is to be continued in the beds for about three weeks, or till they are advanced one, two, or three inches in growth, according to the different ſorts; they are then to be pricked out into another new-made hot-bed.

When the plants in the ſeed hot-bed are advanced one,

two,

two, or three inches, as above, another hot-bed ſhould be put in readineſs to receive them, making it for a two or three light frame according to the quantity of plants that are ready for the purpoſe. When the bed has imparted a proper degree of warmth to the earth, take up the plants with care, and in the ſame manner as directed above, prick them out into this, four or five inches diſtant, then give them a very light watering, and occaſionally ſhade them in the middle of ſunny days till they have ſtruck freſh root; and admit air as before every fine day, by raiſing the upper ends of the glaſſes one or two inches; alſo occaſional light waterings two or three times a week, in warm weather, and defend them in the nights with mats, and raiſe the frames, according as they extend in height, as before adviſed. After having had four or five weeks growth in this bed, if they have advanced conſiderably, ſo as to meet and crowd one another much, it will be adviſeable, as already noticed, to remove them into a third and final hot-bed where it can be conveniently obtained: ſome being planted in the bed, others previouſly potted and placed in them, to be covered by glaſſes, as directed above.

The frames, glaſſes, or other conveniencies for theſe uſes ſhould be ſufficiently large, eſpecially for the tall plants, and capable of being raiſed at pleaſure, as they advance in growth. The other management being the ſame as directed above. (See HOT-BED.)

Before the plants are finally ſet out, they ſhould always be occaſionally expoſed, and have the air freely admitted to them in the frames, at proper times, in order to harden them. And about the latter end of June, or beginning of July, when the weather is ſettled, they may be removed in their pots to the places where they are deſigned to remain for the ſummer.

This claſs of annual plants ſhould always occupy the principal ſituations both in gardens and pleaſure grounds, as in the moſt public and moſt frequented compartments in the front courts, &c.

The only culture that is neceſſary in any of the different ſorts, when removed into the full air, is principally to ſupply them with ſuitable quantities of water, eſpecially thoſe in pots; and occaſionally to ſuch as are in borders, when firſt planted out, and till faſt rooted; and to keep the whole clean from weeds, and ſupported with ſticks, &c. where required.

They all flower from June or July till the end of autumn; and in Auguſt and September ripen ſeed, which ſhould then be gathered from the beſt and moſt perfect plants, when the weather is quite dry.

The particular management of the different plants will be found under the *genera* to which they reſpectively belong.

ANNUAL *meadow graſs*, called in ſome parts of England Suffolk graſs, is a ſpecies of graſs which makes the fineſt turfs, and ſeems well adapted to dairy-farms. See POA ANNUA.

ANNUALIA, yearly oblations anciently made by the relations of deceaſed perſons on the day of their death.

This day they called *year-day*, &c. and on it maſs was celebrated with great ſolemnity.

ANNUEL, *ground*, according to Skene, is when the property of any land, whether built or unbuilt, is let or ſold for a yearly rent, to be paid either to the proprietor, or to ſome chaplain or prieſt.

ANNUEL, *fue*, is either when the mail or due is diſpoſed of as a yearly revenue; or, when the land or tenement is let in a fee-farm hereditary, for a certain yearly ſum to be paid under the denomination of *feuda firma*.

ANNUEL, *top*, is a due given or aſſigned out of houſes or buildings, where the property remains with the former owner, only with the condition of his paying the ſaid *annuel*.

ANNUEL *of Norway*, of which mention is made in the acts of parliament of King James the Third, was an annuel payment of an hundred marks ſterling, which the kings of Scotland were obliged to pay to the kings of Norway, in ſatisfaction for ſome pretenſions which the latter had to the Scottiſh kingdom, by virtue of a conveyance made thereof by Malcolm Canmoir, who uſurped the crown after his brother's deceaſe.

This *annuel* was firſt eſtabliſhed in 1266; in conſideration whereof the Norwegians renounced all title to the ſucceſſion of the iſles of Scotland. It was paid till the year 1468, when the *annuel*, with all its arrears, was renounced in the contract of marriage between King James the Third, and Margaret, daughter of Chriſtian the Firſt, king of Norway, Denmark and Sweden. See Skene de verb. Signif.

ANNUENTES *Muſculi*, in *Anatomy*, a pair of tranſverſe muſcles, at the root of the *vertebræ* of the back, called alſo by Mr. Cowper RECTI *interni minores*, becauſe they lie under the RECTI *majores*.

They are called *annuentes*, from *annuere*, *to nod towards*, becauſe they help to nod the head, or draw it directly downwards and forwards.

ANNUITIES ſignify any intereſt of money, rents, or penſions, payable from time to time, at particular periods.

The moſt general diviſion of annuities is into *annuities certain*; and annuities the payment of which depends on a *contingency*; ſuch, in particular, as the continuance of a life.

Annuities have been alſo divided into annuities in *poſſeſſion* and annuities in *reverſion*; the former meaning ſuch as either *have* commenced, or are to commence *immediately*; and the latter ſuch as will not commence till ſome particular future event has happened, or till ſome given period of time has expired.

Annuities may be farther conſidered as *payable yearly*, *half-yearly*, or *quarterly*.

The preſent value of an annuity is that ſum which, being improved at compound intereſt, will be ſufficient to pay the annuity.

The preſent value of an *annuity certain*, payable yearly, and the firſt payment of which is to be made at the end of a year, is calculated in the following manner.

Let the annuity be ſuppoſed to be 100*l.* the preſent value of the firſt payment of it, or of an hundred pounds to be received a year hence, is that ſum in hand, which being put out to intereſt, will increaſe to 100*l.* in a year. In like manner, the preſent value of the ſecond payment, or of 100*l.* to be received two years hence, is that ſum in hand, which being put out to intereſt, will increaſe to 100*l.* in two years. The like is true of the value of the 3d, 4th, 5th, &c. payments; and the ſum of the values of all the payments is the value of the *annuity*.

Let the intereſt be ſuppoſed to be 4 *per cent.* The ſum which improved at 4 *per cent.* intereſt for the year will produce 100*l.* at the end of the year, is the ſum which bears the ſame proportion to 100*l.* that 100*l.* bears to 100*l.* with 4 added to it, that is, to 104*l.* Say then, as 104*l.* is to 100*l.* ſo is 100*l.* to a fourth proportional, which will be 96.15, or 96*l.* 3*s.* the value of the firſt payment.

Again, the ſum which improved at 4 *per cent.* for two

years, will produce 100*l.* at the end of *two* years, is the ſum which being now put out to intereſt will produce in a year that ſum which in one year more will produce 100*l.* that is, it is the ſum that will produce in a year 96*l.* 3*s.*; for it has been juſt ſhewn, that 96*l.* 3*s.* will in a year produce 100*l.* Say then, as 104*l.* is to 100*l.* ſo is 96*l.* 3*s.* or 96.15, to a fourth proportional, which will be 92.45, or 92*l.* 9*s.* The value therefore of the ſecond payment is 92*l.* 9*s.*

By proceeding in this method it will be found that the value of the 3d, 4th, 5th, &c. payments, are £88.89, £85.48, £82.19, &c. The ſum of 10, 20, or 100 of theſe values, is £811, £1359, £2450, reſpectively, or the preſent value of an *annuity* of 100*l.* payable for 10, 20, or 100 years. The ſum of an infinite number of theſe values is 2500*l.* or the value of a perpetual *annuity* of 100*l.* at 4 *per cent.*

In general: ſuppoſe r to denote 1*l.* increaſed by its intereſt for a year, or the amount of 1*l.* in a year. Then $\frac{1}{r}$ will be the preſent value of 1*l.* to be received a year hence; for r is to 1 as 1 is to $\frac{1}{r}$. Alſo $\frac{1}{r^2}$ will be the value of 1*l.* to be received at the end of two years; for r is to 1 as $\frac{1}{r}$ is to $\frac{1}{r^2}$. In like manner, $\frac{1}{r^3}$, $\frac{1}{r^4}$, $\frac{1}{r^5}$, &c. will be the values of 1*l.* to be received at the end of 3, 4, 5, &c. years reſpectively; and $\frac{1}{r^n}$ will be the value of 1*l.* to be received at the end of n years. The value, therefore, of an *annuity* of 1*l.* for n years is $\frac{1}{r}+\frac{1}{r^2}+\frac{1}{r^3}+\frac{1}{r^3}$ &c. continued to n terms. And the value of the perpetuity is the ſeries continued *in infinitum*.

In order to find the ſum of n terms of this ſeries, put S equal to it, or $S=\frac{1}{r}+\frac{1}{r^2}+\frac{1}{r^3}$, &c. $+\frac{1}{r^n}$. Then,

$Sr=1+\frac{1}{r}+\frac{1}{r^2}$, &c. $+\frac{1}{r^{n-1}}$. And

$Sr-1=\frac{1}{r}+\frac{1}{r^2}$, &c. $+\frac{1}{r^{n-1}}=S-\frac{1}{r^n}$. Therefore $Sr-1=S-\frac{1}{r^n}$. And conſequently

$Sr-S=1-\frac{1}{r^n}$, and $S=\frac{1}{r-1}-\frac{1}{r-1}\times\frac{1}{r^n}$

This is the general theorem for finding the ſum of any given number of the firſt terms of the ſeries $\frac{1}{r}\times\frac{1}{r^2}+\frac{1}{r^3}$, &c. that is, for finding, from the rate of intereſt given, the value of an *annuity certain*, payable yearly for any number of years. If the annuity is a perpetuity, it is plain that $\frac{1}{r^n}$, or the laſt term vaniſhing, $\frac{1}{r-1}\times\frac{1}{r^n}$ alſo vaniſhes; and, conſequently, that the expreſſion becomes $S=\frac{1}{r-1}$: from whence it reſults that the value of a perpetuity is always unity divided by the intereſt of 1*l.* for a year, or 100*l.* divided by the rate of intereſt.

Annuities certain differ in value as they are made payable, *yearly*, *half-yearly*, *quarterly*, or at ſhorter intervals. Let r, inſtead of denoting as before, 1*l.* increaſed by its intereſt for a year, denote the intereſt only of 1*l.* for a year, and let n denote the term or number of years during which the annuity is to be paid. By reaſoning as in the former caſe, the value of the annuity will be $\frac{1}{1+\frac{r}{2}}+\frac{1}{1+\frac{r}{2}|2}+\frac{1}{1+\frac{r}{2}|3}\ldots$ $\ldots\ldots\ldots+\frac{1}{1+\frac{r}{2}|2n}$ ..... or $\frac{1}{1+\frac{r}{4}|}+\frac{1}{1+\frac{r}{4}|2}+\frac{1}{1+\frac{r}{4}|3}$ $\ldots\ldots\ldots+\frac{1}{1+\frac{r}{4}|4n}$, according as it is payable, either *half-yearly* or *quarterly*. The firſt of theſe ſeries is $=\frac{1}{r}-\frac{1}{r}\times\frac{1}{1+\frac{r}{2}|2n}$ ..... and the ſecond is $=\frac{1}{r}-\frac{1}{r}\times\frac{1}{1+\frac{r}{4}|4n}$ ..... If the annuity is made payable at m, any ſmaller fraction of a year, the ſum of the ſeries will be $=\frac{1}{r}-\frac{1}{r}\times\frac{1}{1+\frac{r}{m}|mn}$; ſo that when m becomes infinite, or the annuity is made payable momently, the ſeries will be $=\frac{1}{r}-\frac{1}{r}\times\frac{1}{1+\frac{r}{1000,\text{ &c.}}|1000,\text{ &c. }n}$. By the Binomial Theorem $1+\frac{r}{1000,\text{ &c.}}|1000,\text{ &c. }n$ is $=1+rn+\frac{r^2n^2}{2}+\frac{r^3n^3}{2\times3}+\frac{r^4n^4}{2\times3\times4}$ &c. which ſeries is known to expreſs the number of which rn is the hyperbolic logarithm. Let this number be called N, and the value of the annuity in this caſe will be $=\frac{1}{r}-\frac{1}{rN}$. . . . If P be put for $\frac{1}{r}$, or the perpetuity, and y, h, q, and m, for the values of the annuity according as it is payable, *yearly*, *half-yearly*, *quarterly*, or *momently*, the general theorems will then be

$$y=P-P\times\frac{1}{1+r|n}$$

$$h=P-P\times\frac{1}{2+\frac{r}{2}|2n}$$

$$q=P-P\times\frac{1}{1+\frac{r}{4}|4n}$$

$$m=P-P\times\frac{1}{N}.$$

Example

Example I.

Let the rate of intereſt be 4 *per cent.* and the term five years; and conſequently $r = .04$, $n = 5$, $P = 25$, then

$$y = 25 - 25 \times \frac{1}{1.04^5} 5 = 4.4518$$

$$h = 25 - 25 \times \frac{1}{1.04^{10}} 10 = 4.4913$$

$$q = 25 - 25 \times \frac{1}{1.04^{20}} 20 = 4.5120$$

$$m = 25 - 25 \times \frac{1}{1.22198} = 4.5415$$

Example II.

Let the rate of intereſt be the ſame, and the term for which the *annuity* is payable 25 years.

Then, $y = 15.0220$
$h = 15.7118$
$q = 15.7694$
$m = 15.8010$

Example III.

Intereſt being the ſame, let the term be 50 years.

Then, $y = 21.4822$
$h = 21.5491$
$q = 21.5820$
$m = 21.6160$

Example IV.

Intereſt being the ſame, let the term be 100 years.

Then, $y = 24.505$
$h = 24.523$
$q = 24.532$
$m = 24.542$

Sums may alſo be made payable at longer intervals than a year: ſuch are fines required at ſtated times for the renewal of leaſes. Suppoſing thoſe periods to be at the end of every n^{th} year, the ſeries expreſſing their value will be

$$\frac{1}{1+r}n + \frac{1}{1+r}^{2n} + \frac{1}{1+r}^{3n} \ldots ad\ infinitum = \frac{1}{1+r}^{n} - 1,$$

that is, divide 1*l.* by the *amount* of 1*l.* in n years (ſee Tab. I.) leſſened by unity, multiply the quotient by the fine, and the product will be the preſent value of all thoſe fines for ever, if the *firſt* of them be payable at the end of n years. But if the fine be now due, unity muſt be added to the above-mentioned quotient, and the ſum being multiplied by ſuch fine, the product will be the value in this caſe.

Example. Suppoſing an eſtate of 10*l. per annum* held by leaſe, renewable every ſeven years at a certain fine of 20*l.*; what is the value of ſuch eſtate, computing at five *per cent.*? *Anſ.* The amount of 1*l.* in ſeven years, by Tab. I. is 1.628895. Deducting unity from this number, and dividing 1*l.* by .628895, the remainder, we have 1.59 for the quotient, which, being multiplied into 20*l.* the given fine, produces 31.80*l.* for the preſent value of all ſuch fines, ſuppoſing the firſt of them to be paid at the end of ſeven years. Now ſince the fee ſimple is worth 20 years purchaſe, or 200*l.* it follows that the difference between 200*l.* and 31.80*l.* or 168*l.* 4*s.* will be the value of this eſtate, ſubject to the payment of the fines every ſeven years. But if the fine be *due*, it will be worth 20*l.* leſs, or 148*l.* 4*s.*

The value of the *reverſion* of a perpetual annuity, to be entered upon after a particular term, is "the value of the annuity for the given term ſubtracted from the perpetuity." For example; the value of an annuity, to be entered upon 10 years hence, is (reckoning intereſt at 4 *per cent.*) 8.11 (the value by Tab. III. of an annuity certain for 10 years,) ſubtracted from 25 (the perpetuity), or 16.89; that is, 16⅞ years purchaſe nearly. If the annuity is to be entered upon at the end of 18 years, the value will be 12.66 ſubtracted from 25, or 12.34 years purchaſe.

If the reverſion be not a perpetuity, but an annuity, certain for a given term, to be entered upon after another given term, the value will be "the value of the annuity for the *firſt* term ſubtracted from its value for *both* terms, added together; that is, ſuppoſing the reverſion an annuity for eight years, to be entered upon after ten years, the value is (reckoning intereſt at 4 *per cent.*) the difference between 8.11 (the value of an annuity by Tab. III. for 10 years) and 12.659 (the value by the ſame Table of an annuity for 18 years) or 4.548, which is little more than 4½ years purchaſe.

The following Tables, together with the account of their conſtruction and uſe, contain all that is moſt important on the ſubject of annuities certain.

TABLE I.

Shewing the amount of the principal in a given number of years, not exceeding 100, at any rate of compound intereſt, from three to ſix per cent.

Years.	At 3 per Cent.	3½ per Cent.	4 per Cent.	4½ per Cent.	5 per Cent.	6 per Cent.
1	1.030000	1.035000	1.040000	1.045000	1.050000	1.060000
2	1.060900	1.071225	1.081600	1.092025	1.102500	1.123600
3	1.092727	1.108718	1.124864	1.141166	1.157625	1.191016
4	1.125509	1.147523	1.169859	1.192519	1.215506	1.262477
5	1.159274	1.187686	1.216653	1.246182	1.276282	1.338226
6	1.194052	1.229255	1.265319	1.302260	1.340096	1.418519
7	1.229874	1.272279	1.315932	1.360862	1.407100	1.503630
8	1.266770	1.316809	1.368569	1.422101	1.477455	1.593848
9	1.304773	1.362899	1.423312	1.486095	1.551328	1.689479
10	1.343916	1.410599	1.480244	1.552960	1.628895	1.790848
11	1.384234	1.459970	1.539454	1.622853	1.710339	1.898299
12	1.425761	1.511069	1.601032	1.695881	1.795856	2.012196
13	1.468534	1.563956	1.665073	1.772196	1.885649	2.132928
14	1.512590	1.618695	1.731676	1.851945	1.979932	2.260904
15	1.557967	1.675349	1.800944	1.935282	2.078928	2.396558
16	1.604706	1.733986	1.872981	2.022370	2.182875	2.540352
17	1.652848	1.794676	1.947900	2.113377	2.292018	2.692773
18	1.702433	1.857489	2.025817	2.208479	2.406619	2.854339
19	1.753506	1.922501	2.106849	2.307860	2.526950	3.025599
20	1.806111	1.989789	2.191123	2.411714	2.653297	3.207135
21	1.860295	2.059431	2.278768	2.520241	2.785963	3.399564
22	1.916103	2.131512	2.369919	2.633652	2.925261	3.603537
23	1.973587	2.206114	2.464716	2.752166	3.071524	3.819750
24	2.032794	2.283328	2.563304	2.876014	3.225100	4.048935
25	2.093778	2.363245	2.665836	3.005434	3.386355	4.291871
26	2.156591	2.445959	2.772470	3.140679	3.555673	4.549383
27	2.221289	2.531567	2.883369	3.282009	3.733456	4.822346
28	2.287928	2.620172	2.998703	3.429700	3.920129	5.111687
29	2.356566	2.711878	3.118651	3.584036	4.116136	5.418388
30	2.427262	2.806794	3.243398	3.745318	4.321942	5.743491
31	2.500080	2.905031	3.373133	3.913857	4.538039	6.088101
32	2.575083	3.006708	3.508059	4.089981	4.764941	6.453387
33	2.652335	3.111942	3.648381	4.274030	5.003189	6.840590
34	2.731905	3.220860	3.794316	4.466362	5.253348	7.251025
35	2.813862	3.333590	3.946089	4.667348	5.516015	7.686087

Table I. *continued.*

Years.	At 3 per Cent.	3½ per Cent.	4 per Cent.	4½ per Cent.	5 per Cent.	6 per Cent.
36	2.898278	3.450266	4.103933	4.877378	5.791817	8.147252
37	2.985227	3.571025	4.268090	5.096860	6.081408	8.932081
38	3.074783	3.696011	4.438813	5.326220	6.385477	9.854257
39	3.167025	3.825372	4.616366	5.565899	6.704751	9.703502
40	3.262038	3.959260	4.801021	5.816365	7.039989	10.285718
41	3.359899	4.097834	4.993061	6.078101	7.391988	10.902861
42	3.460696	4.241257	5.192784	6.351615	7.761588	11.557033
43	3.564517	4.389702	5.400495	6.637438	8.149667	12.250455
44	3.671452	4.543342	5.616515	6.936123	8.557150	12.985482
45	3.781596	4.702359	5.841176	7.248248	8.985008	13.764611
46	3.895044	4.866941	6.074823	7.574420	9.434258	14.590487
47	4.011896	5.037284	6.317816	7.915268	9.905971	15.465917
48	4.132252	5.213589	6.570528	8.271456	10.401270	16.393872
49	4.256219	5.396065	6.833349	8.643671	10.921333	17.377504
50	4.383906	5.584927	7.106683	9.032636	11.467400	18.420154
51	4.515423	5.780399	7.390951	9.439105	12.040770	19.525364
52	4.650886	5.982713	7.686589	9.863865	12.642808	20.696885
53	4.790412	6.192108	7.994052	10.307739	13.274949	21.938698
54	4.934125	6.408832	8.313814	10.771587	13.938696	23.255020
55	5.082149	6.633141	8.646367	11.256308	14.635631	24.650322
56	5.234613	6.865301	8.992222	11.762842	15.367412	26.129341
57	5.391651	7.105587	9.351910	12.292170	16.135783	27.697101
58	5.553401	7.354282	9.725987	12.845318	16.942572	29.358927
59	5.720003	7.611682	10.115026	13.423357	17.789701	31.120463
60	5.891603	7.878091	10.519627	14.027408	18.679186	32.987691
61	6.068351	8.153824	10.940412	14.658641	19.613145	34.966952
62	6.250402	8.439208	11.378029	15.318280	20.593802	37.064960
63	6.437914	8.734580	11.833150	16.007603	21.623493	39.288868
64	6.631051	9.040291	12.306476	16.727945	22.704667	41.646200
65	6.829983	9.356701	12.798735	17.480702	23.839900	44.144972
66	7.034882	9.684185	13.310685	18.267334	25.031896	46.793670
67	7.245929	10.023132	13.843120	19.089364	26.283490	49.601290
68	7.463307	10.373941	14.396836	19.948385	27.597665	52.577368
69	7.687206	10.737029	14.972710	20.846063	28.977548	55.732010
70	7.917822	11.112825	15.571618	21.784136	30.426426	59.075930
71	8.155357	11.501774	16.194483	22.764422	31.947747	62.620486
72	8.400017	11.904336	16.842262	23.788821	33.545134	66.377715
73	8.652018	12.320988	17.515953	24.859318	35.222391	70.360378
74	8.911578	12.752223	18.216591	25.977987	37.983510	74.582001
75	9.178926	13.198550	18.945255	27.146996	38.832686	79.056921
76	9.454293	13.660500	19.703065	28.368611	40.774320	83.800336
77	9.737922	14.138617	20.491187	29.645199	42.813036	88.828356
78	10.030060	14.633469	21.310835	30.979233	44.953688	94.158058
79	10.330962	15.145640	22.163268	32.373298	47.201372	99.807541
80	10.640891	15.675738	23.049799	33.830096	49.561441	105.795993
81	10.960117	16.224388	23.971791	35.352451	52.039513	112.143753
82	11.288921	16.792242	24.930663	36.943311	54.641489	118.872378
83	11.627588	17.379970	25.927889	38.605760	57.373563	126.004721
84	11.976416	17.988269	26.965005	40.343019	60.242241	133.565004
85	12.335709	18.617859	28.043605	42.158455	63.254353	141.578904
86	12.705780	19.269483	29.165349	44.055586	66.417071	150.073639
87	13.086953	19.943916	30.331963	46.038087	69.737925	159.078057
88	13.479562	20.641953	31.545242	48.109801	73.224822	168.622741
89	13.883949	21.364421	32.807051	50.274742	76.886062	178.740105
90	14.300467	22.112176	34.119333	52.537105	80.720365	189.464511
91	14.729481	22.886102	35.484107	54.901275	84.76688	200.832382
92	15.171366	23.687116	36.903471	57.371837	89.005227	212.882325
93	15.626507	24.516165	38.379610	59.953565	93.455489	225.655264
94	16.095302	25.374230	39.914794	62.651475	98.128263	239.194580
95	16.578161	26.262330	41.511386	65.470792	103.034676	253.546255
96	17.075506	27.181510	43.171841	68.416977	108.186410	268.759030
97	17.587771	28.132863	44.898715	71.495741	113.595731	284.884572
98	18.115404	29.117513	46.694664	74.713056	119.275517	301.977646
99	18.658866	30.136625	48.562450	78.075137	125.239293	320.096305
100	19.218632	31.191408	50.504948	81.588511	131.501258	339.302084

Vol. II.

Construction of Table I.

The numbers in this Table are the powers of 1*l.* increased by its interest for a year: that is, they are the powers of the *amount* of 1*l.* in a year, at the several rates of interest: supposing r to be that amount, they are r, r^2, r^3, r^4, &c.

Use. *To find the amount of any sum in any number of years, not exceeding* 100. Ans. Oppolite to the given number of years, and under the rate of interest, is the amount of 1*l.* in that time, which, multiplied by the given sum, produces the required amount.

Examples.

1. What will 10*l.* amount to in 100 years at 4 *per cent. per ann.* compound interest? *Ans.* 50.504948, multiplied by 10, is 305*l.* 1*s.*

2. What will 250*l.* amount to in 50 years, at 5 *per cent. per ann.* compound interest? *Ans.* 11.4674 multiplied by 250, is 2866*l.* 17*s.*

TABLE II.

Shewing the principal that will amount to 1*l.* in any number of years not exceeding 100; or the present value of 1*l.* to be received at the end of any number of years not exceeding 100; discounting at any rate of compound interest from 3 to 6 *per cent.*

Years.	At 3 per Cent.	3½ per Cent.	4 per Cent.	4½ per Cent.	5 per Cent.	6 per Cent.
1	.970874	.966184	.961538	.956938	.952381	.943396
2	.942596	.933511	.924556	.915730	.907029	.889996
3	.915142	.901943	.888996	.876297	.863838	.839619
4	.888487	.871442	.854804	.838561	.822702	.792094
5	.862609	.841973	.821927	.802451	.783526	.747258
6	.837484	.813501	.790315	.767896	.746215	.704961
7	.813092	.785991	.759918	.734828	.710681	.665057
8	.789409	.759411	.730690	.703185	.676839	.627412
9	.766417	.733731	.702587	.672904	.644609	.591898
10	.744094	.708919	.675564	.643928	.613913	.558395
11	.722421	.684946	.649581	.616199	.584679	.526788
12	.701380	.661783	.624597	.589664	.556837	.496969
13	.680958	.639404	.600574	.564272	.530321	.468840
14	.661118	.617782	.577475	.539973	.505068	.442301
15	.641862	.596891	.555265	.516720	.481017	.417265
16	.623167	.576706	.533908	.494469	.458112	.393646
17	.605016	.557204	.513373	.473176	.436297	.371364
18	.587395	.538361	.493628	.452800	.415521	.350344
19	.570286	.520156	.474642	.433302	.395734	.330513
20	.553676	.502566	.456387	.414643	.376889	.311805
21	.537549	.485571	.438834	.396787	.358942	.294155
22	.521892	.469151	.421955	.379701	.341850	.277505
23	.506692	.453286	.405726	.363350	.325571	.261797
24	.491934	.437957	.390121	.347703	.310068	.246979
25	.477606	.423147	.375117	.332731	.295303	.232999
26	.463695	.408838	.360689	.318402	.281241	.219810
27	.450189	.395012	.346817	.304691	.267848	.207368
28	.437077	.381654	.333477	.291571	.255094	.195630
29	.424346	.368748	.320651	.279015	.242946	.184557
30	.411987	.356278	.308319	.267000	.231377	.174110
31	.399987	.344230	.296460	.255502	.220359	.164255
32	.388337	.332590	.285058	.244500	.209866	.154957
33	.377026	.321343	.274094	.233971	.199873	.146186
34	.366045	.310476	.263552	.223896	.190355	.137912
35	.355383	.299977	.253415	.214254	.181290	.130105
36	.345032	.289833	.243669	.205028	.172657	.122741
37	.334983	.280032	.234300	.196199	.164436	.115793
38	.325226	.270562	.225285	.187750	.156605	.109239
39	.315754	.261412	.216621	.179665	.149148	.103056
40	.306557	.252572	.208289	.171929	.142046	.097222

Table II. *continued.*

Years	At 3 per Cent.	3½ per Cent.	4 per Cent.	4½ per Cent.	5 per Cent.	6 per Cent.
41	.297628	.244031	.200278	.164520	[illegible]	.091719
42	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
43	[illegible]	[illegible]	.185168	[illegible]	[illegible]	[illegible]
44	[illegible]	.220102	.178046	[illegible]	[illegible]	[illegible]
45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
46	.256731	.205468	.164614	[illegible]	[illegible]	[illegible]
47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
48	[illegible]	[illegible]	[illegible]	[illegible]	.096142	.060998
49	.234950	.185320	.146341	.115692	.091564	.057546
50	.228107	.179053	.140713	.110710	.087204	.054288
51	[illegible]	[illegible]	[illegible]	.105942	.083051	.051215
52	.215013	.167148	.130097	.101380	.079096	.048316
53	[illegible]	.161496	.125093	.097014	.075330	.045582
54	[illegible]	[illegible]	.120282	.092837	.071743	.043001
55	.196767	.150758	.115656	.088839	.068326	.040567
56	[illegible]	[illegible]	.111207	.085013	.065073	.038271
57	.185472	.140734	.106930	.081353	.061974	.036105
58	.180070	.135975	.102817	.077849	.059023	.034061
59	.174825	.131377	.098863	.074497	.056212	.032133
60	.169733	.126934	.095060	.071289	.053536	.030314
61	.164789	.122642	.091404	.068219	.050986	.028598
62	.159990	.118495	.087889	.065281	.048558	.026980
63	.155330	.114487	.084508	.062470	.046246	.025452
64	.150806	.110616	.081258	.059780	.044044	.024012
65	.146413	.106875	.078133	.057206	.041946	.022653
66	.142149	.103261	.075128	.054743	.039949	.021370
67	.138009	.099769	.072238	.052385	.038047	.020161
68	.133989	.096395	.069460	.050129	.036235	.019020
69	.130086	.093136	.066788	.047971	.034509	.017943
70	.126297	.089986	.064219	.045905	.032866	.015927
71	.122619	.086943	.061749	.043928	.031301	.015969
72	.119047	.084003	.059374	.042073	.029811	.015065
73	.115580	.081162	.057091	.040226	.028391	.014213
74	.112214	.078418	.054895	.038494	.027039	.013408
75	.108945	.075766	.052784	.036836	.025751	.012649
76	.105772	.073204	.050754	.035250	.024525	.011933
77	.102691	.070728	.048801	.033732	.023357	.011258
78	.099700	.068336	.046924	.032280	.022245	.010620
79	.096796	.066026	.045120	.030890	.021186	.010019
80	.093977	.063793	.043384	.029559	.020177	.009452
81	.091240	.061636	.041716	.028287	.019216	.008917
82	.088582	.059551	.040111	.027068	.018301	.008412
83	.086002	.057537	.038569	.025903	.017430	.007936
84	.083497	.055592	.037085	.024787	.016600	.007487
85	.081065	.053712	.035659	.023720	.015809	.007063
86	.078704	.051896	.034287	.022699	.015056	.006663
87	.076412	.050141	.032969	.021721	.014339	.006286
88	.074186	.048445	.031700	.020786	.013657	.005930
89	.072026	.046807	.030481	.019891	.013006	.005595
90	.069928	.045224	.029309	.019034	.012387	.005278
91	.067891	.043695	.028182	.018215	.011797	.004979
92	.065914	.042217	.027098	.017430	.011235	.004697
93	.063994	.040789	.026055	.016680	.010700	.004432
94	.062130	.039410	.025053	.015961	.010200	.004181
95	.060320	.038077	.024090	.015274	.009705	.003944
96	.058563	.036790	.023163	.014616	.009243	.003721
97	.056858	.035546	.022272	.013987	.008803	.003510
98	.055202	.034344	.021416	.013385	.008384	.003311
99	.053594	.033182	.020592	.012808	.007985	.003124
100	.052033	.032060	.019800	.012257	.007604	.002947

Construction of Table II.

The numbers in this Table are the reciprocals of the corresponding numbers in the last, or the quotients of unity divided, by those numbers; that is, $\frac{1}{r}, \frac{1}{r^2}, \frac{1}{r^3}, \frac{1}{r^4}$, &c. Supposing *r* to denote 1*l.* with its interest for a year.

Use. *To find what the present value is of any sum payable in any future time: and also what principal will amount to a given sum in any number of years.* *Ans.* Opposite to the given number of years, and under the rate of interest, is the present value of 1*l.* to be received at the end of the given time, or the sum that will amount to 1*l.* in that time, which, multiplied by the given sum, produces the required value or principal.

1. What is the present value of 1000*l.* to be received 10 years hence, reckoning compound interest at 5 *per cent.?* *Ans.* .613913, multiplied by 1000, is 613*l.* 18*s.* 3*d.* nearly.

2. What principal will amount to 1000*l.* in 10 years, at 5 *per cent. per ann.* compound interest? *Ans.* .613913, multiplied by 1000*l.*, is 613*l.* 18*s.* 3*d.*

3. What sum put out for 25 years at 4½ per cent. compound interest will clear a debt of 4000*l.*? *Ans.* .332731, multiplied by 4000, is 1330*l.* 18*s.* 6*d.*

TABLE III.

The prefent value of an *annuity* of 1*l.* for any number of years not exceeding 100, at any rate of compound intereft from 3 to 6 *per cent.*

Years.	At 3 per Cent.	3½ per Cent.	4 per Cent.	4½ per Cent.	5 per Cent.	6 per Cnt.
1	.9708 4	.966184	.961538	.956938	.952381	.943396
2	1.913470	1.899694	1.886095	1.872668	1.859410	1.833393
3	2.828611	2.801637	2.775091	2.748964	2.723248	2.673012
4	3.717098	3.673079	3.629895	3.587526	3.545950	3.465106
5	4.579707	4.515052	4.451822	4.389677	4.329477	4.212364
6	5.417191	5.328553	5.242137	5.157872	5.075692	4.917324
7	6.230283	6.114544	6.002055	5.892701	5.786373	5.582381
8	7.019692	6.873956	6.732745	6.595886	6.463213	6.209794
9	7.786109	7.607687	7.435332	7.268790	7.107822	6.801692
10	8.530203	8.316605	8.110896	7.912718	7.721735	7.360087
11	9.252624	9.001551	8.760477	8.528917	8.306414	7.886875
12	9.954004	9.663334	9.385074	9.118581	8.863252	8.383844
13	10.634955	10.302738	9.985648	9.682852	9.393573	8.852683
14	11.296073	10.920520	10.563123	10.222825	9.898641	9.294984
15	11.937935	11.517411	11.118387	10.739546	10.379658	9.712249
16	12.561102	12.094117	11.652296	11.234015	10.837770	10.105895
17	13.166118	12.651321	12.165669	11.707191	11.274066	10.477260
18	13.753513	13.189682	12.659297	12.159992	11.689587	10.827603
19	14.323799	13.709837	13.133939	12.593294	12.085321	11.158116
20	14.877475	14.212403	13.590326	13.007936	12.462210	11.469921
21	15.415024	14.697974	14.029160	13.404724	12.821153	11.764077
22	15.936917	15.167125	14.451115	13.784425	13.163003	12.041582
23	16.443608	15.620410	14.856842	14.147775	13.488574	12.303379
24	16.935542	16.058368	15.246963	14.495478	13.798642	12.550358
25	17.413148	16.481515	15.622080	14.828209	14.093945	12.783356
26	17.876842	16.890352	15.982769	15.146611	14.375185	13.003166
27	18.327031	17.285364	16.329586	15.451303	14.643034	13.210534
28	18.764108	17.667019	16.663063	15.742874	14.898127	13.406164
29	19.188455	18.035767	16.983715	16.021889	15.141074	13.590721
30	19 600441	18.392045	17.292033	16.288889	15.372451	13.764831
31	20.000428	18.736276	17.588494	16.544391	15.592810	13.929086
32	20.388765	19.068865	17.873551	16.788891	15.802677	14.084043
33	20.765792	19.390208	18.147646	17.022862	16.002549	14.230230
34	21.131837	19.700684	18.411198	17.246758	16.192904	14.368141
35	21.487220	20.000661	18.664613	17.461012	16.374194	14.498246
36	21.832252	20.290494	18.908282	17.666041	16.546852	14.620987
37	22.167235	20.570525	19.142579	17.862240	16.711287	14.736780
38	22.492462	20.841087	19.367864	18.049990	16.867893	14.846010
39	22.808215	21.102500	19.584485	18.229656	17.017041	14.949075
40	23.114772	21.355072	19.792774	18.401584	7.159086	15.046297
41	23 412400	21.599104	19.993052	18.566109	17.294368	15.138016
42	23.701359	21.834882	20.185627	18.723550	17.423208	15.224543
43	23.981902	22.062689	20.370795	18.874210	17.545912	15.306173
44	24 254274	22.282791	20.548841	19.018383	17.662773	15.383182
45	24.518713	22.495450	20.720040	19.156347	17.774070	15.455832
46	24.775449	22.700918	20.884652	19.288371	17.880066	15.524370
47	25.024708	22.899438	21.042936	19.414709	17.981016	15.589028
48	25 266707	23.091244	21.195131	19.535607	18.077158	15.650027
49	25.501657	23.276564	21.341472	19.651298	18.168722	15.707572
50	25 729764	23.455618	21.482185	19.762008	18.255925	15.761861
51	25.951227	23.628616	21.617485	9.867950	18.338977	15.813076
52	26.166240	23.795765	21.747582	19.969330	18.418073	15.861393
53	26.374990	23.957260	21.872675	20.066345	18.493405	15.906974
54	26.577660	24.113295	21.992957	20.159181	18.165146	15.949976
55	26.774428	24.264053	22.108612	20.248021	18.633472	15.990543
56	26.965464	24.409713	22.219819	20.333034	18.698545	16.028814
57	27.150936	24.550448	22.326749	20.414385	18.760519	16.064915
58	27.331005	24.686423	22.429567	20.492236	18.819541	16.098980
59	27.505831	24.817800	22.528430	20.566733	18.875756	16.131113
60	27.675564	24.944734	22.623490	20.638022	18.929290	16.161428

Table III. *continued.*

Years.	At 3 per Cent.	3½ per Cent.	4 per Cent.	4½ per Cent.	5 per Cent.	6 per Cent.
61	27.840353	25.067376	22.714894	20.706241	18.980276	16.190026
62	28.000343	25.185870	22.802783	20.771523	19.028834	16.217006
63	28.155673	25.300358	22.887291	20.833993	19.075280	16.242458
64	28.306478	25.410974	22.968549	20.893773	19.119124	16.266470
65	28.452891	25.517849	23.046682	20.950979	19.161070	16.289123
66	28.595040	25.621110	23.121810	21.005722	19.201019	16.310493
67	28 733049	25.720875	23.194048	21.058107	19.239066	16.330654
68	28.867038	25.817275	23.263507	21.108236	19.275301	16.349673
69	28.997124	25.910412	23.330296	21.156207	19.309810	16.367610
70	29.123421	26.000396	23.394515	21.202112	19.342677	16.384544
71	29.246040	26.087340	23.456264	21.246040	19.373978	16.400513
72	29.365087	26.171343	23.515639	21.288077	19.403788	16.415578
73	29.480667	26.252505	23.572730	21.328303	19.432179	16.429791
74	29.592881	26.330923	23.627623	21.366797	19.459218	16.443199
75	29.701826	26.406689	23.680408	21.403634	19.484970	16.455848
76	29.807598	26.479892	23.731162	21.438884	19.509495	16.467781
77	29.910290	26.550621	23.779963	21.472616	19.532853	16.479035
78	30.009990	26.618957	23.826888	21.504896	19.555098	16.489659
79	30.106786	26.684983	23.872007	21.535785	9.576284	16.499679
80	30.200763	26.748776	23.915392	21.565345	19.596460	16.509131
81	30.292003	26.810411	23.957108	21.593632	19.615677	16.518048
82	30.380580	26.869963	23.997219	21.620700	19.633978	16.526460
83	30.466588	26.927500	24.035787	21.646603	19.651407	16.534396
84	30.550086	26.983092	24.072872	21.671390	19.668007	16.541883
85	30.631151	27.036804	24.108531	21.695110	19.683816	16.548947
86	30.709855	27.088699	24.142818	21.717809	19.698873	16.555610
87	30.786267	27.138840	24.175787	21.739530	19.713212	16.561896
88	30.860454	27.187285	24.207487	21.760316	19.726869	16.567827
89	30.932479	27.234092	24.237969	21.780207	19.739875	16.573421
90	31.002407	27.279316	24.267278	21.799241	19.752262	16.578699
91	31.070298	27.323010	24.295459	21.817455	19.764059	16.583679
92	31.136212	27.365227	24.322557	21.834885	19.775294	16.588376
93	31.200206	27.406017	24.348612	21.851565	19.785994	16.592808
94	31.262336	27.445427	24.373666	21.867526	19.796185	16.596988
95	31.322656	27.483504	24.397756	21.882800	9.805891	16.600932
96	31.381219	27.520294	24.420919	21.897417	19.815134	16.604653
97	31.438077	27.555839	24.443191	21.911403	19.823937	16.608163
98	31.493279	27.590183	24.464607	21.924788	19.832321	16.611475
99	31.546872	27.623365	24.485199	21.937596	19.840306	16.614599
100	31.598905	27.655425	24.504999	21.949853	19.847910	16.617546
Fee Simple.	33.333333	28.571429	25.000000	22.222222	20.000000	16.666666

Conſtruction of Table III.

The 2d, 3d, 4th, &c. numbers in this Table, are the ſums of the firſt 2, 3, 4, &c. numbers in the ſecond; that is, the ſums of $\frac{1}{r}+\frac{1}{r^2}$, of $\frac{1}{r}+\frac{1}{r^2}+\frac{1}{r^3}$, of $\frac{1}{r}+\frac{1}{r^2}+\frac{1}{r^3}+\frac{1}{r^4}$, &c.

Uſe. *To find the preſent worth of an annuity for any given term.* Multiply the preſent value oppoſite to the given number of years, and under the rate of intereſt, by the given *annuity*, and the product will be the anſwer.

Example.

What is the preſent value of an *annuity* of 40*l.* to continue 20 years, at 4 per *cent?* *Anſ.* 13.590326, multiplied by 40, is 543*l.* 12*s.* nearly.

ANNUITIES.

TABLE IV.

The amount of an annuity of *l.* in any number of years not exceeding 100, when improved at compound intereſt.

Years	At 3 per Cent.	3½ per Cent.	4 per Cent.	4½ per Cent.	5 per Cent.	6 per Cent.
1	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
2	2.030000	2.035000	2.040000	2.045000	2.050000	2.060000
3	3.090900	3.106225	3.121600	3.137025	3.152500	3.183600
4	4.183627	4.214943	4.246464	4.278191	4.310125	4.374616
5	5.309136	5.362466	5.416323	5.470710	5.525631	5.637093
6	6.468410	6.550152	6.632975	6.716892	6.801913	6.975319
7	7.662462	7.779408	7.898294	8.019152	8.142008	8.393838
8	8.892336	9.051687	9.214226	9.380014	9.549109	9.897468
9	10.159106	10.368496	10.582795	10.802114	11.026564	11.491316
10	11.463879	11.731393	12.006107	12.288209	12.577893	13.180795
11	12.807796	13.141992	13.486351	13.841179	14.206787	14.971643
12	14.192030	14.601962	15.025805	15.464032	15.917127	16.869941
13	15.617790	16.113030	16.626838	17.159913	17.712983	18.882138
14	17.086324	17.676986	18.291911	18.932109	19.598632	21.015066
15	18.598914	19.295681	20.023588	20.784054	21.578564	23.275970
16	20.156881	20.971030	21.824531	22.719337	23.657492	25.672528
17	21.761588	22.705016	23.697512	24.741707	25.840366	28.212880
18	23.414435	24.499691	25.645413	26.855084	28.132385	30.905653
19	25.116868	26.357180	27.671229	29.063562	30.539004	33.759992
20	26.870374	28.279682	29.778079	31.371423	33.065954	36.785591
21	28.676486	30.269471	31.969202	33.783137	35.719252	39.992727
22	30.536780	32.328902	34.247970	36.303378	38.505214	43.392290
23	32.452884	34.460414	36.617889	38.937030	41.430475	46.995828
24	34.426470	36.666528	39.082604	41.689196	44.501999	50.815577
25	36.459264	38.949857	41.645908	44.565210	47.727099	54.864512
26	38.553042	41.313102	44.311745	47.570645	51 113454	59.156383
27	40.709634	43.759060	47.084214	50.711324	54.669126	63.705766
28	42.930923	46.290627	49.967583	53.993333	58.402583	68.528112
29	45.218850	48.910799	52.966286	57.423033	62.322712	73 639798
30	47.575416	51.622677	56.084938	61.007070	66.438847	79.058186
31	50.002678	54.429471	59.328335	64.752388	70.760790	84.801677
32	52.502759	57.334502	62.701469	68.666245	75.298829	90.889778
33	55.077841	60.341210	66.209527	72.756226	80.063771	97.343165
34	57.730177	63.453152	69.857909	77.030256	85.066959	104.183755
35	60.462082	66.674013	73.652225	81.496618	90.320307	111.434780
36	63.275944	70.007603	77.598314	86.163966	95.836323	119.120867
37	66.174223	73.457869	81.702246	91.041344	101.628139	127.268119
38	69.159449	77.028895	85.970336	96.138205	107.709546	135.904206
39	72.234233	80.724906	90.409150	101.464424	114.095023	145.058458
40	75.401260	84.550278	95.025516	107.030323	120.799774	154.761966
41	78.663298	88.509537	99.826536	112.846688	127.839763	165.047684
42	82.023196	92.607371	104.819598	118.924789	135.231751	175.650545
43	85.483892	96.848629	110.012382	125.276404	142.993339	187.507577
44	89.048409	101.238331	115.412877	131.913842	151.143006	199.758032
45	92.719861	105.781673	121.029392	138.849965	159.700156	212.743514
46	96.501457	110.484031	126.870568	146.098214	168.685164	226.508125
47	100.396501	115.350973	132.945390	153.672633	178.119422	241.098612
48	104.408396	120.388257	139.263206	161.587902	188.025393	256.564529
49	108.540648	125.601846	145.833734	169.859357	198.426663	272.958401
50	112.796867	130.997910	152.667084	178.503028	209.347996	290.335905

Table IV. *continued.*

Years.	At 3 per Cent.	3½ per Cent.	4 per Cent.	4½ per Cent.	5 per Cent.	6 per Cent.
51	117.180773	136.582837	159.773767	187.535665	220.815395	308.756059
52	121.696197	142.363236	167.164718	196.974769	232.856165	328.281422
53	126.347082	148.345950	174.851306	206.838634	245.498974	348.978308
54	131.137495	154.538058	182.845359	217.146373	258.773922	370.917006
55	136.071620	160.946890	191.159173	227.917959	272.712618	394.172027
56	141.153768	167.580031	199.805540	239.174268	287.348249	418.822340
57	146.388381	174.445332	208.797762	250.937110	302.715662	444.951689
58	151.780033	181.550919	218.149672	263.229280	318.851445	472.648790
59	157.333434	188.905201	227.875659	276.074597	335.794017	502.007718
60	163.053437	196.516882	237.990685	289.497954	353.583718	533.128181
61	168.945040	204.394974	248.510313	303.525362	372.262904	566.115872
62	175.013391	212.548798	259.450725	318.184003	391.876049	601.082824
63	181.263793	220.988006	270.828754	333.502283	412.469851	638.147793
64	187.701707	229.722586	282.661904	349.509886	434.093344	677.436661
65	194.332758	238.762876	294.968580	366.237831	456.798011	719.082861
66	201.162741	248.119577	307.767116	383.718533	480.637912	763.227832
67	208.197623	257.803762	321.077800	401.985867	505.669807	810.021502
68	215.443551	267.826894	334.920912	421.075232	531.953298	859.622792
69	222.906858	278.200835	349.317749	441.026617	559.550963	912.200160
70	230.594064	288.937865	364.290459	461.869680	588.528511	967.932170
71	238.511886	300.050690	379.862077	483.653815	618.954936	1027.008100
72	246.667242	311.552464	396.056560	506.418237	650.902683	1089.628586
73	255.06,259	323.456800	412.898823	530.207057	684.447818	1156.006301
74	263.719277	335.777788	430.414776	555.066375	719.670208	1226.360679
75	272.630856	348.530011	448.631367	581.044362	756.653718	1300.948680
76	281.809781	361.728561	467.576621	608.191358	795.486404	1380.005601
77	291.264075	375.389061	487.279686	636.559969	836.260725	1463.805937
78	301.001997	389.527678	507.770874	666.205168	879.073761	1552.634293
79	311.032057	404.161147	529.081708	697.184401	924.027449	1646.792350
80	321.363019	419.306787	551.244977	729.557699	971.228821	1746.599891
81	332.003909	434.982524	574.294776	763.387795	1020.790262	1852.395885
82	342.964026	451.206913	598.266567	798.740246	1072.829775	1964.539638
83	354.252947	467.999155	623.197230	835.683557	1127.471264	2083.412016
84	365.880536	485.379125	649.125119	874.289317	1184.844827	2209.416737
85	377.856952	503.367394	676.090124	914.632336	1245.087069	2342.981741
86	390.192660	521.985253	704.133728	956.790791	1308.341422	2484.560646
87	402.898440	541.254737	733.299078	1000.846377	1374.758493	2634.634285
88	415.985393	561.198653	763.631041	1046.884464	1444.496418	2793.712342
89	429.464955	581.840606	795.176282	1094 994265	1517.721239	2962.335082
90	443.348904	603.205027	827.983334	1145.269007	1594.607301	3141.075187
91	457.649371	625.317203	862.102667	1197.806112	1675.337666	3330.539698
92	472.378852	648.203305	897.586774	1252.707387	1760.104549	3531.372080
93	487.550217	671.890421	934.490245	1310.079219	1849.109777	3744.254405
94	503.176724	696.306585	972.869854	1370.032784	1942.565265	3969.909669
95	519.272026	721.780816	1012.784649	1432.684259	2040.693529	4209.104250
96	535.850186	748.043145	1054.296035	1498.155051	2143.728205	4462.650505
97	552.925692	775.224655	1097.467876	1566.572028	2251.914615	4731.409535
98	570.513463	803.357517	1142.366591	1638.067770	2365.510346	5016.294107
99	588.628867	832.475031	1189.061255	1712.780819	2484.785864	5318.271753
100	607.287733	862.611657	1237.623705	1790.855956	2610.025157	5638.368059

Construction

Conſtruction of Table IV.

The firſt number of each column in this Table is unity. The ſecond is the firſt number in this Table added to the firſt number in the firſt Table. The third number is the ſecond in this table added to the ſecond in the firſt Table, and ſo on: that is, the numbers in this Table are 1, $1+r$, $1+r+r^2$, $1+r+r^2+r^3$, &c. which ſeries, by proceeding in the ſame manner as in the caſe of $\frac{1}{r}+\frac{1}{r^2}+\frac{1}{r^3}$, &c. expreſſing the value of an annuity certain, may be found $=\frac{r^{-}-1}{r-1}$.

Uſe. *To find the amount of an annuity forborne any number of years not exceeding* 100. Multiply the amount in the Table oppoſite to the given number of years, and under the rate of intereſt, by the given *annuity*. The product is the anſwer.

Examples.

1. What will an *annuity* of 5*l.* amount to in 15 years, at $3\frac{1}{2}$ *per cent.* compound intereſt? *Anſ.* 19.295681, multiplied by 50, is 964*l.* 15*s.* 8*d.*

2 What is the amount of an *annuity* of 20*l.* in 28 years, at 4 *per cent?* *Anſ.* 49.9675, multiplied by 20, is 999*l.* 7*s.*

3. A perſon is poſſeſſed of 1000*l.* principal, bearing 4 *per cent.* intereſt, and in order to increaſe his income, reſolves, in addition to the intereſt of 40*l.* to take out of his principal 20*l.* the firſt year, and afterwards as much more as will be neceſſary to make a conſtant income of 60*l. per ann.* in what time will he reduce his principal to nothing? *Anſ.* In the ſame time that an *annuity* of 20*l.* would increaſe at 4 *per cent.* compound intereſt to 1000*l.* that is, in 28 years by the preceding queſtion.

He that would gain farther information on this ſubject ſhould conſult Malcolm's Arithmetic, from page 595 to the end; Simpſon's Algebra, ſect. 16.; Mr. Dodſon's Mathematical Repoſitory, p. 298, &c. Jones's Synopſis, ch. 10. Phil. Tranſ. vol. lxvi. p. 109, &c.

For an explanation of the doctrine of *annuities on lives*, ſee ASSURANCE, COMPLEMENT, EXPECTATION, LIFE *Annuities*, MORTALITY, REVERSIONS, SURVIVORSHIPS.

ANNUITY, in *Law*, is a thing very diſtinct from a rent-charge, with which it is often confounded; becauſe a rent-charge is a burden impoſed upon, and iſſuing out of lands; whereas, an annuity is a yearly ſum, chargeable only upon the perſon of the grantor. Therefore, if a man by deed grant to another the ſum of 20*l.* per annum, without expreſſing out of what lands it ſhall iſſue, no land at all ſhall be charged with it; but it is a mere perſonal annuity; which is of ſo little account in the law, that if granted to an eleemoſynary corporation, it is not within the ſtatutes of mortmain: and yet a man may have a real eſtate in it, though his ſecurity is merely perſonal.

If the annuitant of an annuity payable half yearly, ſince the laſt term of payment, die before the half year is completed, nothing is due for the time he lives. There are now very few, if any grants of annuities, without a covenant for payment, expreſſed or implied; and therefore, where a diſtreſs cannot be made, or is not approved of, the grantee may bring an action of covenant, and recover the arrears in damages, with coſts of ſuit. And that action is now uſually brought, real actions, and writs of annuity, being much out of uſe.

The practice of purchaſing annuities for lives, at a certain price or premium, inſtead of advancing the ſame ſum on an ordinary loan, ariſes uſually from the inability of the borrower to give the lender a permanent ſecurity for the return of the money borrowed, at any one period of time. He therefore ſtipulates (in effect) to repay annually, during his life, ſome part of the money borrowed; together with legal intereſt for ſo much of the principal as annually remains unpaid, and an additional compenſation for the extraordinary hazard run of loſing that principal entirely by the contingency of the borrower's death; all which conſiderations, being calculated and blended together, will conſtitute the juſt proportion or quantum of the annuity which ought to be granted. If, by the terms of the contract, the lender's principal is *bonâ fide* (and not colourably) put in jeopardy, no inequality of price will make it an uſurious bargain; though under ſome circumſtances of impoſition, it may be relieved againſt in equity. To throw, however, ſome check upon improvident tranſactions of this kind, which are uſually carried on with great privacy, the ſtatute 17 Geo. III. c. 26 uſually called the "Annuity Act," has directed, that upon the ſale of any life-annuity of more than the value of 10*l.* per annum (unleſs on a ſufficient pledge of lands in fee-ſimple, or ſtock in the public funds), the true conſideration, which ſhall be in money only, ſhall be ſet forth and deſcribed in the ſecurity itſelf; and a memorial of the date of the ſecurity, of the names of the parties, *ceſtuy que truſts*, *ceſtuy que vies*, and witneſſes, and of the conſideration money, ſhall, within 20 days after its execution, be enrolled in the court of Chancery, elſe the ſecurity ſhall be null and void; and in caſe of colluſive practices reſpecting the conſideration, the court in which any action is brought, or judgment obtained upon ſuch colluſive ſecurity, may order the ſame to be cancelled, and judgment (if any) to be vacated: if the ſecurity be ſet aſide for want of complying with the formalities of the act, the conſideration, if fair and legal, may be recovered back by the grantee, in action of "aſſumpſit" againſt the perſon *actually* receiving ſuch conſideration money, but not againſt a ſurety: and alſo all contracts for the purchaſe of annuities from infants, ſhall remain utterly void, and be incapable of confirmation after ſuch infants arrive to the age of maturity. Blackſt. Com. vol. ii. p. 40—461, &c.

ANNUITIES, *Public*. See NATIONAL DEBT and FUND.

ANNULAR, ANNULARIS, ſomething that relates to, or reſembles a ring, by the Latins called *annulus*.

ANNULAR *cartilage*, or ANNULARIS, in *Anatomy*, is the ſecond cartilage of the *larynx*, being round, in ſhape much reſembling a ring, and inveſting the whole *larynx*; called alſo *cricoides*. See LARYNX.

ANNULAR *eclipſe*, in *Aſtronomy*. See ECLIPSE.

ANNULAR *ligaments*, *ligamenta annularia*, is a name given to thoſe ligaments which confine the tendons of the CARPUS and TARSUS.

Add, that the ſphincter muſcle of the *anus* is alſo called *annularis*, or *annular* muſcle, from its figure.

ANNULAR *proceſs*, or *protuberance*, is a prominent part of the MEDULLA *oblongata*. See BRAIN.

ANNULAR is alſo an epithet given to the fourth finger; popularly called the *ring* FINGER.

ANNULARIA, in *Entomology*, a ſpecies of PHALÆNA, of the *geometra* ſection. The wings are cinereous, with a brown ſtreak, a ring in the middle, and two brown bands behind: inhabits Germany. Fabricius, Gmelin, &c.

ANNULARIS, a ſpecies of CERAMBYX, in the ſection *callidium*, Gmelin's arrangement. The thorax is ſpotted with black, wing-caſes bidentated and rather greeniſh, with three black bands, the firſt annular: inhabits Siam. Fabricius and Gmelin.

ANNULARIS,

A N N

Annularis, is alſo a ſpecies of TENTHREDO, that inhabits Auſtria. It is ſhining black, tips of the antennæ white, ſhanks of the legs ferruginous. Fabricius.

Annularis, in *Ichthyology*, a ſpecies of CHÆTODON. The body is ſtriated, and has a ſmall ring on the lateral line. Gmelin. The body is brown, with blue incurvated ſtreaks, and covered with very ſmall ſcales; the irides of the eyes are ſilvery; gill-covers of two pieces, the anterior one of which is toothed and ſpinous; lateral line parallel with the back, anus in the middle of the body; anal fin, round with a ſtreak of blue; dorſal fin, black brown, the others white. This is ikan batoe jang aboe, and ikan pampus cambodia, of Valent. Ind. &c.

ANNULATA, in *Entomology*, a ſpecies of CASSIDA, found in India, and deſcribed by Fabricius. It is blue, with two rufous ſpots on the thorax, and rings of the ſame colour on the wing-caſes. Fab. and Gmelin. *Obſ.* This is a large ſpecies; the thorax is obſcure, with a faint rufous ſpot on each ſide; wing-caſes gibbous, dull blue, with ſix rufous annulations; beneath, black, with a rufous dot on both ſides each ſegment of the abdomen.

Annulata, a ſpecies of CHRYSOMELA, in the ſection *altica*. It is brown bronzed; wing-caſes ſtriated and crenated; baſe of the antennæ rufous; ſhanks of the four anterior legs rufous, with a bronzy-brown annulation. Linnæus and Gmelin.

Annulata, a ſpecies of NEPA, that inhabits the coaſt of Coromandel. It is with a tail, ſubrotund, pale brown; ſhanks of the anterior legs pale, annulated with brown. Fabricius.

Annulata, a ſpecies of SPHINX, in the Linnæan arrangement; ZYGAENA, in that of Fabricius. It is black, with ſix yellow ſpots on the anterior wings; baſe of the poſterior wings and ſpot yellow; abdomen annulated with yellow: inhabits New Holland.

Annulata, a ſpecies of PHALÆNA, found in Hamburgh, and deſcribed by Fabricius. The wings are black, with ſnowy-white ſpots; ſhanks of the legs annulated with white.

Annulata, a ſpecies of PHRYGANEA, that inhabits Europe. It is brown, with long antennæ annulated with white; inner and poſterior margins of the wings ciliated. Linnæus, Gmelin, &c.

Annulata, a name under which two different ſpecies of TENTHREDO are deſcribed by Gmelin in the Syſtema Naturæ; one is the Linnæan ſpecies of that name, but the other is adopted, with great impropriety, from the mantiſſa of Fabricius. To prevent in ſome meaſure the confuſion which might evidently ariſe from the ſame name being aſſigned to two diſtinct inſects, it is neceſſary to attend to the characters of the two ſections to which they belong. Tenthredo annulata, Linn. is in the ſection "antennis filiformibus, articulis 7—9;" antennæ filiform, with from ſeven to nine articulations; and the other in that of "antennis ex-articulatis, extrorſum craſſioribus;" antennæ without articulations, and thickeſt at the tip. The firſt ſpecies is yellow, with the antennæ ſomewhat clavated and black; tip of the ſhanks and ends of the feet annulated with black. The ſecond is black, the abdomen yellow, feet of the poſterior legs black, annulated with white. Fabricius Mantiſ. Both kinds inhabit Europe.

Annulata, a ſpecies of APIS, found in Europe. It is ſmall, and ſmells like muſk; the colour is black; front and rings on the legs white. Linnæus and Fabricius.

Annulata, a ſpecies of TIPULA. The wings are brown, variegated; thighs annulated with white: inhabits Europe. Linnæus, Fabricius, &c.

Annulata, a ſpecies of CONOPS that inhabits Europe. The thorax is black; abdomen cylindrical, varied with yellow and black; baſe of the wings and legs ferruginous, the latter annulated with brown. Linnæus and Gmelin.

Annulata, a ſpecies of PODURA. It is livid, with black rings; and inhabits Europe. Fabricius and Gmelin. This is podura livida lutea, annulis tranſverſis nigris of Geoffroy.

Annulata, in *Conchology*, a ſpecies of OSTREA, that inhabits the North Seas; and ſuppoſed by ſome to be a variety of oſtrea papyracea. The ſhell is equivalve, orbicular, and white, with concentric ſemi-circles. Gmelin and Müll.

Annulata, a ſpecies of VOLUTA. It is white, ſmooth, with a carinated dorſal ring; its habitation is unknown, and there is a variety of it (β), undulated with pale red. Gmelin, Martini, &c.

Annulata, a ſpecies of HELIX. The ſhell is umbilicated, ſlightly depreſſed, and white; wreaths four, the firſt gibbous and bicarinated. Gmelin.

ANNULATORIUS, in *Entomology*, a ſpecies of ICHNEUMON, found in Great Britain, and deſcribed by Fabricius from a ſpecimen in the cabinet of Sir Joſeph Banks, Bart. The ſcutellum is yellowiſh; thorax ſpotted, and four firſt ſegments of the abdomen margined with yellow; wings tranſparent. Fabricius and Gmelin.

ANNULATUM, in *Conchology*, a ſpecies of DENTALIUM. It is round and ſtriated obliquely: found in a foſſil ſtate. Gmelin, Guettard, &c.

ANNULATUS, in *Conchology*, a ſpecies of TROCHUS, found in the ſands of the Indian ſea. The wreaths are reverſed, and ribbed on each ſide; aperture almoſt ſquare. Gmelin, Chemn. &c. This is a ſmall ſpecies, ſcarcely exceeding a quarter of an inch in length, and the number of wreaths are uſually from twelve to fifteen.

Annulatus, is likewiſe the ſpecific name of a ſhell of the TURBO genus; its native place is unknown: it is figured by Gualteri, and thus very conciſely characterized by Gmelin; wreaths with a prominent and margined ſuture: this ſhell is white, a quarter of an inch in length, aperture ſuboval.

Annulatus, in *Entomology*, a ſpecies of CURCULIO, that inhabits North America. It is pale, thorax and wing-caſes ſtreaked with black. Fabricius and Gmelin. The ſtreaks are diſpoſed tranſverſely, one upon the thorax, and two on the wing-caſes.

Annulatus, a ſpecies of CERAMBYX, in the ſection or family, *ſtenocorus*. The thorax is lineated, wing-caſes unidentated, antennæ long, with three white rings. Fabricius and Gmelin. *Obſ.* The thorax is grey, with four white lines; the wing-caſes grey, brown at the tip, and edged with white; and the legs grey, with brown annulations. Cabinet of Sir Joſeph Banks, Bart.

Annulatus, a ſpecies of GRYLLUS, in the ſection *locuſta*, having a flattiſh thorax, gibbous front, wings bluiſh-black, and blue within: it inhabits America, and is of a reddiſh grey, and rough, with elevated dots; abdomen annulated, with a few greeniſh rings; antennæ yellow, with black rings.

Annulatus, a ſpecies of CIMEX, deſcribed by Fabricius and Gmelin as a native of Virginia. It is greyiſh, thighs annulated with white. This belongs to the family *ſpinoſus*, in the Gmelinian arrangement of cimices, and muſt not be confounded with another of the ſame name in the family *oblongus*, which is an European inſect. It is black, poſterior part of the thorax and anterior of the wing-caſes greyiſh; legs annulated with brown. Gmelin. There is alſo another

another ſpecies of cimex in the family *reduvius*, called ANNULATUS, which likewiſe inhabits Europe. The tips of the antennæ are capillary; body black, with ſanguineous ſpots on the under ſide. Linnæus. This laſt is cimex niger rufipes of Degeer.

ANNULATUS, a ſpecies of ICHNEUMON, that inhabits Europe. It is black, with rufous legs; ſhanks and feet of the poſterior pair annulated with white. Gmelin.

ANNULATUS, a ſpecies of ASILUS, that inhabits India. It is cinereous; abdomen black at the end; thighs teſtaceous, annulated with black. Fabricius and Gmelin.

ANNULATUS, a ſpecies of CULEX. It is brown; abdomen and legs annulated with white; wings ſpotted. Fabricius and Gmelin. In the ſize and ſhape, this reſembles the common gnat (culex pipiens); the beak is half the length of the body. Inhabits Germany and Denmark.

ANNULATUS, in *Ornithology*, a ſpecies of ORIOLUS that inhabits America, and is conſidered as a bird of prey. It is yellow; head and neck black; greater wing-coverts and quill-feathers blackiſh, edged with pale yellow; a blackiſh band acroſs the tail. Gmelin, &c.

This is the ring-tailed oriole of Latham; avis ocotzinitzcan of Seba; arc-en-queue of Buffon; icterus cauda annulata of Briſſon; and cornix flava of Klein. It is about the ſize of a pigeon; the bill yellow, and a little bent at the point; head and neck black; body yellow; tail yellow; each feather marked tranſverſely with a broad blackiſh band; and which, when the tail is expanded, forms a creſcent, with the concave part towards the body; legs grey.

ANNULATUS, in *Zoology*, a ſpecies of COLUBER; deſcribed by Linnæus and Gmelin, as having 190 abdominal ſcuta or plates on the belly, and 96 ſubcaudal ſcales; but it appears from ſynonymous authors, that the number of thoſe plates and ſcales vary exceedingly in different ſpecimens, and that its ſpecific characters ſhould rather be taken from the colour, form and diſpoſition of the ſpots, which are leſs liable to variations: in one inſtance, for example, the abdominal ſcuta amounted to only 184, and the ſubcaudal ſcales to 60; in another to 186—84; and in a third to 196—95. Its general deſcription is, back, cinereous grey, browniſh, or browniſh-white, with a band, or ſeries of round, alternate, brown ſpots, that occaſionally join or become confluent, eſpecially at ſome diſtance down the neck, and are ſurrounded with pale margins; belly white. Dr. Shaw's ſpecific character is, C. griſeus, maculis dorſalibus rotundis fuſcis pallido marginatis. Grey ſnake, with round, brown, dorſal ſpots, with pale margins. Vol. iii. p. 2. 490.

This creature inhabits America, is from a foot and an half to two or three feet in length; the head is rather large, as are alſo the ſcales that cover it; the tail gradually tapering.

ANNULATUS, a ſpecies of ANGUIS, of a white colour, with ſtraight brown ſtripes that meet on the under ſide; tail tapering, and a double row of imbricated ſcales beneath. Laur. Gmelin.

ANNULET, from the Latin *annulus*, a ring, in *Heraldry*, granted in coat-armour to thoſe who were in confidence, or entruſted with eſpecial commiſſions by the king; the annulet, or ring, being the gage of the royal favour and protection. It is alſo borne as a mark of filiation for the fifth ſon. The colour of the *annulet* muſt always be expreſſed.

Annulets were anciently reputed a mark of nobility and juriſdiction; it being the cuſtom of prelates to receive their inveſtiture *per baculum & annulum*.

ANNULETS, in *Architecture*, are ſmall ſquare members, in the Doric capital, placed under the quarter round. They are alſo called *fillets*, *liſtels*, &c.

ANNULET is alſo uſed for a narrow flat moulding, common to other parts of a column; *viz.* the baſes, &c. as well as the capital; ſo called, becauſe it encompaſſes the column around. In which ſenſe annulet is frequently uſed for *baguette*, or *little aſtragal*.

ANNULLING, compounded of *ad* and *nullus*, *none*; q. d. *undoing*; the aboliſhing of an act, procedure, ſentence, or the like.

ANNULOSUS, in *Entomology*, a ſpecies of ICHNEUMON, found in Europe. It is black; antennæ ſlightly annulated with black; legs rufous; ſting ſhort. Linnæus and Gmelin.

ANNULUS, in *Conchology*, a ſpecies of CYPRÆA, very common about Amboyna, and alſo Alexandria. It is of an ochreous colour on the outſide, and blue within. Its ſpecific character is, ſhell ſurrounded on the back with a yellow ring. Linnæus and Gmelin. This is the thoracicum quadratum of Rumphius.

ANNULUS, in *Entomology*, a ſpecies of CASSIDA, that inhabits Cayenne. It is yellowiſh, brown in the diſk, and annulated in the middle with yellow. Fabricius, Spec. Inſ.

ANNULUS, a ſpecies of APIS, grey and downy, thorax black; and a black clouded band in the middle of the abdomen. Linnæus and Gmelin. Inhabits Europe.

ANNULUS, or *Ring*, in *Geometry*. The area of it may be had by finding the areas of the outer and inner circles, and their difference is the area required. Or, multiply the ſum of the diameters by their difference, and the product by .7854.

ANNUNCIADE, or ANNUNCIATION. This order was inſtituted by Ame VI. earl of Savoy, under the title of the *Collar*, in 1362, in honour of the fifteen divine myſteries of the roſary. Favin, on a miſtaken ground, calls it *The Order of the Manes of Love*, in regard its founder had received of his lady a bracelet made of the treſſes of her hair, plaited in love-knots; and that the Founder ſhould ſignify *frappes*, *entres*, *rompes tout*. It remained, however, as the collar, till Charles III. or Le-bon, duke of Savoy, who beſtowed on it the title of the Annunciation, from the picture of the Annunciation which he annexed to the collar. The founder appointed the number of knights to be fifteen; among whom was Sir Richard Muſard, an Engliſh gentleman, in 1434; their number was increaſed in 1568, to twenty. Riene caſtle, in Buger, was their principal ſeat. The ancient collar was of gold, three fingers broad; on which were engraved the letters F.E.R.T and one Knot, called the *Savoy Knot*, at the end of each F.E.R.T. which, with three other Knots entwined one within the other, made up the circumference pendant at the collar, without any figure. The initials were ſuppoſed to be for the words Fortitudo Ejus Rhodum Tenuit, alluding to Amadeus le Grand, who ſo valiantly defended Rhodes againſt the Turks in 1310. This, however, was long after the houſe of Savoy took that device, as appears from the coins of Lewis de Savoy, baron de Vaud, who died in 1301; as alſo from the monument of Thomas de Savoy, who died in 1233, whereon was lying at the feet of his portraiture, a dog, bearing a collar about his neck, with the word *Fert*; alſo a ſilver coin of Peter de Savoy (who erected in England the building of that name in the Strand, temp. Hen. III.) whereon is the word FERT, in Gothic characters. Duke Charles III. ſurnamed the Good, in 1518, ordered that the badge or *myſtery* of the Annunciation of the Bleſſed Virgin ſhould be repreſented within a circle of gold, formed of true-

true-lover's knots, pendant to the collar, which was to be of gold, weighing two hundred gold crowns, and compoſed of the letters F. E. R. T. intermixed with true-lover's knots, ſeparated by fifteen roſes of gold, five of them enamelled *white*, five *red*, and five partly *white and red*, and edged with two thorns gold. The knights wear in common the badge pendant to three ſmall chains of gold round the neck. The reigning king of Sardinia is ſovereign of the order.

ANNUNCIATION, compounded of *ad* and *nuncio, I declare*, the tidings which the angel Gabriel brought to the Holy Virgin, of the incarnation of Chriſt.

The Greeks call it *ευαγγελισμος, good tidings*, and *χαιρετισμος, ſalutation*.

ANNUNCIATION is alſo the name of a feaſt, celebrated annually on the 25th of March, popularly called *Lady-day*, in commemoration of that wonderful event.

Some authors are of opinion, that the feaſt was originally ſolemnized in honour of our Saviour; and that the holding it in the name and honour of the Virgin is of much later ſtanding. This feaſt ſeems to be of great antiquity. Among the ſermons of St. Auguſtin, who died in 430, we have two upon the Annunciation. Proculus, who died in 446, and Chryſoſtom in 407, have, in their works, diſcourſes on this ſubject. But the Proteſtant writers reject theſe authorities, and the writings on which they are founded, as ſpurious. Bingham refers the commencement of this feaſt to the ſeventh century.

Several of the eaſtern churches celebrate the Annunciation at a different ſeaſon from thoſe of the weſt. The Syrians call it *Baſcarach*, q. d. *ſearch, inquiry;* and mark it in the calendar for the firſt day of December. The Armenians hold it on the fifth of January: thus anticipating the time, to prevent its falling in Lent; but the Greeks make no ſcruple of celebrating the feſtival even in Lent. In the weſt likewiſe, there has been ſome variation as to the time of keeping this feaſt. The tenth council of Toledo, in 636, ordained it to be celebrated eight days before Chriſtmas.

The Jews alſo give the title Annunciation to part of the ceremony of their paſſover; *viz.* that, wherein they explain the origin and occaſion of that ſolemnity. This explanation they call הגדה, *Haggada*, q. d. the *Annunciation*.

ANNUNCIATOR, in the *Greek Church*, an officer whoſe buſineſs is to give notice of the feaſts and holydays to be obſerved.

ANNUNTIATE, ANNUNTIADA, or ANNUNTIATA, a denomination common to ſeveral orders, both religious and military; inſtituted with a view to the Annunciation. The firſt religious order of this kind was inſtituted in 1232, by ſeven Florentine merchants. Theſe are alſo called *ſervites*, q. d. *ſervants*.

The ſecond was a nunnery at Bourges, founded in 1500, by Joan of Valois, queen of France, after her divorce from Lewis XII.

The third was alſo a nunnery, founded by a Genoeſe lady in 1604. The fourth was a friary, founded by Cardinal Torrecremata, at Rome, in 1460; which laſt became ſo very rich, that they gave fortunes of 60 Roman crowns to above four hundred girls, on the anniverſary of the Annunciation.

ANNY, in *Geography*, a river of France, on the coaſt of the Engliſh channel, north of the river Soame, and ſouth from Boulogne.

ANOA, in *Zoology*, BOS *bubalus anoa*, a variety of the buffalo, mentioned by Pennant, Hiſt. of Quadr. vol. i. p. 30. This animal is about the ſize of a middling ſheep; it inhabits the mountains of Celebes; is very fierce, lives in ſmall herds, ſheltering itſelf in the caverns of the mountains; is caught with difficulty, and is very impatient of confinement.

ANOBIUM, in *Entomology*, a genus of COLEOPTEROUS inſects, in the Fabrician ſyſtem, having four clavate palpi, or feelers; jaws obtuſe and dentated; lip entire; and antennæ filiform; with the three extreme joints elongated, and rather thicker than the others. Fabricius. This genus includes ſome inſects of the PTINUS and DERMESTES genera, of the Linnæan ſyſtem, and BYRRHUS of Geoffroy; beſides ſome new ſpecies not deſcribed by either. In the *Species Inſectorum*, the ſpecies of this genus are, pertinax, molle, frumentarium, flavipes, nigrum, lineatum, cyaneum, & minutum, in all eight ſpecies: the arrangement in the laſt ſyſtem of that author, *Entomologia Syſtematica*, is ſomewhat different, being teſſellatum, ſtriatum, rufipes, caſtaneum, pertinax, boleti, molle, paniceum, abietis, planum, capenſe, minutum, micans, & nitidum.

Olivier adopts the genus ANOBIUM after Fabricius, deſcribing the ſpecies teſſellatum, ſtriatum, caſtaneum, & paniceum, as inſects of that genus; and Gmelin, in the Syſtema Naturæ, makes the firſt diviſion of the PTINUS of Linnæus, "palpis clavatis," (clavate feelers), ANOBIUM of Fab. to diſtinguiſh them from the true *ptini* which have the feelers filiform. Profeſſor Thunberg has alſo deſcribed ſeveral ſpecies of anobium in his Nov. Inſ. as rufipes, cœruleum, &c. but which Gmelin conſigns to the DERMESTES genus in the Linnæan ſyſtem.

ANOCHUS, an imaginary name of a *medicine*, concerning which many fruitleſs conjectures have been made. The word occurs only in Gaza's tranſlation of the account which Theophraſtus has left us of the EUONYMUS of thoſe times. The author ſays, that the goats which eat the leaves and fruit of the euonymus were killed by it, and that they died of a ſtoppage of the bowels, which he has expreſſed by the word *ανοχω*, derived from the verb *ανεσχειν*, which ſignifies a retention of the ſtools.

It is to be obſerved by the way, that the euonymus of the Greeks could not be the ſame plant known at this time by that name, ſince the cattle eat our euonymus or *fuſanus* whenever they can get it, and that without any danger; but the deſcriptions of theſe plants in the ancient and modern authors ſhew alſo that they were very different.

ANOCTORON, in *Eccleſiaſtical Hiſtory*, a name uſed by ſome writers for a church.

Anoctora properly import Roman halls, divers of which were converted into churches. In which ſenſe *anoctora* amount to much the ſame with BASILICÆ.

ANOCYSTI, in *Natural Hiſtory*, the name of one of the ſubdiviſions of the ECHINUS genus, in the arrangement of Klein and other naturaliſts; conſiſting of ſuch as have the vent at the top of the ſhell, and all the tentacula ſimple, (ano verticali, tentaculis undique ſimplicibus). This is the firſt of the three principal diviſions of the echini in the Linnæan ſyſtem, by Gmelin; the ſecond is BRISSI of Müller, in which the vent is ſituated at the bottom of the ſhell, and the mouth deſtitute of tentacula; the third is SPATANGI of Müller, having the vent on the ſide, and the mouth furniſhed with pencilled tentacula. Each of theſe diviſions are again ſubdivided according to the ſhape of the ſhell. See ECHINUS.

ANODA, in *Botany*. See SIDA.

In Gmelin's edition of Linnæus, *anoda* is a genus of the *monadelphia polyandria* claſs and order; the characters of

which are, that the *calyx* is ſimple, ſemiquinquefid, permanent, and very much dilated by the ripe fruit; and the *capſule* is many-celled, above hemiſpherical, beneath ſtellate-plane, with ſingle-ſeeded cells. There are three ſpecies. 1. A. *dilleniana*, with triangular leaves, the lower crenated, the upper obſoletely crenated and petiolated, with peduncles axillary, ſingle-flowered, and very long. 2. A. *haſtata*, ſida crilata, with cordated, angulate leaves; the upper elongated and hadated, with very long, axillary, and ſingle-flowered peduncles. 3. A. *triloba*, with the inferior leaves cordated, ſomewhat angulate and crenated; the upper trilobed, with axillary, ſolitary, very long, and ſingle-flowered peduncles.

ANODYNE, derived from the privative α, and ὀδυναω, *doleo, to be in pain*, in *Phyſic*, is underſtood of ſuch remedies, as calm and aſſuage pain. It is now generally employed for thoſe medicines which relieve pain by diminiſhing or deſtroying ſenſibility; and in this ſenſe, the general term is allowable.

Anodynes are of two kinds; the firſt proper, called alſo *paregorics*. The ſecond ſpurious, or improper, which rather ſtupefy than alleviate; acting only by inducing a ſtupor, drowſineſs, or ſleep. Theſe are more properly called *narcotics*, *hypnotics*, or *opiates*.

The true *anodynes* are applied externally to the part affected. Such, among the claſs of ſimples, are the onion, lily, root of mallows, leaves of violets, elder, &c. Camphor is ſaid to be the beſt anodyne in nervous caſes, and at the decline of fevers.

Anodynes ſhould not be given without great caution, nor on a full ſtomach, nor in dropſies. Hemlock procures eaſe and ſleep, without cauſing that head-ach next morning, uſually complained of after taking opium. If the pulſe be ſtrong, a larger doſe is ſafe; if weak, a leſs doſe muſt be given.

We have alſo certain compound medicines in the ſhops, prepared with this intention, and called by this name. Such is the *anodyne liniment*, commonly called *anodyne balſam*, prepared in the following manner: take of opium one ounce, white Caſtile ſoap four ounces, camphor two ounces, eſſential oil of roſemary half an ounce, and rectified ſpirit of wine two pounds; digeſt the opium and ſoap in the ſpirit for three days; then to the ſtrained liquor add the camphor and oil, diligently ſhaking the veſſel. It is recommended not only for procuring eaſe in the moſt racking extremities of pain, but alſo for aſſiſting in diſcharging the peccant matters that occaſioned it. This balſam is much the ſame with the modern *opodeldoc*. A ready way of preparing an uſeful, ſafe, and efficacious *anodyne*, is as follows: take half an ounce of opium, diſſolve it in a gentle heat in three ounces of water, ſtrain the ſolution, and evaporate it to a dry ſubſtance; grind this to powder in a glaſs mortar with twice the quantity of loaf-ſugar, and you have an excellent preparation of opium, to be given three or four grains for a doſe. Shaw's Lect. p. 233.

By diſſolving the opium thus in water, we get rid, not only of its groſs and foul parts, but alſo of its reſinous, which are found much more pernicious than the reſt; and by dividing its parts afterwards with ſugar, the medicine is rendered more uniform, reſoluble, and miſcible with animal fluids.

But however opium is prepared, it ſtill muſt be acknowledged, that it retains qualities that make it little leſs than a poiſon in a very large doſe; whence it were much to be wiſhed ſomething could be found that would be more innocent, and yet anſwer the ſame purpoſe. And this camphor and nitre will do on many, though not on all occaſions.

An *anodyne* ointment may be prepared, by mixing ten drams of olive oil, half an ounce of yellow wax, and one dram of crude opium. Opium, thus externally applied, will in ſome degree produce the ſame effect, as when it is uſed under the form of anodyne balſam, in which ſtate it produces effects more immediately; but under this form, its effects are more permanent. The preſent ointment alſo furniſhes an uſeful dreſſing for ſores attended with ſevere pain. For Hoffman's anodyne, ſee LIQUOR *Mineralis Anodynus*.

ANOINTED. See CHRIST, and MESSIAH.

ANOINTERS, in *Eccleſiaſtical Hiſtory*, a religious ſect formerly ſubſiſting in ſome parts of England, ſo called from the ceremony they uſed in anointing all perſons before they admitted them into their church. They founded their opinion of anointing upon the fifth of James, verſes 14 and 15. See Plott's Oxfordſh. 208.

ANOINTING, *a term uſed by painters*. It implies their method of reſtoring the effect of the colours, after the oil has been drained out of them, by the abſorption of the ground of the picture, or the former coat or layer of colours, whilſt they were drying, termed improperly the ſinking of the colours. This anointing is performed by means of varniſh, oil, or both together, rubbed in with an hard hogs hair tool. Beſides reſtoring the appearance of the colours, it has another effect; that of diſpoſing the picture to receive with advantage the future touches of the bruſh or pencil. When the anointing is newly laid on, it promotes ſoftneſs and union; and when almoſt, but not perfectly dry, it diſpoſes the picture to receive ſmart or crank touches. Some painters have been more liberal in the quantity of varniſh, &c. in anointing than may be judicious; too much oil ſhould not be applied to the more brilliant and lighter parts of pictures; nor ſhould japanners' gold-ſize be introduced in anointing, unleſs with great caution.

Without an application of this nature, it would be almoſt impoſſible for the painter of delicate works to proceed with any degree of certainty. The beſt mixture for this purpoſe, is an equal quantity of ſtrong drying oil and maſtich varniſh united. This will retain its clammy nature long enough for the purpoſe of the artiſt, while he covers with paint the anointed portion.

Thoſe who proceed more ſlowly with the pencil than is uſual, will do well to uſe a little *fat* linſeed oil with the mixture we have mentioned, which will not ſo ſoon grow hard or dry. Gerrard Laireſſe, whoſe pictures retain their colours, has recommended this mixture with fat oil, upon retouching pictures; and this in a plentiful manner, in order that the picture may not require varniſhing. On the contrary, Mr. Bardwell recommends the anointing as neceſſary, but that almoſt the whole ſhould be wiped off with an old ſilk handkerchief, before the paint is applied to the picture. The glazing colours ſhould in general be applied with a liberal uſe of the anointing mixture; and thoſe colours which are uſed in the ſcumbling of pictures ſhould be employed more ſparingly. See GLAZING and SCUMBLING. Titian appears to have proceeded in this manner with his pictures, and to have thus produced his moſt admirable effects.

ANOLE, in *Zoology*, the name of a ſpecies of lizard common in the Weſt Indies, about houſes and plantations. It is of the ſize of the common lizard of Europe, but its head is longer; its ſkin is of a yellowiſh colour, and its back variegated with green, blue, and grey lines running from the neck to the tail. They creep into holes for the night, and there make a continual and very diſagreeable noiſe; in the day time, they are always in motion.

ANOLYMPIADES, in *Antiquity*, a name given by the Eleans to thoſe Olympic games which had been celebrated under

under the direction of the Piſæans and Arcadians. The Eleans claimed the ſole right of managing the Olympic games, in which they ſometimes met with competitors. The hundred and fourth Olympiad was celebrated by order of the Arcadians, by whom the Eleans were at that time reduced very low; this, as well as thoſe managed by the inhabitants of Piſa, they called *ανολυμπιαδας*, unlawful Olympiads, and left them out of their annals, wherein the names of the victors, and other occurrences, were regiſtered. Potter, Arch. Græc.

ANOMALA, in *Conchology*, a ſpecies of PATELLA, in the family "integerrimæ abſque vertice mucronato." It is a coarſe, brown, orbicular ſhell, with the vertex ſubmarginal; and inhabits the deeps of the Norway ſeas. Müll. This ſhell is minute and rough, with fine elevated dots; ſometimes of a cinereous colour, and blue beneath. The animal conſiſts of two reddiſh, tough, twiſted maſſes, which are fringed the whole length; the fringes are yellow, compoſed of rigid hairs, and connected with the reſt of the body by a blue tendon; the ovaries are ramoſe, and orange; the eggs globoſe. It is uncertain whether this ſhell belongs to the patella genus or not. Müll. Gmelin.

ANOMALISTICAL *Year*, in *Aſtronomy*, called alſo *periodical year*, is the ſpace of time in which the earth paſſes through her orbit.

The anomaliſtical, or common year, is ſomewhat longer than the tropical year; by reaſon of the PRECESSION of the equinox. The apſes of all the planets have a ſimilar progreſſive motion; whence they take a longer time in arriving at the aphelion, which has advanced a little, than in attaining to the ſame fixed ſtar. *E. G.* The tropical revolution of the ſun, with reſpect to the equinox, is $365^d\ 5^h\ 48'\ 45''$; but the ſidereal revolution, or return to the ſame fixed ſtar, is $365^d\ 6^h\ 9'\ 10\frac{1}{2}''$; and the anomaliſtic revolution is $365^d\ 6^h\ 15'\ 20''$, becauſe the ſun's apogee advances each year $65\frac{1}{2}''$ with reſpect to the equinoxes; and the ſun cannot arrive at the apogee till he has paſſed over $65\frac{1}{2}''$ more than the revolution of the year anſwering to the equinoxes. To find the anomaliſtic revolution, uſe this proportion: As the whole ſecular motion of a planet, *minus* the motion of its aphelion, is to 100 years, or 3155760000 ſeconds, ſo is 360° to the duration of the anomaliſtic revolution.

ANOMALOUS, *irregular*, ſomething that deviates from the ordinary rule and method of other things of the ſame kind.

The word is not compounded of the privative *α* and *νομος*, *law*, as is uſually imagined; for whence, on ſuch ſuppoſition, ſhould the laſt ſyllable *al*, ariſe? But it comes from the Greek *ανωμαλης*, *uneven*, *rough*, *irregular*, formed of the privative *α* and *ομαλος*, *plain*, *even*.

ANOMALOUS *verbs*, in *Grammar*, are ſuch as are irregular in their conjugations; deviating from the rules or formulas obſerved by others.

There are anomalous verbs, or irregular inflexions of verbs, in all languages. In the Engliſh, the chief irregularity of our anomalous verbs lies in the formation of the preter tenſe, and paſſive participle; though this only holds of the native Teutonic or Saxon words, and not of the foreign words, borrowed from the Latin, French, &c.

The principal irregularity ariſes from the quickneſs of our pronunciation, whereby we change the conſonant *d* into *t*, cutting off the regular ending *ed*.

Thus for *mixed*, we write *mixt* or *mix'd*; for *dwelled*, *dwelt*, or *dwell'd*; for *ſnatched*, *ſnatcht*, &c. But this property is rather of the nature of a contraction than an irregularity; and is complained of by ſome of our politer writers as an abuſe, to the diſadvantage of our language, tending to diſfigure it, and turn a tenth part of our ſmoothеſt words into cluſters of conſonants; which is the more inexcuſable, becauſe our want of vowels has been the general complaint of the beſt writers.

Another irregularity relates to the preter tenſe, and paſſive participle. Thus *give*, if it were regular, or formed according to the rule, would make *gived*, in the preter tenſe, and the paſſive participle; whereas it makes *gave* in the preter tenſe, and *given* in the paſſive participle.

ANOMALY, in *Grammar*, denotes an irregularity in the accidents of a word, whereby it deviates from the common rules of paradigms, whereby other words of the like kind are governed.

ANOMALY, in *Aſtronomy*, is an irregularity in the motion of a planet, whereby it deviates from the *aphelion* or *apogee*, or the angular diſtance of a planet from the APHELION or APOGEE; that is, the angle formed by the line of the apſides, and another line drawn through the planet.

Kepler diſtinguiſhes three kinds of *anomaly*; *mean*, *eccentric*, and *true*.

ANOMALY, *mean*, or *ſimple*, in the *Ancient Aſtronomy*, is the diſtance of a planet's mean place from the apogee, which Ptolemy calls the angle of mean motion.

In the modern aſtronomy, it is the time in which a planet, deſcribing an ellipſe APQ (*Plate* I. *Aſtronomy*, *fig.* 9.), round the ſun in the focus, moves from its aphelion A, to the mean place or point of its orbit P; or, it is the angular diſtance of the planet at a given time from the aphelion, ſuppoſing that it had moved uniformly with its mean angular velocity.

Hence, as the elliptic area ASP, is proportional to the time in which the planet deſcribes the arc AP; the area may repreſent the mean anomaly. Or thus, the area ASN, found by drawing a line IP through the planet's place, perpendicular to the line of the apſides AQ, till it cuts the circle AVQ, and drawing the line SN, may repreſent the mean anomaly; for this area is every where proportional to the former area ASP, as is demonſtrated by Dr. Gregory, Phil. Tranſ. N° 447. Or, if ST be drawn perpendicular to the radius NC produced, then the mean anomaly will be proportional to ST + the circular arc AN, as Keil has demonſtrated in his "Aſtronomical Lectures," Lect. II. Hence, if ND be taken equal to ST, the arc AD, or the angle ACD, will be the mean anomaly for practical purpoſes, expreſſed in the degrees of a circle; the number of thoſe degrees being to 360°, as the elliptic trilineal area ASP, is to the whole area of the ellipſe; and the degrees of mean anomaly are thoſe contained in the arc AD, or angle ACD.

ANOMALY *of the eccentric*, or *of the centre*, in the *Modern Aſtronomy*, is an arc AK, of the eccentric circle (*fig.* 9.), included between the aphelion A, and a right line NI, drawn through the centre of the planet P, perpendicularly to the line of the apſides AQ; or, it is the angle ACN at the centre of the circle. Hence the eccentric anomaly is to the mean anomaly, as AN to AN + ST; or, as AN to AD; or, as the angle ACN to the angle ACD.

In the *Ancient Aſtronomy*, it is an arc of the zodiac, terminated by the line of the apſides, and the line of the mean motion of the centre. See the methods of finding the *anomaly of the eccentric*, in Phil. Tranſ. N° 447.

ANOMALY, *true*, or *equated*, is the angle at the ſun ASP, under which a planet's diſtance AP from the aphelion appears; or, it is the angle or area, taken proportional to the time in which the planet moves from the mean place P, to its aphelion A; or, in other words, it is the angle formed by

the radius vector, or line SP, drawn from the ſun to the planet, with the line of the apſides.

Hence, in the ſun's motion, it will be the diſtance of his true place from the apogee.

The true *anomaly* being given, the mean one is eaſily found. But it is much more difficult to find the *true* anomaly from the *mean* anomaly given, at leaſt by any direct proceſs. Kepler, who firſt propoſed this problem, and from whom it is called "Kepler's Problem," could not find a direct method of reſolving it, and therefore uſed an indirect one, by the rule of falſe poſition; as may be ſeen in Kepler's Epitom. Aſtron. Copern. p. 695. See alſo Wolfius's Elem. Aſtron. apud Oper. § 692, &c. tom. iii. p. 47. For the angle ASP, which is the true anomaly, being given, the point P will be given, and conſequently the proportion of the area ASP to the whole ellipſe, or of the mean anomaly to 360°. For the further illuſtration of this ſubject, let a body move uniformly in the circle from A to D with the mean angular velocity of the body in the ellipſe, whilſt the body moves in the ellipſe from A to P; then, from what has been above ſtated, the angle ACD is the *mean*, and the angle ASP the *true* anomaly; and the difference of theſe two angles is called the equation of the planet's centre, or PROSTHAPHERESIS. Let p = the periodic time in the ellipſe or circle (the periodic times being ſuppoſed equal), and t = the time of deſcribing AP or AD; then, as the bodies in the ellipſe and circle deſcribe equal areas in equal times, about S and C reſpectively, we have the area ADC : area of the circle :: $t : p$, and area of the ellipſe : area ASP :: $p : t$; alſo the area of the circle : area of the ellipſe :: area ASN : area ASP; conſequently the area ADC : area ASP :: area ASN : area ASP, and hence ADC = ASN; from both which, let the area ACN, which is common, be taken away, and the area DCN = SNC; but DCN = $\frac{1}{2}$DN × CN, and SNC = $\frac{1}{2}$ST × CN; therefore ST = DN. Now if t be given, the arc AD will be given; for as the body in the circle moves uniformly, we have $p : t$ :: 360° : AD. Thus we always find the mean anomaly at any given time, provided that the time be known when the body was in the aphelion; hence, by finding ST or ND, we ſhall know the angle NCA, called the *eccentric* anomaly, from whence, by one proportion, we ſhall be able to find the angle ASP the *true* anomaly. The problem is therefore reduced to this; to find a triangle CST, ſuch, that the angle C + the degrees of an arc equal to ST may be equal to the given angle ACD. This may be expeditiouſly done by trial in the following manner, given by M. de la Caille in his Aſtronomy. Find what arc of the circumference of the circle ADQE is equal to CA, by ſaying, 355 : 113 :: 180° : 57° 17′ 44″, 8 the number of degrees of an arc equal in length to the radius CA: hence CA : CS :: 57° 17′ 44″, 8 : the degrees of an arc equal to CS. Aſſume, therefore, the angle SCT, multiply its ſine into the degrees in CS, and add it to the angle SCT, and if it equal the given angle ACD, the ſuppoſition was right; if not, add or ſubtract the difference to or from the firſt ſuppoſition, according as the reſult is leſs or greater than ACD, and repeat the operation, and in a very few trials you will obtain the accurate value of the angle SCT. The degrees in ST may be moſt readily obtained by adding the logarithm of CS to the logarithm of the ſine of the angle SCT, and ſubtracting 10 from the index, and the remainder will be the logarithm of the degrees of ST.

Having found the value of AN, or of the angle ACN, the *eccentric* anomaly, we may proceed to find the angle ASP, or the *true* anomaly.

Let v be the other focus, and put AC = 1; then by Euclid. b. ii. prop. 12. $\overline{SP^2 - Pv^2} = \overline{vS^2 + 2vS \times vI} = \overline{vS + 2vI} \times vS = 2Cv + 2vI \times 2SC = 2CI \times 2SC$; hence $SP + Pv : 2CI :: 2SC : SP - Pv$; or $2 : 2CI :: 2SC : \overline{SP - 2} - SP$, or $1 : CI :: SC : SP - 1$; hence $SP = 1 + CS \times CI = 1 + CS \times$ cof. ACN. By plain trigonometry, $\frac{1 - \text{cof. ASP}}{1 + \text{cof. ASP}} = \overline{\text{tang. } \frac{1}{2}\text{ASP}}^2$. See Mauduit's Trig. or Crackelt's Tranſl. ch. i. Th. 6. But SP, or $1 + CS \times$ cof. ACN : rad. = 1 :: SI, or CS + CI, or CS + cof. ACN : cof. ASP = $\frac{\text{CS} + \text{cof. ACN}}{1 + \text{CS} \times \text{cof. ACN}}$.

Hence $\overline{\text{tang. } \frac{1}{2}\text{ASP}}^2 \left(= \frac{1 - \text{cof. ASP}}{1 + \text{cof. ASP}}\right) =$

$$\frac{1 + \text{CS} \times \text{cof. ACN} - \text{CS} - \text{cof. ACN}}{1 + \text{CS} \times \text{cof. ACN} + \text{CS} + \text{cof. ACN}} =$$

$$\frac{1 - \text{CS} + \text{cof. ACN} \times \overline{\text{CS} - 1}}{1 + \text{CS} + \text{cof. ACN} \times \overline{\text{CS} + 1}} = \frac{\text{SQ} - \text{cof. ACN} \times \text{SQ}}{\text{SA} + \text{cof. ACN} \times \text{SA}} =$$

$$\frac{1 - \text{cof. ACN}}{1 + \text{cof. ACN}} \times \frac{\text{SQ}}{\text{SA}} = \text{(by the above theorem in Trigon.)}$$

$\overline{\text{tang. } \frac{1}{2}\text{ACN}}^2 \times \frac{\text{SQ}}{\text{SA}}$; therefore $\sqrt{\text{SA}} : \sqrt{\text{SQ}}$ :: tang. $\frac{1}{2}$ACN : tang. $\frac{1}{2}$ASP; conſequently, as ACN is known, we obtain ASP the *true* anomaly. *E. G.* Required the true place of Mercury on Auguſt 26, 1740, at noon, the equation of the centre, and its diſtance from the ſun. By M. de la Caille's Aſtronomy, Mercury was in its aphelion on Auguſt the 9th at 6^h 37′. Hence, on Auguſt the 26th, it had paſſed its aphelion 16^d 17^h 23′; therefore, 87^d 23^h 15′ 32″ (the time of one revolution): 16^d 17^h 23′ :: 360° : 68° 26′ 28″, the arc AD, or mean anomaly. Now (according to this author), CA : CS :: 1011276 : 211165 :: 57° 17′ 44″, 8 : 11° 57′ 50″ = 43070″, the value of CS reduced to the arc of a circle, the log. of which is 4.6341749. Alſo, 68° 26′ 28″ = 246388″. Aſſume the angle SCT to be 60° = 216000″, and the operation to find the angle ACN will ſtand thus:

4.6341749			
9.9375306	log. of	-	216000 = a
4.5717955	-	-	37300
			253300
			246388
			6912 = b
4.6341749			
9.9287987	-	-	209088 = $a - b$ = 58° 4′ 48″ = c
4.5629736	-	-	36557
			245645
			246388
			743 = d
4.6341749			
9.9297694	-	-	209831 = $c + d$ = 58° 17′ 11″ = e
4.5639443	-	-	36639
			246470
			246388
			82 = f

4.6341749		
9.9296626	- -	$209749 = e - f = 58° 15' 49'' = g$
4.5638375	- -	36630
		256379
		246388
		$9 = b$

Hence, as the difference between the value deduced from the assumption and the true value is now diminished about 9 times every operation, the next difference would be 1″; if, therefore, we add b to g, and then subtract 1″, we get 58° 15′ 57″ for the true value of the angle ACN, the *eccentric* anomaly. Hence we may find the true anomaly ASP from the proportion above given, by logarithms, in the following manner:

Log. tang. 29° 7′ 58″½ ($\frac{1}{2}$ACN) - - -	9.7461246
$\frac{1}{2}$ Log. SQ = CA − CS = 1011276 − 211165	2.9515751
	12.6976997
$\frac{1}{2}$ Log. SA = CA + CS = 1011276 + 211165 = 122441 - - - - - - -	3.0436141
Log. tang. 24° 16′ 15″ ($\frac{1}{2}$ASP) - -	9.6540856

Hence the *true* anomaly is 48° 32′ 30″. Since the aphelion A was in 8ˢ 13° 54′ 30″, the true place of Mercury was 10ˢ 2° 27′. And hence 68° 26′ 28″ − 48° 32′ 30″ = 19° 53′ 58″, the *equation of the centre*. Also SP = 1 + CS × cos. ACN = 1, 16983 the distance of Mercury from the sun, the radius of the circle, or the mean distance of the planet, being unity.

As the bodies at D and P are supposed to have departed from A at the same time, and will coincide again at Q, ADQ and APQ being performed in half the time of a revolution; and as at A the planet moves with its least angular velocity, therefore from A to Q, or in the first six signs of anomaly, the angle ACD will be greater than ASP, or the *mean* will be greater than the *true* anomaly; but from Q to A, or in the last six signs, as the planet at Q moves with its greatest angular velocity, the *true* will be greater than the *mean* anomaly. When the eccentricity, and consequently the angle NCD, is very small, as in the orbits of Venus and the earth, ND, considered as very nearly a straight line, will be equal and parallel to ST; in which case SD is parallel to CN, and consequently the angle NCD = CDS. In the triangle DCS, the two sides DC and CS, and the included angle DCS, the supplement of DCA, are known; and hence we can find the angle CDS or DCN. If DCN be not greater than 1½°, the conclusion will be accurate to a second. When the angle DCN is not very small, M. Cassini, in his "Elements of Astronomy," p. 144, has given the following method of finding it: draw Dz perpendicular to ST, and Tz is the sine of the arc DN; consequently Sz is the difference between the arc DN and its sine, or between the arc of the angle CDS and its sine; compute, therefore, the angle CDS, and from a table shewing the difference between the arcs of a circle and their sines, to a given radius, take the difference between the arc and its sine; say SD : Sz :: rad. : sine SDz, which subtract from the angle SDC, and you have the angle zDC, or the alternate angle DCN. The rest of the operation is the same as before.

E. G. To find the *true* anomaly of Mercury, the *mean* being 60°. Let the mean distance of Mercury be 100000, and the eccentricity CS will be 20878, according to Cassini; hence, in the triangle DCS, DC = 100000, CS = 20878, and the angle DCS = 120°; therefore DC = 111905, and the angle SDC = 9° 17′ 52″, corresponding to which, in such a table as that just mentioned, will be the value of Sz = 7120; hence, 111905 : 71 :: rad. : sine of SDz = 2′ 11″, which, subtracted from 9° 17′ 52″, leaves 9° 15′ 41″ for the angle DCN, which, subtracted from 60°, leaves 50° 44′ 19″ for the angle NCA. Hence,

Log. tang. 25° 22′ 9″ - - - - -	9.6759392
$\frac{1}{2}$ Log. SQ = 79122 - - - - -	2.449.486
	12.125087 8
$\frac{1}{2}$ Log. SA = 120878 - - -	2.5411738
Log. tang. 20° 59′ 18″ - - - - -	9.5839140

Consequently the true anomaly is 41° 58′ 36″; and the equation of the centre is 18° 1′ 24″.

The first geometrical solution of Kepler's problem, was that of Dr. Wallis, by means of the protracted cycloid; which was also effected in a similar manner by Sir Isaac Newton, Principia, lib. i. prop. 31. But these methods being unfit for the purpose of the practical astronomer, many approximations have been given by various series; of these, several have been proposed by Sir Isaac Newton in his "Fragmenta Epistolarum," p. 26; and also in the scholium to the proposition above-mentioned, which is the best, as it is adapted not only to the planets, but also to the comets, whose orbits are very eccentric. Dr. Gregory, in his "Astron." lib. iii. has also given the solution by a series; as well as M. Reyneau, in his "Analyse Demontrée," p. 713, &c. The method ascribed by some writers to Dr. Seth Ward, professor of astronomy at Oxford, and published in his "Astronomia Geometrica," in 1654, though M. de la Lande observes, that it is given both by Ward and Mercator to Bullialdus, is less accurate than such as have been already given in this article; and yet it may serve, in many cases, as an useful approximation. He assumed (*fig.* 10.) the angular velocity about the other focus v to be uniform, which is not strictly true, and therefore made it represent the mean anomaly. Produce vP, and take $Pr = PS$; then in the triangle Svr, $rv + vS : rv - vS ::$ tang. $\frac{1}{2}\overline{vSr + vrS}$: tang. $\frac{1}{2}\overline{vSr - vrS}$; but $\frac{1}{2}\overline{rv + vS} = \frac{1}{2}AQ + \frac{1}{2}vS = AS$, and $\frac{1}{2}\overline{rv - vS} = \frac{1}{2}AQ - \frac{1}{2}vS = SQ$; also tang. $\frac{1}{2}\overline{vSr + vrS}$ = tang. $\frac{1}{2}$ AvP, and $\frac{1}{2}\overline{vSr - vrS} =$ (as $Pr = PS$) $\frac{1}{2}\overline{vSr - PSr} = \frac{1}{2}$ASP. Hence the aphelion distance : the perihelion distance :: tang. of ½ the *mean* anomaly : tang. ½ *true* anomaly. This is called "the simple elliptic hypothesis," and was used by Dr. Halley in constructing his "Tabula pro expediendo calculo æquationis centri Lunæ." This method is not sufficiently accurate, when the orbit is very eccentric, as in that of the planet Mars, which Bullialdus has shewn in his defence of the "Philolaic Astron." against Dr. Ward. However, when Newton's correction is made, as in the scholium above-mentioned, and the problem resolved according to Ward's hypothesis, Sir Isaac affirms, that, even in the orbit of Mars, there will scarce ever be an error of more than one second.

Although the indirect methods above given, are in general the best for practice, we shall here subjoin the direct method of Dr. Keill, as the most simple, and because it may frequently be applied to advantage. Let the arc ND (*fig.* 9.) = y, e = the sine of AD, f = the cosine, SC = g. Then by trigonometry, the sine of NA $= y - \frac{y^3}{2.3} +$ &c. and cosine $= 1 - \frac{y^2}{2} + \frac{y^4}{2.3.4} -$ &c. hence the sine of AN $= e -$

fy

$f = 1 - \frac{e^2}{2} + \frac{e^4}{2.3.4}$ - &c. Alfo rad. = 1 : fin. AN or ∠ SCT :: SC = g : ST or ND or $y = ge - gfy - \frac{gey^2}{2} + \frac{gfy^3}{3} + \frac{gey^4}{2.3.4}$ − &c. hence $ge = y + gfy + \frac{gey^2}{2} - \frac{gfy^3}{2.3} - \frac{gey^4}{2.3.4}$ + &c. Put $ge = z$, $1 + gf = a$, $\frac{ge}{2} = b$, $\frac{gf}{2.3} = c$, $\frac{ge}{2.3.4} = d$, &c. hence $z = ay + by^2 - cy^3 - dy^4$ + &c. and by the reverfion of feries, $y = \frac{z}{a} - \frac{bz^2}{a^3} + \frac{2b^2 - ac}{a^5} \times z^3 - \frac{5ab^2 - 5abc + a^2 d}{a^7} \times z^4$ &c. but $b = \frac{ge}{2} = \frac{z}{2}$, $d = \frac{z}{2.3.4}$, &c. therefore $y = \frac{z}{a} - \frac{z^3}{2a^3} + \frac{cz^3}{a^4} - \frac{5cz^5}{2a^6}$ &c. If the arc AN be greater than 90° and lefs than 270°, f becomes negative, and therefore gf or c will be negative; hence $y = \frac{z}{a} - \frac{z^3}{2a^3} - \frac{cz^3}{a^4} + \frac{5cz^5}{2a^6}$ &c. Now to reduce the value of y into degrees, we know that an arc equal to radius, or unity, is equal to 57.29578 degrees = r; hence 1 : r :: $\frac{z}{a} - \frac{z^3}{2a^3} + \frac{cz^3}{a^4}$ − &c. : the degrees of the arc $y = \frac{rz}{a} - \frac{rz^3}{2a^3} + \frac{rcz^3}{a^4}$ − &c. For the orbit of the earth, the firft term will be fufficient, not differing from the truth the ten thoufandth part of a degree. In other cafes it may be neceffary to take more terms.

Ex. Let the eccentricity of the earth's orbit be 0.01691, the mean diftance being = 1, and the mean anomaly 30°; to find the true anomaly.

Log. of g - - - -	8.2281436
Log. fin. of e = 30° - -	9.6989700
Log. of r - - - -	1.7581226
Log. of rge, or rz - -	9.6852362
Log. of a - - - -	0.0063137
Log. of $\frac{rz}{a}$ - - - -	9.6789225 - - the

natural number correfponding to which, being a decimal, is 0°, 47744 = 28′ 38″ = y, which is true to a fecond; therefore AN = 29° 31′ 22″; hence

Log. tan. 14° 45′ 41″ -	9.4207651
½ Log. SQ = 98309 -	2.4962966
	11.9170617
½ Log. SA = 101691 -	2.5031412
Log. tan. 14° 32′ 25″ - -	9.4139205

Hence the *true* anomaly is 29° 4′ 50″; confequently the equation of the centre is 55′ 10″. See Keill's Aftronomical Lectures, Lecture xxii. Vince's Aftronomy, vol. i. p. 104—112.

ANOMIA, in *Conchology*, the name of an extenfive genus of bivalves, of which fome of the foffil fpecies were firft defcribed by Columna, as conchæ rariores anomiæ. The name *anomia* was retained by Woodward in his arrangement of foffil fhells; after which three of the recent fpecies were figured and defcribed by Gualteri, in his new genus terebratula; but Linnæus adopted the name Columna had given to the foffil kinds in preference to terebratula; and it has been in general adhered to by later conchologifts, in defcribing the recent as well as foffil kinds of this family of fhells.

The genus anomia is concifely defined by fome authors as a fhell inequivalve, one valve gibbous towards the beak, the other flat, and perforated near the hinge. The character in the Syftema Naturæ, is the fhell inequivalve, one valve being flattifh, and the other gibbous at the bafe, and one of them ufually perforated near the bafe; the hinge has a linear prominent cicatrix, and a lateral tooth within on the margin of the flat valve, and there are two bony rays for the bafe of the animal. The animal, which had been very imperfectly known, is defcribed by Gmelin, from which it appears to be of a new genus; the body is thin and flender, emarginated, and ciliated or fringed; the hairs affixed to the upper valve; and it has two arms, which are linear and longer than the body. Some conchologifts feparate the foffil kinds from thofe which are found in a recent ftate. Linnæus, and after him, Gmelin, arrange them together in the following order: craniolaris, pectinata, ephippium, cepa, electrica, fquamula, patelliformis, fcobinata, aurita, retufa, gryphus, pecten, ftriatula, truncata, reticularis, plicatella, crifpa, lacunofa, pubefcens, fareta, caput ferpentis, terebratula, angulata, hyfterita, biloba, placenta, fella, fpinofa, aculeata, muricata, fquama, punctata, undulata, capenfis, detruncata, fanguinolenta, vitrea, cranium, dorfata, pfittacea, tridentata, fpondylodes, ventricofa, gryphoides, flexuofa, rugofa, cylindrica, nucleus, avenacea, & fandalium, which fee refpectively.

ANOMOEANS, Anomoei, in *Church Hiftory*, a fect of Chriftians who denied any fimilitude between the effence of the Father and that of the Son. See Trinity.

The word is compofed of the privative α, and ομοιος, *fimilar, refembling*; q. d. *different, diffimilar*.

Anomœans was the name whereby the pure Arians were diftinguifhed in the fourth century, becaufe they not only denied the confubftantiality of the Word, but even afferted, that he was of a nature different from that of the Father; in contradiftinction to the Semi-Arians, who indeed denied the confubftantiality of the Word, but who owned, at the fame time, that he was like the Father. The Semi-Arians condemned the Anomœans in the council of Seleucia; and the Anomœans condemned the Semi-Arians in the council of Conftantinople and Antioch, erafing the word ομοιος, *like*, out of the formula of Rimini and that of Conftantinople.

ANOMORHOMBOIDA, in *Natural Hiftory*, the name of a genus of fpars.

The word is derived from ανωμαλος, *irregular*; and ρομβοιδης, a *rhomboidal figure*.

The bodies of this genus are pellucid cryftalline fpars of no determinate regular external form, but always breaking into regularly rhomboidal maffes; eafily fiffile, and compofed of plates running both horizontally and perpendicularly through the maffes, but cleaving more readily and evenly in an horizontal than in a perpendicular direction; the plates being ever compofed of irregular arrangements or rhomboidal concretions.

Of this genus there are five known fpecies, which have all, in fome degree, the double refraction of the ifland cryftal.

ANONA, in *Botany*. See Achras, Annona, Chrisophyllum, Cratæva, and Sloanea.

ANONIS, fee Glycine, Hedisarum, Ononis, and Sophora.

ANONIUM, in *Ancient Geography*, a town of the northern part of Italy, belonging to the Euganians, to the weft of Venetia.

ANONUS *Fons*, a fountain of Laconia, according to Pauſanias, ſituate near mount Taygeta.

ANONYMA, in *Conchology*, a ſpecies of OSTREA. The ſhell is rather oblong, with narrow ſcaly rays; the interſtices broad, with perpendicular lines; and the ears with perpendicular wrinkles. Liſt. Gmelin. It is variegated with angular ſtreaks and ſpots.

ANONYMOS. See CHELONE.

ANONYMOUS, formed of the privative *α*, and *ονομα*, *name*, ſomething that is nameleſs, or to which no name is affixed.

The term is chiefly applied to books which do not expreſs their author's name, and to authors whoſe names are unknown. Decker, advocate of the imperial chamber of Spires, and Placcius of Hamburg, have given treatiſes of anonymous books. Burc. Gotth. Struvius treats of the learned men who have endeavoured to inveſtigate the authors of anonymous books.

ANONYMOUS, in *Anatomy*, a name ſometimes given to parts newly diſcovered, or firſt taken notice of.

ANONYMOUS is alſo an appellation anciently given to the ſecond cartilage of the throat, by later writers, called *cricoides*, or *annuliformis*.

ANONYMOUS, in *Commerce*. Partnerſhips in trade in France are ſtyled anonymous, when they are not carried on under any particular name, but wherein each of the partners trades viſibly on his own account, and in his own name; after which all the partners give one another an account of their profit or loſs in trade. Theſe ſorts of partnerſhips are concealed, and known only to the parties themſelves.

ANONYMOUS *partnerſhips in trade*, are alſo in France ſuch wherein perſons of fortune and quality depoſit ſums of money, in order to ſhare the profits and loſs. To this end thoſe who furniſh the capital have no trouble in carrying on the trade, nor do their names appear to be any way intereſted therein.

ANONYMOUS, in *Law*. The ſending *anonymous* letters, or letters with a fictitious name, demanding money, &c. or threatening, without any demand, to kill any of the king's ſubjects, or to fire their houſes, out-houſes, barns, or ricks, is felony by the BLACK *Act*, 9 Geo. I. cap. 22. Amended by ſtatute 27 Geo. II. cap. 15. This offence was formerly high treaſon by the ſtatute 8 Hen. 5. c. 6.

ANOPOEA, in *Ancient Geography*, a mountain of Greece, being part of the chain of mountains, called Oeta. A ſmall paſs in this mountain formed a communication between Theſſaly and the country of the Epicnemidian Locrians.

ANOPOLIS, an appellation given to the town of Arcades in the iſle of Crete. Steph. Byz.

ANOPSHEER, in *Geography*, a town of Hindoſtan, in the province of Oude, 50 miles eaſt-ſouth-eaſt of Delhi. N. lat. 28° 20′. E. long. 78° 38′.

ANOREXY, ANOREXIA, in *Medicine*, loſs of appetite, or loathing of food.

The word is compounded of the privative *α*, and *ορεγω*, *appeto, I deſire*.

Anorexia is ſeldom an idiopathic diſeaſe, but a frequent attendant on many.

Cauſes.—It is preſent, in ſome degree, in all febrile complaints, and then uſually attended by a furr on the upper ſurface of the tongue, which commonly indicates its intenſity; for, as the furr diſappears, the appetite returns. It occurs in jaundice; and accompanies a weakneſs in the organs ſubſervient to digeſtion and chylification. Perſons addicted to the abuſe of ſpirituous liquors are ſeldom free from it. The ſight of any ſhocking accident, diſtreſſing news, depreſſing paſſions, or the being preſent at any ſurgical operation, will often aboliſh the appetite of a perſon, even when longing for his dinner.

A ſymptom depending, on ſo many cauſes, muſt require conſiderable diverſity in the

Treatment.—When it is ſymptomatic of other diſeaſes, the cure cannot be effected without that of the original complaint. When it ariſes from the habit of drinking ſpirits, taking opium, tobacco, or any other poiſon, the cuſtom muſt be relinquiſhed, and the digeſtive organs invigorated by ſtomachics. See DYSPEPSIA.

ANOSMIA, denotes a diminution or abolition of the ſenſe of ſmell. It is either organic, owing to a diſeaſe in the membrane lining the internal parts of the noſtrils, and varying according to the nature of the diſeaſe; or atonic, without any evident diſeaſe of the membrane of the noſe. See SMELLING.

ANOSSI, CARCAUSSI, or ANDROBEIZAHA, in *Geography*, a province of Madagaſcar, ſituate in S. lat. 23° 18′; and extending from the province of Manatengha to the river Mandrerei in 26°. This province is watered by ſeveral rivers, that run into the Franchere, Ramevate, or Immour, which riſes in the mountain Manghage, and diſcharges itſelf into the ſea, in S. lat. 25° 18′, two ſmall leagues from Port Dauphin. At its mouth is formed a lake, called Amboue, half a league wide, and of ſufficient depth for any ſhip. Crocodiles breed in this river, and in every other in the iſland. The cape, which is half a league diſtant from the mouth of the Franchere, is called by the French St. Romain, and by the negroes, Cape Ranevate, or Hehoale. The coaſt beyond this cape forms a bay, in the middle of which the land runs out in a peninſula, to the north of which lies Fort Dauphin, and over againſt it Port Dauphin: this bay is called by the French Dauphin Bay; and it is convenient for ſhipping and boats, which may ride here very ſafely. This province includes ſeveral iſlands and peninſulas along the coaſt. The country is beautiful, and fertile in paſtures for cattle, abounds in fruit-trees, and, if carefully cultivated, would afford every neceſſary of life. It is ſurrounded by high mountains, and diverſified by numerous hillocks and fruitful plains. The moſt remarkable towns are Franchere, Imanhal, Cocombes, Andravoule, Ambonnettanha, Maromamou, Imours, Marufoutouts, and Fananghaa, beſides ſeveral villages and hamlets throughout the country. The mountains are covered with wood and ſhrubs; but about four leagues diſtant from Fort Dauphin, the adjacent hills are quite deſtitute of trees. The inhabitants of the province are whites and negroes. The whites form three eſtates, or different degrees; and are diſtinguiſhed by the names of Rohandrians, Anacandrians, and Ondzatſi; the negroes are alſo ſubdivided into four claſſes, *viz.* Voadziri, Lohavohits, Ontſoa, and Ondeves. Theſe people have neither religion nor temple; they keep up a cuſtom of immolating beaſts on particular occaſions, in ſickneſs, on planting yams or rice, on the circumciſion of children, declarations of war, firſt entry into new-built houſes, and on the funerals of their parents. They offer the firſt born-beaſt to the devil and to God, naming the devil firſt in this manner, "Dianbilis Aminan-habare, or lord-devil and God." The country ſeems to have been originally inhabited by negroes; and the whites took poſſeſſion of it about 200 years ago; but they were ſubdued by the French. In 1642, Capt. Rivault obtained leave from Cardinal Richelieu to eſtabliſh a colony here; and the French, who, after ſome oppoſition, ſettled here, built Fort Dauphin, which is advantageouſly ſituated, as it is ſheltered from dangerous winds, and its entrance is convenient for all ſorts of ſhipping. The natives, however, after ſome years of tranquillity and ſocial intercourſe, became jealous of the French, and formed a conſpiracy to cut off all the French in

one

one day, which they carried into effect. The Fort Dauphin, which was erected in 1644, was accidentally deſtroyed by fire in 1656, but it was ſoon after repaired; and its garriſon is thus enabled to carry on frequent wars with the natives. Mod. Un. Hiſt. vol. xi. p. 397, &c. See MADAGASCAR.

ANOTTA, in *Botany*. See BIXA.

ANOTTA *Bay*, in *Geography*, a bay on the north coaſt of the iſland of Jamaica. N. lat. 18° 19'. W. long. 76° 33'.

ANOUPEC, the name of a range of mountains in the Birman empire, between Ava and Arracan.

ANOUT. See ANHOLT.

ANPITS, in the *Military Art*, in ſome *Middle Age Writers*, denotes a breaſt-work, anſwering to what is otherwiſe called *barbacan*.

ANREDERA, in *Botany*, a genus of the *pentandria digynia* claſs and order: the characters of which are, that the *calyx* is bipartite, with the laciniæ carinated at the back; and it has one *ſeed* covered by a membranaceous, compreſſed, and two winged calyx. There is one ſpecies, viz. *andredra ſpicata*.

ANSA, or AUSA, in *Geography*, a river which paſſes by Aquilea, in the country of Friuli; and runs into the Adriatic, between Grado and Marano.

ANSÆ, ANSES, in *Aſtronomy*, thoſe apparently prominent parts of the planet Saturn's ring, diſcovered in its opening, and appearing like handles to the body of that planet. The Latin word literally ſignifies *handles*, or *ears*, of divers utenſils.

ANSANI, GIOVANI, in *Biography*. See GIOVANI.

ANSARS, or ANSARIANS, in *Geography*, a people of Syria, employed in cultivation; and called in that country by the plural name Anſaria; in Deliſle's maps, Enſyrians; and in thoſe of D'Anville, Naſſaris. The territory which theſe people occupy, is that chain of mountains which extends from Antakia to the rivulet called Nahr-el-Kabir, or the great river. The hiſtory of their origin, though little known, is inſtructive. The following account is given in the words of a writer (Aſſemani, Biblioth. Orient.), who has drawn his materials from the beſt authorities. "In the year of the Greeks, 1202 (A. D. 891.), there lived, at the village of Naſar, in the environs of Koufa, an old man, who, from his faſtings, his continual prayers, and his poverty, paſſed for a ſaint: ſeveral of the common people declaring themſelves his partiſans, he ſelected from among them twelve diſciples to propagate his doctrine. But the magiſtrate of the place, alarmed at his proceedings, ſeized the old man, and confined him in priſon. In this reverſe of fortune, his ſituation excited the pity of a girl who was ſlave to the gaoler, and ſhe determined to give him his liberty. An opportunity ſoon offered to effect her deſign. One day, when the gaoler was gone to bed intoxicated, and in a profound ſleep, ſhe gently took the keys from under his pillow, and, after opening the door to the old man, returned them to their place unperceived by her maſter: the next day, when the gaoler went to viſit his priſoner, he was extremely aſtoniſhed at finding he had made his eſcape; and the more ſo, ſince he could perceive no marks of violence. He therefore judiciouſly concluded he had been delivered by an angel, and eagerly ſpread the report, to avoid the reprehenſion he merited; the old man, on the other hand, aſſerted the ſame thing to his diſciples, and preached his doctrines with more earneſtneſs than ever. He even wrote a book, in which, among other things, he ſays: 'I, ſuch a one, of the village of Naſar, have ſeen Chriſt, who is the word of God, who is Ahmad, ſon of Mohammad, ſon of Hanafa, of the race of Ali; who alſo is Gabriel; and he ſaid to me: Thou art he who readeth with underſtanding; thou art the man who ſpeaketh truth; thou art the camel which preſerveth the faithful from wrath; thou art the beaſt which carrieth the burden; thou art the Holy Spirit, and John the ſon of Zachary; go, and preach to men that they make four genuflexions in praying; two before the riſing of the ſun, and two before his ſetting, turning their faces towards Jeruſalem; and let them ſay three times, God Almighty, God moſt high, God moſt great; let them obſerve only the ſecond and third feſtival; let them faſt but two days annually; let them not waſh the prepuce, nor drink beer, but as much wine as they think proper; and, laſtly, let them abſtain from the fleſh of carnivorous animals.' This old man, paſſing into Syria, propagated his opinions among the lower orders of the country people, numbers of whom believed in him. And, after a few years, he went away, and nobody ever knew what became of him."

Such was the origin of the Anſarians, who are, for the moſt part, inhabitants of the mountains before mentioned. They are divided into ſeveral tribes or ſects; ſuch as the Shamſia, or adorers of the ſun; the Kelbia, or worſhippers of the dog; and the Kadmouſia, who pay a particular homage to that part in woman which correſponds to the priapus; and who hold nocturnal aſſemblies, in which, it is ſaid, after certain diſcourſes, they extinguiſh the light, and indulge promiſcuous luſt. Many of the Anſarians believe in the metempſychoſis; others reject the immortality of the ſoul; and, in general, ſuch are the anarchy and ignorance that prevail among them, they adopt any opinions which they think proper, following the ſect they like beſt, and frequently attaching themſelves to none.

Their country is divided into three principal diſtricts, farmed by the chiefs called Mokaddamin. Their tribute is paid to the pacha of Tripoli, from whom they annually receive their title. Their mountains are, in general, not ſo ſteep as Lebanon, and, conſequently, are better adapted to cultivation: but they are alſo more expoſed to the Turks; and hence it happens, that, with greater plenty of corn, tobacco, wines, and olives, they are more thinly inhabited than thoſe of their neighbours the Maronites and the Druzes. Volney's Travels in Egypt and Syria, vol. ii. § 1. p. 1—8.

ANSARIUM, in the *Civil Law*, a duty impoſed on all proviſions carried in veſſels with *anſæ*. This was otherwiſe called *anſurium*, and the collectors of it *anſuri*.

ANSATUM *Telum*, according to ſome, denotes a dart or javelin, with an *amentum* faſtened to it.

Others rather take the *anſæ* of a javelin to be thoſe two eminences about the middle of the *cuſpis*, or point, which hinders the weapon from piercing through the whole body. The Tartars are obliged to put their names to their arrows, that the hand which ſhoots them may be known. When Philip of Macedon was wounded at the ſiege of a certain town, theſe words were found on the javelin, "After has given this mortal wound to Philip."

ANSATUS, in *Conchology*, a ſpecies of MUREX. It is brown, tranverſely ſtriated; ſpire ſharp-pointed; whorls convex, diſtant, and knotty at the baſe; beak long. Gmelin. The length of this ſhell is about five inches and an half, and the ſtriæ are large and ſmall alternately.

ANSAUVILLERS, in *Geography*, a town of France, in the department of the Oiſe, and chief place of a canton, in the diſtrict of Breteuil, five miles ſouth-ſouth-eaſt of Breteuil.

ANSCHARIUS, in *Biography*, biſhop of Hamburgh and Bremen, was born in 801, in France, at Corbia, in the dioceſe of Amiens. He was recommended by the emperor Louis as apoſtolic miſſionary to Harold king of Denmark, who had been lately converted to the Chriſtian faith; and by his preaching he made many proſelytes among the Danes. Under the authority of Olave, king of Sweden, he undertook the inſtruction of his ſubjects in the Chriſtian religion,

religion, but with leſs ſucceſs. By the council held at Aix-la-Chapelle, in 832, an epiſcopal ſee was inſtituted at Hamburgh, and Anſcharius was its firſt biſhop. When his church was burnt by the Normans, in 845, the ſee of Bremen was added to that of Hamburgh; and Anſcharius removed to Bremen, where he reſided till his death, in 865. He wrote the life of Willihad, the firſt biſhop of Bremen; and his own life written by Mabillon, is reprinted by Fabricius, in his "Memoires pour l'Hiſtoire de Hambourgh."

ANSCOTE, in our *Ancient Law Books*, the ſame with *anblote*. See SCOT.

ANSE, in *Geography*, a town of France in the department of the Rhone and Loire, and chief place of a canton in the diſtrict of Villefranche; four leagues north of Lyons.

ANSEL *Weight*, See AUNCEL *weight*.

ANSELM, in *Biography*, archbiſhop of Canterbury, was born at Aouſta in Piedmont, A. D. 1034, of noble and pious parents, who were at great pains to give him a good education. Having loſt his mother Ermengarda when he was about ſeventeen years of age, he abandoned his ſtudies, and indulged his youthful paſſions to ſuch a degree, that his father refuſed to ſee him, or admit him into his houſe, on which he left his native country, and travelled into France. After ſome time, attracted by the fame of Lanfranc, he ſettled at the abbey of Bec, and proſecuted his ſtudies with ſuch ardour under that great maſter, that he ſoon excelled all his fellow ſtudents in learning. In the year 1060, he became a monk of the Benedictine order, and in three years after he ſucceeded Lanfranc, both as prior and teacher of the ſciences; in both which ſtations he acquitted himſelf ſo much to the ſatisfaction of the ſociety, that he was unanimouſly elected abbot on the firſt vacancy, A. D. 1078. The abbey of Bec had ſeveral eſtates in England, which obliged Anſelm ſometimes to viſit this kingdom; and in theſe viſits he gained the friendſhip of ſeveral of the greateſt men. He happened to be here in the year 1093, when William II., in a fit of ſickneſs, was prevailed upon to fill the ſee of Canterbury, which had been kept four years vacant, and nominated him to that high office. After a long and obſtinate oppoſition to his own advancement, in which his ſincerity has been ſuſpected, he was forced into the chamber of the ſick monarch, who, in a very pathetical manner, aſked "Why he endeavoured to ruin him in the next world, which would infallibly follow, in caſe he died before the archbiſhopric was filled?" The abbot ſtill perſiſted in his refuſal, kneeling, weeping, and entreating the prince to change his purpoſe. The paſtoral ſtaff was at length forced into his hand, and he ſuffered himſelf to be inveſted with his office; not, however, before he had obtained a promiſe of the reſtitution of all the lands which were in the ſee in the time of Lanfranc. The temporalities of the archbiſhop being ſecured, Anſelm ſubmitted to do homage to the king, and was conſecrated on the fourth of December 1093. Soon after his conſecration, the king intending to wreſt the duchy of Normandy from his brother Robert, and endeavouring to raiſe what money he could for the purpoſe, Anſelm offered him a voluntary gift of five hundred pounds, which the king thought too ſmall, and refuſed to accept. "I entreat your highneſs," ſaid Anſelm, "to accept the preſent; it will be more honourable in you to receive a leſs ſum with my conſent than to extort a greater by force. If your highneſs allow me the freedom and privilege of my ſtation, my perſon and fortune ſhall be at your ſervice; but if I am treated like a ſlave, I ſhall be obliged to ſtand aloof, and keep my fortune to myſelf." The offer was, however, for the preſent, rejected; and when it was afterwards hinted to Anſelm, that a repetition of it might conciliate the royal favour, he anſwered, "God forbid that I ſhould ſuppoſe my ſovereign's favour may be purchaſed with a ſmall ſum of money, like a horſe at a fair! Perſuade the king not to ſet a price on his favour, but to treat me, on honourable terms, as his ſpiritual father, and I am ready to pay him the duty of a ſubject. As for the five hundred pounds, which he was pleaſed to refuſe, they are given to the poor." The king, upon being informed of what had paſſed, was much diſpleaſed, and declared he would never acknowledge Anſelm for his ghoſtly father; he wanted neither his prayers nor his benedictions, and he might go whither he pleaſed. At another time, when William required from the archbiſhop his quota of men for an expedition againſt Wales, he ſent them out ſo wretchedly equipped, that he threatened him with a proſecution. Anſelm, on his part, conſidered the demand as oppreſſive, treated the king's complaint with ſilent contempt, and demanded the reſtitution of all the revenues of his ſees, and made his appeal to Rome. In oppoſition to the king's expreſs prohibition, but not without repairing to the court of Rome to attempt his juſtification, he left England, and the king inſtantly confiſcated the temporalities of the archbiſhopric.

At Rome, Anſelm was received with great reſpect, as a defender of the rights of the holy ſee, and a meritorious ſufferer in the cauſe of religion. He accompanied the Pope to his country ſeat near Capua, and received from him numerous proofs of friendſhip: but upon their return to Rome the pope's friendſhip for Anſelm was put to a ſevere trial. In conſequence of a letter ſent from Urban II. to William, ſoon after Anſelm's arrival at Rome, demanding his re-inſtatement in all the emoluments and privileges of his ſee, an ambaſſador arrived from England to vindicate the conduct of the king. The ambaſſador was at firſt received with haughtineſs, and was commanded by the pope to return and inform his maſter, that unleſs he would hazard the higheſt cenſure of the church, he muſt inſtantly reinſtate Anſelm in the archiepiſcopal rights. Nothwitſtanding this, after ſome ſtruggle between duty and intereſt, the pope accepted a large preſent, and abandoned the cauſe of his friend. Finding himſelf deſerted by the court of Rome, Anſelm left the city in diſguſt, and went to Lyons, where he remained till the death of William Rufus.

Henry I. who, on his acceſſion to the throne, employed every expedient to ſupport the authority which he had uſurped; and being well acquainted with the intereſt which Anſelm's piety and zeal had obtained in the affections of the people, immediately after his coronation recalled their favourite from exile, who landed at Dover, Sept. 23, 1100. A few days after, he was received at Saliſbury by the king with every poſſible mark of reſpect and affection. But this cordiality was not of long continuance. As ſoon as Anſelm was commanded to do homage to the king for the temporalities of his ſee, he returned a flat refuſal, and produced the canon of the late council of Rome in vindication of his conduct; declaring, that if the king inſiſted upon his pretenſions to the homage of the clergy, he could keep no communion with him, but muſt inſtantly leave the kingdom. The king, unwilling to reſign the right of beſtowing eccleſiaſtical benefices, and of receiving the homage of his prelates, but at the ſame time, dreading the departure of the primate, propoſed, or rather ſolicited a truce, till both the parties could ſend ambaſſadors to the pope, to know his final determination: to this Anſelm, at the earneſt entreaty of the nobility, at laſt agreed.

During this interval, Anſelm performed many ſervices for the king. In a ſynod which was ſummoned at Lambeth, he obtained a deciſion in favour of the king's intended marriage with Matilda, although ſhe had already worn the veil, without taking the vows. When the kingdom was invaded

by Robert duke of Normandy, in July 1101, Anſelm contributed more than any man, by his example, his exhortations, and his authority, to keep the nobility ſteady in their attachment to king Henry, and thereby preſerved him on the throne. In return, the king profeſſed great reverence for the wiſdom and ſanctity of Anſelm, and promiſed to pay a due regard to the rights and privileges of the church. But when the dreadful day was over, and the meſſenger from pope Paſchal II. returned with a peremptory negative upon inveſtitures, the conteſt between the king and the archbiſhop was renewed. Henry refuſed not to relinquiſh the important prerogative of granting church preferment within his own dominions, yet deſirous to avoid a rupture with the pope and Anſelm, ſent three biſhops to Rome, while the archbiſhop, on his part, diſpatched two meſſengers to ſubmit the affair to the reconſideration of the pontiff. The pope's letter confirmed the former reſolution, declaring, that the church, and all its revenues, belonged to the ſucceſſors of St. Peter; and that emperors and kings had no right to give the inveſtiture of benefices to the clergy, or to exact homage from them. Some of the arguments adduced in defence of this poſition were either blaſphemy or nonſenſe: "How abominable is it," ſaid he, "for a ſon to beget his father, and a man to create his God? and are not prieſts your fathers and your gods?" But this formal declaration was contradicted by the oral teſtimony of the king's biſhops; who aſſerted, that Paſchal had privately expreſſed to them his acquieſcence in their maſter's claim, but had not given it under his hand, leſt other princes ſhould inſiſt upon the ſame privilege. Anſelm and his meſſengers regarded this ſtory as a deſigned prevarication, prompted by the king: but the firſt time the primate appeared at court, he required him in a peremptory tone to do him homage according to ancient cuſtom, or leave the kingdom; adding, "I will ſuffer no ſubject to live in my dominions who refuſes to do me homage." The archbiſhop boldly replied, "I am prohibited by the canons of the council of Rome to do what you require. I will not leave the kingdom, but ſtay in my province, and perform my duty; and let me ſee who dares to do me any injury." Immediately he left the court, and returned to Canterbury. Soon after, the king granted him permiſſion to make a journey to Rome, in order to learn the pope's final pleaſure. He was attended to the ſea-coaſt by crowds of people of all ranks, whom his auſtere piety and zeal for the church had attached to his intereſt. From Rome the archbiſhop retired to Lyons, and afterwards to his monaſtery at Bec in Normandy. The king, ſtill deſirous of an accommodation, ſent a meſſage to invite Anſelm into England; and upon receiving information that he was ill at the abbey of Bec, went in perſon into Normandy to ſettle every remaining point of difference between them. Anſelm recovered from his indiſpoſition, and embarked for England, where he was received with ſingular expreſſions of a joyful welcome. The queen herſelf even travelled before him on the road, and gave orders for his accommodation.

The popularity of this prelate may be imputed principally to the ſeverity of his manners, and to the zeal with which he oppoſed abuſes, and encouraged ſuperſtitious auſterities among the clergy and laity. He rigorouſly enforced clerical celibacy; and was the firſt who preſcribed this abſurd, unnatural, and miſchievous practice in England. By one canon of a national ſynod, held by him during his diſputes with the monarch, at Weſtminſter, in 1102, it was determined that no prieſt ſhould marry; and thoſe who were already married, were commanded to put away their wives. By another canon, it was decreed that the ſons of prieſts ſhould not be heirs to their father's churches. By a third, marriage is prohibited to thoſe who are within the ſeventh degree of kindred; and the twenty-ſixth canon forbade the worſhip of fountains, which was probably a relict of druidical ſuperſtition. Anſelm was ever a violent oppoſer of all innovations, even in articles of dreſs and ornament; and preached zealouſly againſt the long and curled hair then coming into faſhion; and his authority and eloquence had ſuch influence, that the young men univerſally abandoned that ornament, and appeared in cropt hair, which was recommended to them by the ſermons of the primate. One of his adherents writing to him about this time, concluded his letter by ſaying, that religion was ruined by his abſence; that ſodomy and wearing long hair, which he ſeems to have regarded as equal crimes, were become very common, and nobody had the courage to reprove them.

In a council held at Whitſuntide, A. D. 1108, at which the king and principal clergy, with Anſelm at their head, were preſent, it was reſolved to enforce the canons made ſix years before, relative to the celibacy of the clergy. Ten others were alſo added, by which all prieſts were commanded to put away their wives inſtantly; not to ſuffer them to live on any of the lands belonging to the church; never to ſee them except in caſes of great neceſſity, and in the preſence of two or three witneſſes. Thoſe who put away their wives were ordered to abſtain from maſs for forty days, and to perform certain penances; but thoſe who refuſed to put away their wives were to be excommunicated, and their goods, together with the perſons and goods of their wives, were to be forfeited to the biſhop of the dioceſe. Theſe eccleſiaſtical and wicked decrees afford ſufficient proof, that it was then found no eaſy taſk to diſſolve the natural and virtuous affection that ſubſiſted between the clergy of England and their wives.

One of the laſt diſputes in which Anſelm was engaged, was with Thomas elect of York, who, hoping for the death of the primate, delayed to come to Canterbury to receive conſecration; but he was at length obliged to ſubmit, make the uſual profeſſions of obedience, and render to his ſuperior the accuſtomed homage. This, in fact, is the only material occurence mentioned during the three laſt years of Anſelm's life. This celebrated prelate died at Canterbury on the 20th of April 1109, in the 67th year of his age, and the 16th of his primacy.

The ſuperſtitious reverence which was paid to the memory of Anſelm, and the characteriſtic credulity of the age, are ſhewn in the account of his miracles recorded by John of Saliſbury. He relates, that while he was living, a Flemiſh nobleman was cured of a leproſy by drinking the water in which Anſelm had waſhed his hands in celebrating maſs: that he extinguiſhed fires, calmed tempeſts, and healed diſeaſes, by making the ſign of the croſs: that two ſoldiers were cured of an ague by taſting crumbs fallen from the bread which he had been eating: that by prayer to God, he produced a ſpring of excellent water at the top of a hill for the relief of certain villagers: and that a ſhip in which he ſailed, having a large hole in one of her planks, nevertheleſs took in no water as long as the holy man was on board. The ſame author adds, that miracles were wrought at Anſelm's tomb after his death: that one born deaf, dumb, and blind, obtained his hearing, ſpeech, and ſight, by paying his devotions at his tomb: that a ſoldier was cured of the dropſy by winding the ſaint's girdle about his body; and that the ſame girdle was ſucceſsfully applied to the aſſiſtance of women in child-birth.

Without examining the powers of Anſelm as a ſaint, his merit as a man may be fairly eſtimated, if, with great allowance for the narrow prejudices of a monaſtic education, and for principles and habits generated by a debaſing ſyſtem of ſuperſtition, we give him credit for honeſt zeal, and manly reſolution,

reſolution, in ſupport of what he conceived to be the cauſe of religion. Conſidering the period in which he lived, Anſelm was a learned man. He contributed to the introduction of the ſcholaſtic method of writing, in which the ſubtleties of logic were applied to theology. Among his metaphyſical works is a treatiſe on the exiſtence of God, in the manner afterwards reſumed by Des Cartes.

The largeſt edition of his works, which are very numerous, is that publiſhed by Father Gerberon, at Paris, in 1675. It is divided into three parts. The firſt contains dogmatical tracts, entitled, "Monologia." The ſecond contains practical and devotional pieces. The third is compoſed of his letters. See Biog. Brit. Gen. Dict. Hume's and Henry's Hiſt. of Great Britain.

ANSELM'S *art.* See ART.

ANSELM *of Paris*, an Auguſtine monk, was born in 1625, and devoted almoſt his whole life to genealogical and biographical reſearches. His "Palace of Honour, or Hiſtorical Genealogies of the illuſtrious Houſe of France, and of ſeveral noble families of Europe," was publiſhed in French at Paris, in 1647, in two vols. 4to. His "Genealogical and Chronological Hiſtory of the Houſe of France, and of the great Officers of the Crown," was firſt publiſhed at Paris, in 4to. in 1694; but the author, dying this year, did not complete his deſign. Fourni enlarged this work, and republiſhed it in two volumes folio, in 1711; and it has ſince been continued by the Auguſtine fathers, Ange and Simplicien; and in 1726, &c. it was publiſhed in nine volumes folio. Biographers have been much indebted to this collection. Nouv. Dict. Hiſt.

ANSELMUS, *De Janua*, flouriſhed in the thirteenth century. Aſtruc ſuppoſes he was of the faculty of medicine at Montpellier: that he was in repute in his time, is proved by the notice taken of him by Lanfranc, and afterwards by Gui de Chauliac, who recommended his practice in certain caſes; but there are no works now remaining bearing his name.

ANSER, in *Aſtronomy*, a ſmall ſtar, of the fifth or ſixth magnitude, in the Milky Way, between the Swan and Eagle: firſt brought into order by Hevelius.

ANSER *Americanus*. See TOUCAN.

ANSER, in *Natural Hiſtory*, a ſpecies of VIBRIO in the *vermes infuſoria*. It is elliptical, with a long neck and tubercle on the back. Gmelin. This kind is found in water where duck-weeds grow: it is between the vibrio proteus and vibrio falx, and is chiefly diſtinguiſhed by the protuberance on the back. The body is elliptical, round, without any lateral inequality, and full of molecules; the hind part is ſharp and bright, the forepart produced into a bending neck, which is longer than the body; the apex even and whole; blue canals paſſing between the marginal edges, and occupying the whole length of the neck: in one of thoſe canals a vehement deſcent of water to the beginning of the trunk may be perceived. The motion of the body is ſlow, that of the neck is more lively and flexuous, and ſometimes ſpiral. See Adams, Microſ.

ANSER, in *Ornithology*, a ſpecies of ANAS, or duck, called in England the grey-lag, or wild gooſe, and generally admitted as the origin of the domeſtic gooſe. The character of this ſpecies is, bill ſemi-cylindrical; body above cinereous, beneath paler; neck ſtreaked. Linnæus, Gmelin, &c. The length of the bird is uſually about two feet nine inches, breadth five feet, weight ten pounds. The bill is large and elevated, yelloviſh fleſh colour, with the nail white. The head and neck are cinereous, mixed with dirty yellow; neck ſtriated downwards; back and primaries duſky, the laſt tipped with black; ſhafts white; ſecondaries black, edged with white; leſſer coverts duſky, edged with white; breaſt and belly whitiſh, clouded with aſh colour; rump and vent white; middle feathers of the tail duſky, tipped and edged with white; the outmoſt almoſt entirely white; legs fleſh-coloured; claws black. Penn. Arct. Zool. Lath. Gen. Syn. &c.

"This ſpecies," ſays Dr. Latham, "inhabits the fens of England; and it is believed, does not migrate, as in many countries on the continent, as they are not only met with in the ſummer, but alſo known to breed in Lincolnſhire, Cambridgeſhire, and other places: they have ſeven or eight young, which are often taken, and eaſily become tame. They however, unite into flocks during the winter ſeaſon, as numbers are met with together. On the continent they are migratory, changing place in large flocks, often five hundred or more: in this caſe the flock is triangular in ſhape, with one point foremoſt; and as the gooſe which is firſt is tired ſooneſt, it has been ſeen to drop behind, and another to take its place. In very ſmall flocks, however, they are ſometimes ſeen to follow one another in a direct line. Geeſe ſeem to be general inhabitants of the globe: they are met with in Iceland; and on the continent, from Lapland to the Cape of Good Hope; they are frequent in Arabia, Perſia, and China, as well as indigenous to Japan; and on the American continent from Hudſon's bay to South Carolina. Our voyagers meet with them in the Straits of Magellan, Port Egmont in Falkland Iſles, and Terra del Fuego; alſo in New Holland, though not at New Zealand, as we find capt. Cook making the inhabitants a preſent of a pair in order to breed." Gen. Syn.

The ſame author remarks, that the grey-lag gooſe, in a ſtate of domeſtication, varies in colour from the wild ones, though much leſs ſo than either the mallard or cock, being ever found more or leſs verging to grey; though in all caſes the whiteneſs of the vent and upper tail coverts is viſible, and very often thoſe parts are quite white, eſpecially in the males. See GOOSE, *domeſtic*.

ANSERES, in *Ornithology*, the third order in the Linnæan arrangement of birds. The character, according to that author, is, the bill ſmooth, covered with ſkin, and broadeſt towards the tip: feet formed for ſwimming, toes palmated, and connected by a membrane; ſhanks compreſſed and ſhort. The body is fat, and fleſh rather rancid. Theſe live chiefly on the water, and feed on plants, fiſh, frogs, worms, &c. The neſt is generally formed on the ground; the mother takes little care of the young; and they are frequently polygamous.

The birds of this order are divided into two ſections, one having the beak denticulated, or toothed, and the other being deſtitute of theſe teeth: the genera of the firſt ſection are anas, mergus, phaeton, and plotus; and thoſe of the ſecond ſection, rhyncops, diomedea, aptenodya, alca, procellaria, pelecanus, larus, ſterna, and colymbus.

ANSERIFERA, in *Conchology*, a ſpecies of LEPAS. The ſhell is compreſſed, and has five valves, which are ſtriated, and ſeated on a pedicle. Gmelin. This kind inhabits the American and Atlantic ſeas.

ANSERINA, in *Botany*. See POTENTILLA.

ANSERIS, in *Entomology*, a ſpecies of PEDICULUS found on both the wild and tame gooſe; it is filiform, pale, with black dots on the margin. Linnæus, Fabricius, Redi, &c.

ANSERIS, in *Natural Hiſtory*, is alſo a ſpecies of FASCIOLA in the *Vermes inteſtina*. The body is oblong-oval; beneath, two rows of oppoſite papillæ, with approximate pores. Froelick, Gmelin, &c. Found in the rectum of the common gooſe.

ANSERIS is alſo the ſpecific name of a creature in the TÆNIA genus, that infeſts the inteſtines of the domeſtic gooſe. It is minute and very narrow, the anterior part capillary: Goeze and Gmelin.

ANSES. See Ansæ.

ANSIANACTES, in *Geography*, a people of the iſland of Madagaſcar, towards the iſle of St. Mary.

ANSIBARII, or Ansivarii, in *Ancient Geography*, the name of a people of Germany, mentioned by Tacitus. According to this hiſtorian, they were driven, in the time of Nero, from their own territory by the Chauci, and then took poſſeſſion of certain lands, previouſly occupied by the Friſians, which had belonged to the Romans, and uſed as paſture for their horſes and cattle. In this acquiſition, they were conducted by Boiocalus, a perſon of diſtinguiſhed reputation, and of approved fidelity to the Romans. When the Romans demurred in allowing them to poſſeſs theſe lands, Boiocalus pleaded the merit of 50 years ſervice; and he remonſtrated, that the territory was large, and applied to no uſeful purpoſe; that an unhappy people, driven from their own habitations, might be accommodated without encroaching on wide tracts, in which the Roman horſes and cattle might range; that humanity forbade their ſuffering men to periſh, whilſt beaſts were amply provided for; that it was incompatible with religion to devote to deſerts and ſolitude parts of the earth which were deſigned by the gods for the uſe of men; and that ſuch parts as had no poſſeſſor were free and common to all. Then lifting up his eyes to the ſun and other celeſtial luminaries, he aſked them, how they could bear to behold a deſolate ſoil, and if they would not, in juſtice, command the ſea to ſwallow up uſurpers, who thus engroſſed the earth? To this ſpirited remonſtrance, Avitus, the Roman commander, indignantly replied, that the weakeſt muſt ſubmit to the moſt powerful; and that as the gods had entruſted the Romans with ſovereign judgment, they could not permit any other judges to interfere. At the ſame time, lands were privately offered to Boiocalus, in recompence of his long attachment to the Romans. This offer the brave general conſidered as the price of his honour, and as a bribe for betraying his people, and he rejected it with diſdain and indignation, alleging, "We may want a place to live in, but a place to die in we cannot want." Upon this the Anſibarii invited the neighbouring nations into a confederacy againſt the Romans, but they were awed by the Roman generals and their forces; ſo that at length theſe unhappy people, applying in vain for ſettlements in neighbouring territories, were under a neceſſity of making long and various peregrinations, which terminated in their utter deſtruction. Tacit. Annal. lib. xiii. c. 53—57. Theſe people have been known under the other denominations of *Amſivarii*, *Ampſivarii*, and *Ampſicarii*. Some have thought that their name is derived from *Amſer*, the *Ems*, and *boner*, a German word, which ſignifies *to inhabit*.

ANSIKO, or Anziko, called alſo Makoko, in *Geography*, a kingdom of Africa, is bounded on the weſt by the river Umbre, which runs into the Zaire, the kingdom of Wangua and the Amboes, who border on Loango; on the north by ſome deſerts of Nubia; and on the ſouth by the provinces of Congo, called Songo and Sonda. This country has ſeveral mines of copper; it produces a great quantity of ſanders wood, both red and grey; and it abounds with rhinoceroſes, lions, and other wild beaſts. The inhabitants have neither fixed lands nor inheritance; they neither ſow nor reap, but live like the wandering Arabs, and ſubſiſt by plunder and ſlaughter. They are ſaid to be the remains of the Giages, who came originally from Sierra Leona, but being weakened by their marches and battles, they were unable to return, and reduced to the neceſſity of reſiding, principally, in the kingdom of Anſiko, and alſo on the ſouth-eaſt of Angola. In their undertakings and exploits, they are valiant and intrepid, and altogether regardleſs of life. Their language is barbarous, and difficult to be acquired, even by the inhabitants of Congo. Their food is ſaid to be human fleſh, and human bodies are hung up for ſale in their ſhambles. Conceiving that they have an abſolute right to diſpoſe of their ſlaves at pleaſure, their priſoners of war are fattened, killed, and either eaten, or ſold to butchers. It is alſo ſaid, that diſcontented ſlaves offer themſelves for food to their maſters; and that perſons of the neareſt relation feed upon each other without the leaſt horror. They have no graves for the dead, who are devoured as ſoon as they have expired. Perſons of the principal diſtinction wear red and black caps of Portugueſe velvet, and thoſe of inferior condition, of both ſexes, go barefooted, and are naked from the waiſt upwards. In order to preſerve their health, they anoint their bodies with a compoſition of pounded white ſandal-wood and palm oil. The king of Anſiko, or the great Macoco, is eſteemed the moſt powerful monarch of Africa, and his dominion extends over 13 kingdoms. The zimbis, or ſhell fiſhed for at Loango and Angola, is the current coin of the country, and exchanged by the natives for ſlaves from Nubia, and alſo for ſalt, ſilk, glaſs, linens, and other merchandiſes. The arms of theſe people are battle-axes, and ſmall but very ſtrong bows, adorned and ſtrengthened with ſerpents ſkins, and furniſhed with ſtrings made of ſupple and ſlender ſhoots of trees, like reeds, which never break, and ſhort arrows of hard and light wood. In the uſe of their bows and arrows, they are ſo dextrous, that they kill birds flying, and diſcharge as many as 28 arrows from the bow before the firſt falls to the ground. Beſides their bows and battle-axes, they have alſo daggers in ſerpent-ſkin ſcabbards, which they carry in ivory belts. With reſpect to religion, they are idolaters; worſhipping the ſun as their chief deity, whom they repreſent under the form of a man, and the moon under that of a woman; and an infinite number of inferior deities, each man having a peculiar idol to whom he offers ſacrifices, and whom he conſtantly invokes in dangerous enterpriſes. They practiſe circumciſion, but from what motives, whether religious or otherwiſe, it is not known. Theſe barbarous people are much extolled for their ſingular fidelity and loyalty, ſo that they will ſacrifice their lives in defence of their princes, or of their friends and allies. Mod. Un. Hiſt. vol. xiii. p. 265, &c.

ANSLO, or Opslo, a ſea-port town of Norway, in the præfecture of Aggerhuys, upon the bay of Anſlo. See Christiania.

ANSON, George, Lord, in *Biography*, an eminent Engliſh naval commander, was the third ſon of William Anſon, Eſq. of Shuckborough in Staffordſhire. He was born in 1697. The navy being Mr. Anſon's choice, he went early to ſea; and in the year 1716, having paſſed regularly though the inferior ſtations, he was made ſecond lieutenant of his majeſty's ſhip the Hampſhire; and in 1724, he was raiſed to the rank of poſt-captain, and to the command of the Scarborough man of war. Between this time and 1733, he went, with ſhips under his command, three times to South Carolina, where he acquired conſiderable property, and erected a town bearing his name, the country around which has been ever ſince called Anſon County. Between 1738 and 1739, he made a fourth voyage to the coaſt of Guinea and to America, in the courſe of which, by his prudence, he engaged the French to deſiſt from interrupting the Engliſh Guinea trade, without coming to acts of hoſtility.

On the breaking out of the Spaniſh war in 1739, Mr. Anſon was pitched upon as a proper perſon to command a fleet deſtined to attack the Spaniſh ſettlements in the Pacific Ocean. He ſet ſail in September 1740, with a ſquadron of five men of war, a ſloop, and two victualling ſhips. The whole buſineſs of fitting out this expedition had been managed

naged with extreme negligence and incapacity, which rendered the exertion of all the commander's talents neceſſary. After a long and tedious voyage, he arrived at Madeira, thence he proceeded to St. Catherine's on the coaſt of Brazil, and afterwards to St. Julian in Patagonia. In doubling Cape Horn, he experienced prodigious difficulties from ſtorms and tempeſtuous weather: ſome of his fleet were ſeparated from him, of which only a ſmall part ever rejoined him. At length he arrived at the iſland of Juan Fernandes, where he refitted, aſſiſted with his own hands in landing the ſick ſailors, and for the benefit of future navigators, ſowed the ſeeds of a variety of garden vegetables and fruit-trees. Thence he proceeded to the coaſt of Peru, and took the rich town of Paita; which, on the refuſal of the Spaniards to ranſom it, he was obliged, according to the practice of war, to reduce to aſhes. When the Engliſh were about to embark, one of their company was miſſing, who, however, ſoon arrived, and acknowledged, that by taking too copious a doſe of brandy, he had fallen into a profound ſleep, from which he was awakened by the ſcorching heat of the town on fire. Upon opening his eyes, he was amazed to behold on the one hand all the houſes in a blaze, and on the other, the Spaniards and Indians near him. The greatneſs and ſuddenneſs of the terror inſtantly brought him back to a ſtate of ſobriety, and gave him preſence of mind to puſh through the thickeſt of the ſmoke, and thus eſcape the hands of the enemy. This was the only inſtance of neglect of duty through the effects of liquor, which might have been obtained in almoſt every warehouſe in the town. On this coaſt, Commodore Anſon took ſome valuable prizes, on board of which were ſeveral paſſengers of diſtinction of both ſexes; his treatment of whom was ſo honourable, and conſiſtent with the moſt delicate decorum, that it left the moſt favourable impreſſions of himſelf and his country. He afterwards ſailed to the coaſt of Mexico; thence with a view of intercepting the annual Acapulco ſhip, he took his departure acroſs the Pacific Ocean, with his own veſſel the Centurion, and the Glouceſter. In this paſſage the Glouceſter became leaky, and was abandoned; and the united crews, reduced by ſickneſs, with difficulty reached Tinian, one of the Ladrones. Here while the commodore and the greater part of his crew were on ſhore, the Centurion was by a ſtrong gale driven out to ſea; and ſo little proſpect was there of her being able to reach the iſland again, that much labour was ſpent in fitting up a ſmall veſſel found on the iſland, Anſon himſelf taking the axe like a common ſailor. The only occaſion in which marks of emotion broke through the uniform equanimity of his demeanor, was when he received news of the Centurion's coming again in ſight. From Tinian he went to Macao; and in returning from Macao, he took a rich Manilla galleon: but at the moment of victory he had a call for the exertion of all his courage and preſence of mind, in conſequence of a fire which broke out near the Centurion's powder-room, but which his orders, given with all the calmneſs of one converſant with danger in every ſhape, ſoon got under. He ſailed back to Canton with his prize; and there exibited equal dexterity and firmneſs in tranſacting affairs with the Chineſe, and maintaining the rights of his own country. Returning from thence by the Cape of Good Hope, he arrived at Spithead on the 15th of June 1744, having completed the circumnavigation of the globe, and brought back great riches taken from the enemy, though unforeſeen diſaſters had defeated ſome of the principal purpoſes of the enterpriſe. Thus was the expedition finiſhed, after having by its event ſtrongly evinced this important truth, that though prudence, intrepidity, and perſeverance united, are not exempted from the blows of adverſe fortune, yet in a long ſeries of tranſactions, they uſually riſe ſuperior to its power, and in the end rarely fail of proving ſucceſsful.

In a few days after his return, Mr. Anſon was made rear-admiral of the blue; and in a ſhort time after a commiſſioner of the admiralty, and rear admiral of the white; and in the year 1746, vice admiral. During the winter of 1746 and 7, he was appointed to the command of the channel fleet; and in the following May he captured, off Cape Finiſterre, ſix men of war bound from France to the Weſt and Eaſt Indies, laden with warlike ſtores and merchandiſe, and four Eaſt-Indiamen.

By this ſucceſsful enterpriſe, he defeated the pernicious deſigns of two hoſtile expeditions, made a conſiderable addition to the force and wealth of our own kingdom, and thus converted into a public benefit, the intended means of a public calamity. M. St. George, one of the French captains, in alluſion to the names of two ſhips (L'Invincible and La Gloire) which had been taken, ſaid, when he preſented his ſword to the conqueror; "*Monſieur, vous avez vaincu* L'INVINCIBLE, *et* LA GLOIRE *vous ſuit.*"

For this and other important ſervices, he was with great propriety, in the June following, raiſed to the Engliſh peerage by the title of Lord Anſon, baron of Soberton in the county of Southampton. And on the occaſion, his lordſhip made choice of a motto very happily adapted to the dangers he had gone through, and the ſucceſſes he had obtained, NIL DESPERANDUM. On the 25th of April 1748, he married the eldeſt daughter of Lord Hardwicke, at that time lord high chancellor of Great Britain: this lady died without iſſue on the firſt of June 1760.

Lord Anſon had frequently the honour of convoying the late king from England to Holland. The firſt time was in the year 1748; and ever after he conſtantly attended his majeſty on his going abroad, and on his return to this kingdom. In July 1749, his Lordſhip was made vice admiral of Great Britain; in 1751, he was preferred to be firſt commiſſioner of the Admiralty in the room of Lord Sandwich; and in the years 1752 and 1755, he was one of the lords juſtices of the kingdom during his majeſty's abſence. Under him, on the proſpect of a war with France, the ſquadrons were fitted out with great promptitude; and that more ſucceſs did not attend them was owing to accidents. He was expoſed to ſome cenſure in conſequence of the loſs of Minorca at the beginning of the war 1755; and in the following year he reſigned his poſt. On a parliamentary inquiry, however, he, and the perſons with whom he had acted, were acquitted of all blame reſpecting Minorca. In the year 1757, he was again placed at the head of the admiralty board, where he continued during the remainder of his life, which included almoſt all the glorious periods of that war.

The laſt time he commanded a fleet was in 1758, when he covered the expedition againſt the coaſt of France, and kept the enemy's fleet in port. In 1761, he was raiſed to the principal naval dignity, that of admiral and commander in chief of the fleet, for the purpoſe of bringing over the preſent queen of England, whom, after a rough and tedious paſſage, he landed on the 7th of September. In February 1762, he accompanied the queen's brother to Portſmouth to ſhew him the arſenal, and the fleet that was then on the point of ſailing, under Sir George Pocock, for the Havannah. Lord Anſon, in attending the prince, caught a violent cold, under which he languiſhed for three months. At length it ſettled on his lungs, and was the immediate occaſion of his death. Full of honours and reputation, he died at Moor Park, Hertfordſhire, on the 6th of June 1762, leaving his whole property to his brother, Thomas Anſon, Eſq. of Staffordſhire.

Lord Anſon was one of his majeſty's moſt honourable

privy council, an elder brother of the Trinity Houſe, and a governor of the Charter Houſe. He was remarkably aſſiduous at the Admiralty Board, and very ready in making naval diſpoſitions of every kind, and in appropriating the proper ſtrength and proper ſort of ſhips to the different ſervices. Among the various and diſtinguiſhed merits of this eminent perſon, was that of having bred up ſeveral excellent officers, who were afterwards renowned for ſignal ſervices achieved for their country. He may, in general, be ſaid to have been a true friend and liberal patron to men of real merit and capacity in his profeſſion. Till later voyages had multiplied the circumnavigations of the globe, "to have been round the world with commodore Anſon," was eſteemed a great and honourable diſtinction to a ſeaman. Biog. Britan. Gen. Biog. Dict. Walter's Account of Anſon's Voyage.

ANSON, in *Geography*, an interior county of North Carolina in Fayette diſtrict, having Mecklenburgh county to the north, and Bladen and Cumberland counties on the eaſt. It contains 5133 inhabitants, including 828 ſlaves.

ANSON's *Iſle*, the *Buka* of Bouganville, an iſland of the Pacific Ocean, being one of the groupe called SOLOMON *Iſles*. S. lat. 5° 15'. E. long. 153° 30'.

ANSPACH, or ONOLZBACH, a marquiſate or principality of Germany, in the circle of Franconia, bounded by the principality of Bayreuth, and the biſhopric of Bamberg and Wurtzburg. The country is mountainous and ſandy, but in general it is fertile, and produces conſiderable quantities of corn and tobacco, and along the Mayn good wine. It has good paſtures, and the breed of cattle is excellent. The chief mines are thoſe of iron, thoſe of other kinds being neglected. It has ſeveral medicinal ſprings. Anſpach, together with Bayreuth, maintains a population of 320,000 on 2,320 ſquare miles. The principal rivers are the Retzat, Under or Rednitz, the Altmuhl, the Jagſt, the Wornitz, the Tauber, and the Mayn. It has 16 boroughs, and 17 market towns, the principal of which are Anſpach, Swabach, Kornburg, Cadolzburg, Roth, Gunzenhauſen, Waſſertrudingen, Windſbach, Feuchtwang, Creilſheim, Colmberg, and Uffenheim. The reigning margrave of this principality has a ſeat and a voice in the council of the princes of the empire, and is alſo co-ſummonary prince of the circle of Franconia.

ANSPACH, a city of Germany, the capital of the above-mentioned marquiſate, ſituate on the river Retzat, about 13 miles ſouth-weſt of Nuremberg. This city was rebuilt and enlarged in 1710: it has a public library eſtabliſhed in 1738, and a good cabinet of medals and curioſities. N. lat. 49° 14'. E. long. 10° 42'.

ANSPESSADES, or LANSPESSADES, in the *French Military*, a kind of inferior officers in the foot, below the corporals, and yet above the common centinels.

The word is formed of the Italian *lancia ſpezzata*, q. d. *broken lance*; which was occaſioned hence, that they were originally diſbanded *gendarmes*, who, for want of other ſubſiſtence, ſued for a place of ſome diſtinction in the infantry. There are uſually four or five in each company.

ANSTRUTHER, in *Geography*, a ſea port town of Scotland, and a royal borough, ſituate in the eaſtern part of the county of Fife, towards the German ſea. It is divided into two towns, *Eaſter* and *Weſter* (which are royal boroughs) by a ſmall river: the harbour is capable of receiving only ſmall veſſels, employed principally in the fiſhery of the place. N. lat. 56° 12'. Weſt. long. 2 26'.

ANSWER, in *Law*. See REJOINDER.

ANT, in *Entomology*, the common Engliſh name of the *formica* of Linnæus, and ſynonymous with emmet. That deſtructive creature termes fatale is alſo called an ant. See FORMICA, and TERMES.

This is an inſect extremely injurious to paſture lands and gardens; in the former, by throwing up hills, and, in the latter, by feeding on the fruit, &c. The beſt methods of keeping them from trees, are thoſe of having the earth round them conſtantly dug up; and the application of ſawduſt, coal-aſhes, or other matters of the ſame kind, about their roots. The ſame purpoſe may alſo be effected by covering the bottom part of the trees with tar; but as this ſubſtance is prejudicial to trees, night-ſoil may perhaps anſwer better, as it is found to deſtroy them when ſpread upon, or put into the little hills which they throw up. A liquor, prepared by boiling rain water with black ſoap and ſulphur, has lately been made uſe of by M. Tatin, for deſtroying theſe animals, it is ſaid, with conſiderable ſucceſs. Where this liquor is employed, care ſhould, however, be taken that the ground where they inhabit be perfectly ſaturated with it.

ANT-*Bear*, or ANT-*Eater*, in *Zoology*. See MYRMECOPHAGA.

ANT-*Eggs* is a name popularly given to a kind of little white balls found in the banks or neſts of ants, ordinarily ſuppoſed to be the ova of this inſect. Theſe are not properly the eggs of ants, but the young brood in their incipient ſtate; when they appear like vermicles or little worms, wrapped up in a film or ſkin, compoſed of a ſort of ſilk, which they ſpin out of themſelves in the manner of ſilk-worms and caterpilllars. At firſt they appear motionleſs, and after a few days, they manifeſt ſome ſymptoms of flexion and extenſion; then they ſeem yellowiſh and hairy, and in the form of ſmall maggots which they aſſume, they continue to grow till they are almoſt as large as ants. After having paſſed their metamorphoſis, and when they appear in their proper ſhape, they exhibit a black ſpeck near the anus, which Mr. Leewenhoeck and alſo Mr. Gould imagine to be their fæces or digeſted food.

Sir Ed. King opened ſeveral of theſe vulgarly reputed eggs, in ſome of which he found only a maggot in the circumſtances as above deſcribed; while in another, the maggot had begun to put on the ſhape of an ant about the head, having two little yellow ſpecks, where the eyes were to be. And in others, a farther progreſs was obſerved, the included maggot being furniſhed with every thing to complete the ſhape of ant, but wholly tranſparent, the eyes only excepted, which were as black as bugles. Laſtly, in others, he took out every way perfect and complete ants, which immediately crept about among the reſt.

The true ants eggs are the white ſubſtance which, upon opening their ſtanks, appears to the eye like the ſcatterings of fine white ſugar, or ſalt, but very ſoft, and tender. Examined by a microſcope, it is found to conſiſt of ſeveral pure white appearances in diſtinct membranes, all figured like the leſſer ſort of birds eggs, and as clear as a fiſh's bladder. The ſame ſubſtance is found in the bodies of the ants themſelves. This ſpawn, when emitted, they lie in multitudes on, to brood; till in ſome time it is turned into little vermicles, as ſmall as mites, commonly called ant-eggs. See FORMICA.

ANT-*hills* are little hillocks of earth, which the ants throw up for their habitation and the breeding of their young.

Theſe hills are very detrimental to the farmer, depriving him of as much land as the hills cover, which may, in many caſes, be computed at a tenth part or more of his graſs lands; and in ſome places, where negligence has ſuffered them to multiply, almoſt half of it has been rendered uſeleſs in this way. In order to remove nuiſances of this kind in lands, it has been a cuſtom in ſome places at the beginning of winter, and often when the weather was not very cold, to dig up the ant-hills, three or four inches below the ſurface of the ground, and then to cut them in pieces, and ſcatter the fragments about. But this practice only diſſeminates the ants, inſtead of deſtroying them, as they hide

hide themſelves among the roots of the graſs for a little time, and then collect together again upon any little eminence, of which there are generally great numbers ready for their purpoſe; ſuch as the circular ridges round the hollows where the hills ſtood before. It is therefore a much better method to cut the hills entirely off rather lower than the ſurface of the land, and to let them lie whole at a little diſtance with their bottoms upwards; as by this means the ants, which are known to be very tenacious of their abodes, continue in their habitations, until the rains, by running into their holes of communication, and ſtagnating in the hollows formed by the removals of the hills, and the froſts, which now readily penetrate, deſtroy them. If a little foot were ſown on the places, and waſhed in with the rains, it would probably contribute greatly to the effect intended. The hills, when rendered mellow by the froſts, may be broken and diſperſed about the land, or removed for the purpoſe of forming into compoſt with dung, lime, or other ſubſtances. By this method of cutting the hills one other advantage is gained, the land ſoon becomes even and fit for mowing. In wet ſeaſons, heaps of ſandy particles are formed by theſe inſects among the graſs, called by labourers *ſprout-hills*, which quickly take off the edge of the ſcythe. Theſe, which are very light and compreſſible, may be conveniently removed by frequent heavy rolling in the early ſpring months. In the rural economy of Norfolk, a practice of cutting and burning the ant-hills that are formed on graſs land is mentioned by Mr. Marſhall. The proceſs is, to cut them up with a heart-ſhaped ſharp ſpade or ſhovel, in irregular lumps of from ten to fifteen inches diameter, and from two to five or ſix inches thick. Theſe are to be turned the graſs ſide downwards, until the mould ſide is thoroughly dry, and then to be ſet the graſs ſide outwards, until they are dry enough to burn. The fire may be kindled with bruſh wood, and kept ſmothering, by laying the ſods or lumps on gradually, as the fire breaks out, until ten or fifteen loads of aſhes are raiſed in one heap, which the workmen there complete for a ſhilling or eighteen pence each load of aſhes. The places from which the hills have been removed may be ſown with graſs ſeeds. Beſides the deſtruction of the ant, this is a ready, though by no means an economical way of raiſing manure.

But in the ſixteenth volume of the Annals of Agriculture, Mr. Young recommends the method of rolling down the ant-hills, inſtead of cutting them, as the beſt practice; and ſays, that he rode over a large paſture, which he ſhould not have known had ever been infeſted with theſe hills, if he had not been aſſured that it was once covered with them. No other method had been uſed but that of repeated rollings with a very heavy roller.

ANT-*lion*. See FORMICA-*Leo*.

ANT, *muſk*, the name given by Liſter and Ray, to a peculiar ſpecies of ant, which is of the number of the perfumed inſects. It is found on dry banks, and ſo much ſmaller than the common ant, that it needs no other diſtinction. Thoſe of this ſpecies which are without wings are of a yellowiſh colour, and when bruiſed or cruſhed emit a ſharp and acid ſmell, as the common ant does; but thoſe which have wings are coal-black, and theſe, inſtead of the four ſmell of the others, emit a perfume not to be endured for its ſtrength. The ſmell of all the perfumed inſects goes off in keeping; and theſe little creatures, after they have been dead and dry ſome time, are found to ſmell leſs ſtrongly, but much more agreeably. Phil. Tranſ. N° 77, or Abr. vol. ii. p. 792.

ANT, *viſiting*. At Paramaribo, a Dutch colony in the province of Surinam, there are ants which the Portugueſe call *viſiting-ants*; they march in troops; and as ſoon as they appear, all the coffers and cheſts of drawers are laid open, which they clear of rats, mice, and a peculiar ſort of inſect in that country called *cockerlacs*, and of other noxious animals. If any one chance to moleſt them, they fall upon him, and tear in pieces his ſtockings and ſhoes. Their viſits are rare; and they do not ſometimes appear for three years. Templeman's Obſ. vol. i. p. 36.

ANTA, in the *Ancient Architecture*, a ſquare column, or pilaſter, placed at the corners of the walls of temples and other edifices.

Theſe took their name, according to M. Perrault, from the prepoſition *ante*, *before*, becauſe placed before the walls and coins of buildings, to ſecure or ſtrengthen them. The *antæ* ſtood out on the wall, with a projecture equal to one-eighth of their face, provided there were no ornament that had a greater projecture; but it was a rule, that the projecture of the antæ ſhould always equal that of the ornaments.

There are alſo antæ at doors and gates. Feſtus confines their uſe to this laſt place.

Vitruvius calls thoſe that have but two faces out of the wall angular antæ, to diſtinguiſh them from others which have three faces diſengaged, and which are placed at the ends of the walls of porticos. See ANTICUM.

ANTA, or HANTE, in *Geography*, a ſmall kingdom or province on the gold-coaſt of Africa, is bounded on the north by the country of Adom, on the north-eaſt by Mampo, by Axim on the weſt, and on the ſouth and ſouth-eaſt by the ocean. Its extent from eaſt to weſt is about ten leagues, the country is mountainous, and covered by large trees, among which are ſituated many fine villages. Anta was formerly powerful and populous, inhabited by a bold and rapacious people, who greatly annoyed the Europeans by their frequent incurſions; but by continual wars with Adom and other neighbouring diſtricts, they are now enfeebled, and the country is almoſt depopulated. The land is well watered, the vallies are rich and extenſive, and the productions, which are abundant, are rice, the beſt maize, ſugar-canes, yams, and potatoes. This country is the moſt healthy of any along the coaſt; ſo that different writers have obſerved, that the number of deaths here bears no proportion to that in any other of the territories on the coaſt of Guinea. The principal villages of this country are Bourtry or Botro, Boyera or Petre Grand, Pando, Tokorari, which ſurpaſſes all the others in extent and beauty, Sokonda, Anta, and Sama. See the ſeveral articles. The king of Anta has fixed his reſidence four miles from the Dutch fort, as he thus enjoys the protection of the Europeans, and is in ſome meaſure ſecured from the apprehenſions occaſioned by the incurſions of the Adomeſe. Mod. Un. Hiſt. vol. xiii. p. 401, &c.

ANTA, in *Zoology*. See TAPIR.

ANTAB, in *Geography*, a town of Syria, 42 miles ſouth of Aleppo.

ANTACÆUS, in *Ichthyology*, a name firſt given by the Greek writers Ælian and Strabo, to the *ichthycolla piſcis*, the iſinglaſs fiſh, or HUSO; and afterwards by Jonſton and others, not only to this fiſh, but to the common STURGEON.

ANTACHATES is uſed by ſome naturaliſts for a kind of bituminous ſtone of the nature of amber, though of a different colour, which in burning yields a ſmell like myrrh.

ANTACIDS, in the *Materia Medica*, is uſed by ſome writers to denote medicines proper to correct and reſiſt acid humours.

Antacids are chiefly of the alcalious kind.

Under the claſs of *antacids* come, 1. Abſorbents, as chalk, magneſia, cornu cervi uſtum, coral, ſea-ſhells, hæmatites, and ſteel-filings. 2. Obtundents, as oils and fats. 3. Immutants, as lixivious ſalts and ſoaps.

ANTACRIDS denote medicines ſuited to correct acrimony, either in the whole ſyſtem, or in particular parts of it. See ACRIMONY.

ANTÆ, in *Ancient Geography*, a people placed by Procopius and Jornandes near the mouth of the Danube.

ANTÆOPOLIS, ſo called from Antæus, overcome by Hercules, a town of Egypt in the Thebaid, on the eaſt ſide of the Nile; was the capital of the Nome *Antæopolites*, about 32 miles above Panopolis, and about the ſame diſtance below Nicopolis. The Thebaid, after the age of Conſtantine, was divided into two provinces; and Antæopolis became the metropolis of the firſt Thebaid, and had biſhops. This city contained the magnificent temple, which the Egyptians, according to Diodorus Siculus, built in honour of Antæus. No part of it is now remaining but the portico, ſupported by huge columns, and covered with large ſtones, one of which may be diſtinguiſhed, thirty feet long by five wide. The ceiling, painted with gold and azure, has preſerved the liveline's of its colours. The Turks have converted it into a ſtable, where they collect their herds. On the ruins of Antæopolis is now built a miſerable burgh called *Gaua el Kebire*. Savary's Travels, vol. i. p. 560.

ANTÆUS, in *Entomology*, a ſpecies of SCARABÆUS that inhabits America. The thorax has three horns, the middle one the longeſt, and ſimple; head unarmed; wing-caſes very ſmooth. Fabricius, Jablonſky, and Gmelin. The female has no horns.

ANTÆUS, in *Fabulous Hiſtory*, a gigantic king of Libya, ſaid to be the ſon of Neptune and Terra, and of the enormous ſtature of 64 cubits. In his conteſt with Hercules, he was repeatedly overcome, and laid on the ground half dead; but as often as he touched the earth, he obtained aſſiſtance from his mother, and acquired freſh ſtrength. Hercules, therefore, found it neceſſary to raiſe him from the ground, and ſuſpending him in the air, ſqueezed him to death. This Antæus is ſaid to have built the town of Tingis on the ſtraits of Gibraltar, where he was interred. The Greek geographers pretend that this Antæus founded Antæopolis in Upper Egypt; and Diodorus Siculus informs us, that Oſiris aſſigned to him the government of Libya and Ethiopia. But it is not eaſy to determine how the Egyptians ſhould raiſe to the rank of their gods the Grecian Antæus. It is probable, however, that the temple in which Antæus was honoured by the ancient inhabitants of Egypt, was ruined; and that in proceſs of time the Greeks, under the reign of the Ptolemies, ſubſtituted for the worſhip aſſigned to the Egyptian Antæus, that of the giant of the ſame name, ſlain by Hercules.

ANTÆUS, in *Ancient Hiſtory*, was probably the ſame with Atlas; and they are repreſented by ancient writers as two of the firſt kings of Mauritania. They were both the ſons of Neptune, who reigned over Mauritania, Numidia, and a great part of Libya; and they both ruled over a great part of Africa, particularly Tingitania. Hercules defeated and ſlew Antæus, in the war in which he diſpoſſeſſed Atlas of Libya. Atlas and Antæus invaded Egypt, and contended with Hercules in the wars with the gods, and were both vanquiſhed by him. Antæus, as well as Atlas, was famed for his knowledge of the celeſtial ſciences; and from this circumſtance it may reaſonably be inferred, that they were, under different names, the ſame king of Mauritania. Antæus, in his wars with Hercules, commanded an army of Egyptians and Ethiopians, and behaved with great reſolution and fortitude. By means of powerful reinforcements of Libyan troops, he cut off a great number of Hercules's men; but that celebrated commander, having at laſt intercepted a ſtrong body of Mauritanian or Libyan forces, that were ſent to the relief of Antæus, gave him a total overthrow, and put him and the beſt part of his troops to the ſword. This deciſive action put Hercules in poſſeſſion of Libya and Mauritania, and conſequently of all the riches of thoſe kingdoms; and hence aroſe the fable, that Hercules, finding Antæus, a giant of an enormous ſize, with whom he was engaged in ſingle combat, had recourſe to the artifice mentioned in the preceding article for putting him to death. Hence likewiſe may be deduced the fable, intimating that Hercules took the globe of Atlas upon his own ſhoulders, overcame the dragon that guarded the orchards of the Heſperides, and made himſelf maſter of all the golden fruit. The golden apples ſo frequently mentioned by the old mythologiſts, were the treaſures that fell into the hands of Hercules upon the defeat of Antæus; the Greeks giving the oriental word תפוח, *riches*, the ſignification affixed to their own term μῆλα, *apples*. After the moſt diligent and impartial examination of all the different hypotheſes of hiſtorians and chronologers, relating to Atlas and Antæus, there is no one that appears ſo little encumbered with difficulties as that of Sir Iſaac Newton. According to this illuſtrious author, Ammon, the father of Seſac, was the firſt king of Libya, or that vaſt tract extending from the borders of Egypt to the Atlantic Ocean; the conqueſt of which country was effected by Seſac during his father's life. Neptune afterwards excited the Libyans to a rebellion againſt Seſac, and ſlew him; and then invaded Egypt, under the command of Atlas and Antæus, the ſon of Neptune, Seſac's brother and admiral. Not long after, Hercules, the general of Thebais and Ethiopia, for the gods, or great men of Egypt, reduced a ſecond time the whole continent of Libya, having overthrown and ſlain Antæus near a town in Thebais, from that event called Antea, or Antæopolis. Such is the opinion of Sir Iſaac Newton, who endeavours to prove, that the firſt reduction of Libya by Seſac happened a little above a thouſand years before the birth of Chriſt, as the laſt, by Hercules, occurred ſome few years after. Anc. Un. Hiſt. vol. xvi. p. 160.

ANTAGONIST, formed from κατὰ, *againſt*, and ἀγωνίζω, *I contend*, among the *Ancients*, denotes an adverſary in battle. In this ſenſe the word is rather uſed in ſpeaking of ſportive combats, or games, than of ſerious fighting.

ANTAGONIST alſo denotes one of the parties in literary diſputes.

ANTAGONIST *muſcles*, in *Anatomy*, are thoſe which have oppoſite functions. Such are the *flexor* and *extenſor* of any limb, the one of which contracts it, and the other ſtretches it out; and alſo the *abductors* and *adductors*. Solitary muſcles are thoſe without any antagoniſts; as the heart, &c.

ANTALGIC, from κατὰ, and ἄλγος, *pain*, an epithet given by ſome writers to medicines proper for abating pain. In this ſenſe antalgics amount to the ſame with ANODYNES.

ANTALIS, in *Conchology*, the name given by Argenville to the ſpecies of dentalium, called ENTALIS by Linnæus.

ANTALKALINES, in the *Materia Medica*, ſignify medicines ſuited to correct alkaline ſalts, or alkaline matters in the whole body, or in particular parts. Dr. Cullen obſerves (Mat. Med. vol. ii. p. 423.), that no alkaline ſalt, in its ſeparate ſtate, ever exiſts in the blood-veſſels of the living human body. He accordingly explodes the doctrine of Dr. Boerhaave, who treats "De Morbis ex Alkali ſpontaneo," as incorrect and erroneous, and leading to no occaſion for the uſe of antalkalines: and he adds, that the only occurrence requiring them is a very rare one, that of a pure alkali being thrown in by miſtake or accident into the ſtomach; and the means of taking off its irritation by acids is ſufficiently obvious. It is farther to be remarked, that as the alkali, in any noxious quantity, cannot have been introduced without hurting the mouth, fauces, and œſophagus, it is always neceſſary, in ſuch caſes, along with the acids, to employ the large uſe of diluents and demulcents.

ANTAMBA,

ANTAMBA, in *Zoology*, an animal of Madagaſcar, probably the ſame with the engoi of Congo, is a variety of the leopard, as large as a dog, with a round head; and, according to the relations of the negroes, is like a leopard, and devours both men and cattle. It is found only in the moſt deſert parts of the iſland.

ANTANACLASIS, from αντι and αναϰλαω, *repercutio, I ſtrike again*, a figure in *Rhetoric*; whereby the ſame word is repeated, but in a different ſignification—As, "Let the dead bury the dead." "Dum vivimus, vivamus." This figure carries with it a poignancy; and when it appears natural and eaſy, diſcovers a ready turn of thought.

ANTANAGOGE, from αντι, and αναγωγη, *retortion*; a figure in *Rhetoric*, when, not being able to anſwer the accuſation of the adverſary, we return the charge, by loading him with the ſame or other crimes; which is uſually called RECRIMINATION.

ANTANDRO, in *Geography*, a town of Aſiatic Turkey, in the province of Natolia, 12 miles weſt north-weſt of Adramitti.

ANTANDROS, in *Ancient Geography*, a town of Aſia Minor, in Myſia, according to Strabo, who places it on the north ſide of the gulf of Adramyttium. Stephanus Byz. ſays, that the Cimmerians poſſeſſed it during a century. According to Strabo, theſe people, conducted by Lygdamis, made this town their place of arms. Servius ſays, that Antandros was founded by the inhabitants of Andros, after they were driven from their own iſland on account of their ſedition. Others ſay, that the Thracians, having made Polydore a priſoner, obtained this city as the price of his ranſom. Some authors place it at the foot of Mount Ida; and allege, that it gave name to the ſmall chain of mountains extending from Troy to the ſea. See ANDROS.

ANTANII, a people who inhabited Caria.

ANTANISOPHYLLUM, in *Botany*. See BOERHAAVIA.

ANTAPHRODISIAC, from αντι, and Αφροδιτη, *Venus*; an epithet given to medicines which diminiſh the ſemen, and check or extinguiſh the incitements to venery. It is doubtful whether there be any medicines of ſpecific power for this purpoſe; and if there be any which have theſe effects, it is by anſwering particular indications, under the titles of which they ſhould only be mentioned, and not under a general term of no defined operation.

ANTAPOCHA, in the *Civil Law*, denotes one's acknowledgment in writing of money paid, in the way of rent, penſion, intereſt, or the like incumbrance. Such inſtrument, or antapocha, the debtor gives upon making payment to the creditor, to ſerve as a proof of the charge or incumbrance for futurity, and exclude any claim of preſcription againſt the payment of it. The *antapocha* differs from the *apocha*, in that this latter is given by the creditors to the debtor, the former *vice verſa*.

ANTARADUS, in *Ancient Geography*, a town of Syria, commonly called TORTOSA, was ſituated over-againſt the ancient ARADUS, to the right of the river Eleuthera, at a ſmall diſtance from the ſea. In the fourth century, about A. D. 330, it continued to be known by its old name, as appears from the "Itinerarium Hieroſolymitanum;" which, with its other name *Conſtantia*, given to it by its reſtorer Conſtantius, were diſuſed ſome centuries afterwards, in, or perhaps before, the time of the croiſades. Shaw's Trav. p. 266.

ANTARCTIC *Pole* denotes the ſouthern POLE, or end of the earth's axis. The word is compoſed of αντι, *contra*, and αρϰτος, *urſa, bear*; as being oppoſite to the artic pole. The ſtars near the antarctic pole never appear above our horizon.

ANTARCTIC *circle*, is one of the leſſer circles of the ſphere, parallel to the equator, at the diſtance of 23° 30′ from the ſouth pole. It takes its name from its being oppoſite to another circle, parallel likewiſe to the equator, and at the ſame diſtance from the north pole, called the ARCTIC *circle*.

ANTARCTICA, in *Entomology*, a ſpecies of SPHEX, about the ſize of the common waſp. It is black, with ferruginous legs and antennæ. Gmelin. Inhabits the Cape of Good Hope.

ANTARCTICA, in *Ornithology*, a ſpecies of PROCELLARIA that is found within the antarctic circle. It is brown above, beneath bluiſh white; tail white, black at the tip; legs lead colour. Gmelin. This is the antarctic petrel of Forſter and Cook; petrel antarctique, ou damier brun, of Buffon; and petrel brun et blanc of Bongaino. It is about the ſize of a large pigeon, and the length is ſixteen inches, of which the bill is one inch and an half, and is brown with a black tip; the ſecond quill feathers are white, with dark brown tips; the quills are dark brown, with the inner webs of ſome next the body white. Theſe birds have been met with in flights of twenty or more, by navigators, in S. lat. 61° 36′.

ANTARCTICA, is alſo a ſpecies of APTENODYTES, called by Forſter the antarctic pinguin. The beak is black, legs reddiſh, and a black line on the throat. Gmelin.

The length of this bird is twenty-five inches; the weight eleven pounds and an half. Bill nearly three inches in length, black, and the under mandible ſomewhat truncated; irides pale yellow; upper parts of the body black, beneath gloſſy white. Under the chin is a narrow blackiſh ſtreak paſſing backwards towards the hinder part of the head, and ſomewhat bent about the region of the ears. Wings above blue-black, the lower margin and inſide white; tips black. Tail cuneiform; the feathers, or rather briſtles which compoſe it, black, and thirty-two in number. The feet, which are reddiſh, or rather fleſh colour, have the ſoles black. Latham, &c.

This ſpecies inhabits the South Sea, from 48° to the antarctic circle; and is frequently found on the icy mountains and iſlands in thoſe regions, according to Forſter, Ellis, and other naturaliſts and navigators.

ANTARCTICUS, in *Entomology*, a ſpecies of TABANUS that inhabits America. It has four brown ſtripes acroſs the eyes, and the ſhanks of the legs are white. Fabricius and Gmelin.

ANTARES, in *Aſtronomy*, the Scorpion's Heart; a fixed ſtar of the firſt magnitude, in the conſtellation SCORPIO.

ANTASTHMATICS, in the *Materia Medica*, denote medicines that are ſuppoſed to cure aſthma; or, in general, to relieve difficult breathing.

ANTASTROPHE, from αντι, and ϛρεφω, *I turn*; in *Rhetoric*, a ſpecies of ANTEPOSITION.

ANTAVARE, in *Geography*, a province of Madagaſcar, is ſituated to the north of Matatane, in 21° 30′ of S. lat. and bounded by the province and cape of Manouſi. It is watered by the river Mananzari, whoſe ſource is in the mountains of Ambohitſmene, or red mountains, ſituate about 12 leagues farther north-weſt, and which runs ſouth-eaſt and eaſt. Antavare is extremely fertile in rice, yams, bananas, ſugar-canes, and honey, of which wine is made; and it abounds in cattle and goats, and all ſorts of fowls and proviſions. The French diſcovered in this province gold duſt by means of the negroes, who offered it for ſale.

ANTE, in *Geography*, a river of France, which runs into the Dive at Calliboeuf, in the department of the Calvados.

ANTE, a town and port of Africa, in Guinea, three leagues from the cape of Three Points.

ANTEA, or ANTEIS, *Ampus*, in *Ancient Geography*, a town of Gallia Narbonnenſis, almoſt to the north of Forum Voconii. The Roman way from Forum Julii to Reis Apollinaris, paſſed by Antea.

ANTEAMBULONES, from *ante*, *before*, and *ambulo*, *I walk*, in *Antiquity*, a kind of ſtate ſervants, who walked before their maſters to clear the way and keep off the crowd.

The *formula* uſed by theſe was *Date locum domino meo*.

ANTECANIS is uſed, by ſome *Aſtronomers*, to denote the conſtellation otherwiſe called *Canis Minor*, or the ſtar *Procyon*. It is thus denominated as preceding, or being the forerunner of the *Canis Major*, and riſing a little before it.

ANTECEDENT, in the ſchools, ſomething that precedes or goes before another, in reſpect of time or place.

The word is compounded of *ante*, *before*, and *cedere*, *to go*. In which ſenſe it ſtands oppoſed to *ſubſequent*.

ANTECEDENT, in *Grammar*, the word to which a relative refers.

ANTECEDENT, in *Logic*, denotes the firſt propoſition of an *enthymeme*, or of an argument which only conſiſts of two members. In oppoſition to this, the latter is called the *conſequent*.

Thus, in the argument, *cogito, ergo ſum*, *I think, and therefore I exiſt*; *cogito* is the antecedent: being thus called, becauſe it precedes the *ergo*, or the *copula*, of the argument.

ANTECEDENT *of a* RATIO, in *Mathematics*, denotes the firſt term, or that which is compared with the other.

Thus, if the *ratio* be $a : b$, or of a to b, a is ſaid to be the antecedent.

ANTECEDENT *ſigns*, in *Medicine*, are ſuch ſymptoms of diſorder as appear before a diſtemper is ſo formed as to be reducible to any particular claſs, or proper denomination.

ANTECEDENTS, in *Rhetoric*, are ſuch things as being once allowed, others neceſſarily or very probably follow. This is one of the ſixteen topics or common places enumerated by Cicero and Quinctilian.

ANTECEDENT *decree*, in *Theology*, is a decree preceding ſome other decree, or ſome action of the Creator, or the proviſion of action. It is a point much controverted, whether predeſtination be a decree antecedent to faith, or ſubſequent to it.

ANTECEDENT *will*, or *deſire*, is that which precedes ſome other will or deſire, or ſome knowledge or proviſion. Thus ſome divines ſay, God by a ſincere, but antecedent deſire, wills all men to be ſaved; that is, this ſincere deſire of God precedes, and does not ſuppoſe, the knowledge of their faith and repentance.

ANTECEDENT *neceſſity*. See NECESSITY.

ANTECEDENTAL METHOD, in *Mathematics*, is a branch of general geometrical proportion, or univerſal compariſon; and is derived from an examination of the antecedents of ratios, having given conſequents, and a given ſtandard of compariſon, in the various degrees of augmentation and diminution, which they undergo by compoſition and decompoſition. This method was invented by Mr. James Glenie, and publiſhed by him in 1793; and this method, he ſays, he always uſed inſtead of the fluxional and differential methods, and which is totally unconnected with the ideas of motion and time. See the author's treatiſe on the ſubject, and alſo his Doctrine of Univerſal Compariſon, or General Proportion, 1789, upon which it is founded. See CALCULUS, *Antecedental*.

ANTECEDENTIA, among *Aſtronomers*. When a planet appears to move weſtward, contrary to the order or courſe of the ſigns, as from Taurus towards Aries, it is ſaid to move *in antecedentia*.

On the contrary, when it goes eaſtward, or forward, from Aries towards Taurus, it is ſaid to move *in conſequentia*.

ANTECESSOR, one that goes before, or that leads another. See PRECURSOR, PREDECESSOR, &c.

The term is particularly uſed, in ſome univerſities, for a public profeſſor, who teaches or lectures in the civil law.

ANTECESSORS, or ANTECURSORES, in the ancient art of *War*, is an appellation given to a party of horſe, diſpatched before the *agmen* or body of an army, partly by way of intelligence, and partly to chooſe out a proper place for encamping on, as well as the moſt convenient roads for the ſoldiery to travel in. They amount to the ſame with what the Greeks call *prodromi*.

ANTECHAMBER, or ANTICHAMBER, formed of *ante*, *before*, and *camera*, *a chamber*; an outer chamber before the principal chamber of an apartment, where the ſervants wait, and where ſtrangers ſtay, till the perſon to be ſpoken with is at leiſure.

ANTECHRIST. See ANTICHRIST.

ANTECUIA, or ANTEGUA, in *Ancient Geography*, a town of Spain in Bœtica, ſouth-eaſt of Hiſpalis, poſſeſſed; according to Ptolemy, by the Antigones.

ANTECURSORES. See ANTECESSORS.

ANTEDATE, a ſpurious date, prior to the true date of a writing, inſtrument, act, deed, or the like.

Antedates, in *Commerce*, are of a very dangerous conſequence in matters of trade. To *antedate* is to ſet down a falſe date: to date from a day prior to that on which the buſineſs is tranſacted, the note or bill drawn, or letters written, &c.

In France it was formerly the ill cuſtom to have blank orders on the backs of bills of exchange, that is, to indorſe them merely with a name, ſo that they could eaſily be antedated: which in caſe of failures was liable to cauſe very great abuſes. But by the regulations for commerce of 1683, it is ordered that the ſignatures on the backs of bills of exchange ſhall not ſerve for orders, unleſs dated; and antedates are puniſhed as forgery.

ANTEDILUVIAN, or ANTIDILUVIAN, formed of *ante*, *before*, and *diluvium*, *deluge*, ſomething that exiſted or happened before the DELUGE.

Dr. Burnet and Dr. Woodward differ very widely about the Antediluvian world; the former imagines its face and appearance to have been ſmooth, equable, and in all reſpects different from what we now find it to be. The latter, on the contrary, endeavours to prove, that the face of the terraqueous globe before the deluge was the ſame as it is now, *viz.* unequal, diſtinguiſhed into mountains and dales, and having likewiſe a ſea, lakes, and rivers; that this ſea was ſalt, as ours is; was ſubject to tides; and poſſeſſed nearly the ſame ſpace and extent that it now does; and that the *Antediluvian* world was ſtocked with animals, vegetables, minerals, &c. that it had the ſame poſition, in reſpect of the ſun, which ours now hath, its axis not being perpendicular, but inclined, as at preſent, to the plane of the ecliptic; conſequently that there were then the ſame ſucceſſion of weather, and the ſame viciſſitudes of ſeaſons as now. See EARTH.

In the ſenſe of the definition, thoſe generations that exiſted from Adam till Noah's flood, are called *Antediluvians*; and thoſe that have deſcended from Noah to the preſent time, are called *Poſtdiluvians*. Although the regular ſucceſſion of the ſeveral patriarchs from the creation to the deluge, or from Adam to Noah, may be deduced without difficulty from the ſacred writings, it is not ſo eaſy to ſettle the chronology of this period. Moſes has not preciſely marked the time of the various tranſactions that occurred before the

the flood, but he has contented himſelf with merely ſetting down the years of the fathers' age, in which the ſeveral deſcendants of Adam, in the line of Seth, were begotten, and the length of their reſpective lives; and therefore, in this period, nothing more can be done than to aſcertain the years of the lives and deaths of thoſe patriarchs, and the diſtance of time from the creation to the deluge. This, indeed, might eaſily be done, if there were no varieties in the ſeveral copies of the writings of Moſes, to which we have now acceſs, which are the Hebrew, the Samaritan, and the Greek verſion of the Septuagint: but theſe differ conſiderably from one another; and hence learned men, as they have preferred one copy or the other, are much divided in their opinions concerning the firſt ages of the world. In order to enable our readers to judge of the variations of the three copies above mentioned, in this period, we ſhall ſubjoin a table extracted from the Ancient Univerſal Hiſtory, in which the correſponding numbers of each will appear; and we ſhall alſo add thoſe of Joſephus, as they have been corrected by Dr. Wells and Mr. Whiſton; a correction which became indiſpenſable on account of the corruptions that have been introduced into the preſent copies of that hiſtorian.

A Table of the Years of the Antediluvian Patriarchs.

	Their ages at their ſons birth.				Years they lived after the ſons birth.			Length of their lives.		
	Heb.	Sam.	Sept.	Joſ.	Heb.	Sam.	Sept.	Heb.	Sam.	Sept.
Adam,	130	130	230	130	800	800	700	930	930	930
Seth,	105	105	205	105	807	807	707	912	912	912
Enos,	90	90	190	90	815	815	715	905	905	905
Cainan,	70	70	170	70	840	840	740	910	910	910
Mahalaleel,	65	65	165	65	830	830	730	895	895	895
Jared,	162	62	162	62	800	785	800	962	847	962
Enoch,	65	65	165	65	300	300	200	365	365	365
Methuſelah,	187	67	167	187	782	653	802	969	720	969
Lamech,	182	53	188	182	595	600	565	777	653	753
Noah was aged, at the Flood,	600	600	600	600						
To the Flood,	1656	1307	2262	1556						

To this Table it will be neceſſary, in order to explain the conſequence of theſe variations, to add ſeparate chronological tables, ſhewing in what year of his contemporaries the birth and death of each patriarch happened, according to the computation of each of the ſaid three copies.

A Chronological Table of the Years of the Patriarchs, according to the Computation of the Hebrew.

	Years of the world.	Years of Seth.	Years of Enos.	Years of Cainan.	Years of Mahalaleel.	Years of Jared.	Years of Enoch.	Years of Methuſelah.	Years of Lamech.	Years of Noah.
Adam created,	1									
Seth born,	130									
Enos born,	235	105								
Cainan born,	325	195	90							
Mahalaleel born,	395	265	160	70						
Jared born,	460	330	225	135	65					
Enoch born,	622	492	387	297	227	162				
Methuſelah born,	687	557	452	362	292	227	65			
Lamech born,	874	744	639	549	479	414	252	187		
Adam dies,	930	800	695	605	535	470	308	243	56	
Enoch tranſlated,	987	857	752	662	592	527	365	300	113	
Seth dies,	1042	912	807	717	647	582		355	168	
Noah born,	1056		821	731	661	596		369	182	
Enos dies,	1140		905	817	745	680		453	266	84
Cainan dies,	1235			910	840	775		548	361	179
Mahalaleel dies,	1290				895	830		603	416	234
Jared dies	1422					962		735	548	366
Japhet born,	1556							869	682	500
Shem born,	1558							871	684	502
Lamech dies,	1651							964	777	595
Methuſelah dies,	1656		The Flood.					969		600

A Chronological Table of the Years of the Patriarchs, according to the Computation of the Septuagint.

	Years of the world.	Years of Seth.	Years of Enos.	Years of Cainan.	Years of Mahalaleel.	Years of Jared.	Years of Enoch.	Years of Methuſelah.	Years of Lamech.	Years of Noah.
Adam created,	1									
Seth born, -	230	230								
Enos born, -	435	205	205							
Cainan born, -	625	395	190	190						
Mahalaleel born,	795	565	360	170	170					
Adam dies -	930	700	495	305	135	135				
Jared born, -	960	730	525	335	165	165				
Enoch born, -	1122	892	687	497	327	162	162			
Seth dies, -	1142	912	707	517	347	182	182			
Methuſelah born,	1387		852	662	492	327	165	187		
Enos dies,	1340		905	715	545	380	218	200		
Lamech born.	1474			849	679	514	352	248	61	
Enoch tranſlated,	1487			862	692	527	365	375	188	
Cainan dies, -	1535			910	740	575		403	216	28
Noah born,	1662				867	702		635	448	260
Mahalaleel dies,	1690				895	730		875	688	500
Jared dies, -	1922					962		877	690	502
Japhet born, -	2162							940	753	565
Shem born, -	2164							969		594
Lamech dies,	2227									600
Methuſelah dies,	2256									
The Flood, -	2262									

A Chronological Table of the Years of the Patriarchs, according to the Computation of the Samaritan Pentateuch.

	Years of the world.	Years of Seth.	Years of Enos.	Years of Cainan.	Years of Mahalaleel.	Years of Jared.	Years of Enoch.	Years of Methuſelah.	Years of Lamech.	Years of Noah.
Adam created,	1									
Seth born,	130	130								
Enos born, -	235	105	105							
Cainan born, -	325	195	90	90						
Mahalaleel born,	395	265	160	70	70					
Jared born, -	460	330	225	135	65	65				
Enoch born, -	522	392	287	197	127	62	62			
Methuſelah born,	587	457	352	262	192	127	65	65		
Lamech born, -	654	524	419	329	259	194	132	67	67	
Noah born, -	707	577	472	382	312	247	185	120	53	
Enoch tranſlated,	887	757	652	562	497	427	365	300	233	180
Adam dies, -	930	800	695	605	535	470		343	276	323
Seth dies, -	1042	912	807	717	647	582		462	388	335
Enos dies, -	1140		905	815	745	680		553	486	433
Japhet born, -	1207			882	812	747		620	553	500
Shem born, -	1209			884	814	749		622	555	502
Cainan dies, -	1235			910	840	775		648	581	528
Mahalaleel dies,	1290				895	830		703	636	583
Jared, Methuſelah, and Lamech, die	1307			The Flood.		847		720	653	600

To the varieties exhibited in the two laſt tables, others might be added, by admitting the various readings of ſome numbers in the Samaritan and Septuagint; for as to the Hebrew copies, there is here a conſtant agreement among them.

The manuſcript from which the Samaritan Pentateuch was publiſhed, agrees exactly with the Samaritan numbers given by Euſebius. But St. Jerom tells us, that, in his time, there were ſome Samaritan copies which make Methuſelah 187 years old at the birth of Lamech, and Lamech 182 at the birth of Noah, juſt as the Hebrew does. Now if theſe numbers be approved as the true original numbers, the interval from the creation to the flood will be 1556 years; differing from the Hebrew computation but 100 years in the age of Jared at the birth of Enoch: and if this laſt be allowed to be a miſtake of the tranſcriber, by his dropping a number, and writing 62 inſtead of 162, as has been ſuſpected, the Samaritan will be perfectly reconciled with the Hebrew, and all difference between them vaniſh.

Scaliger,

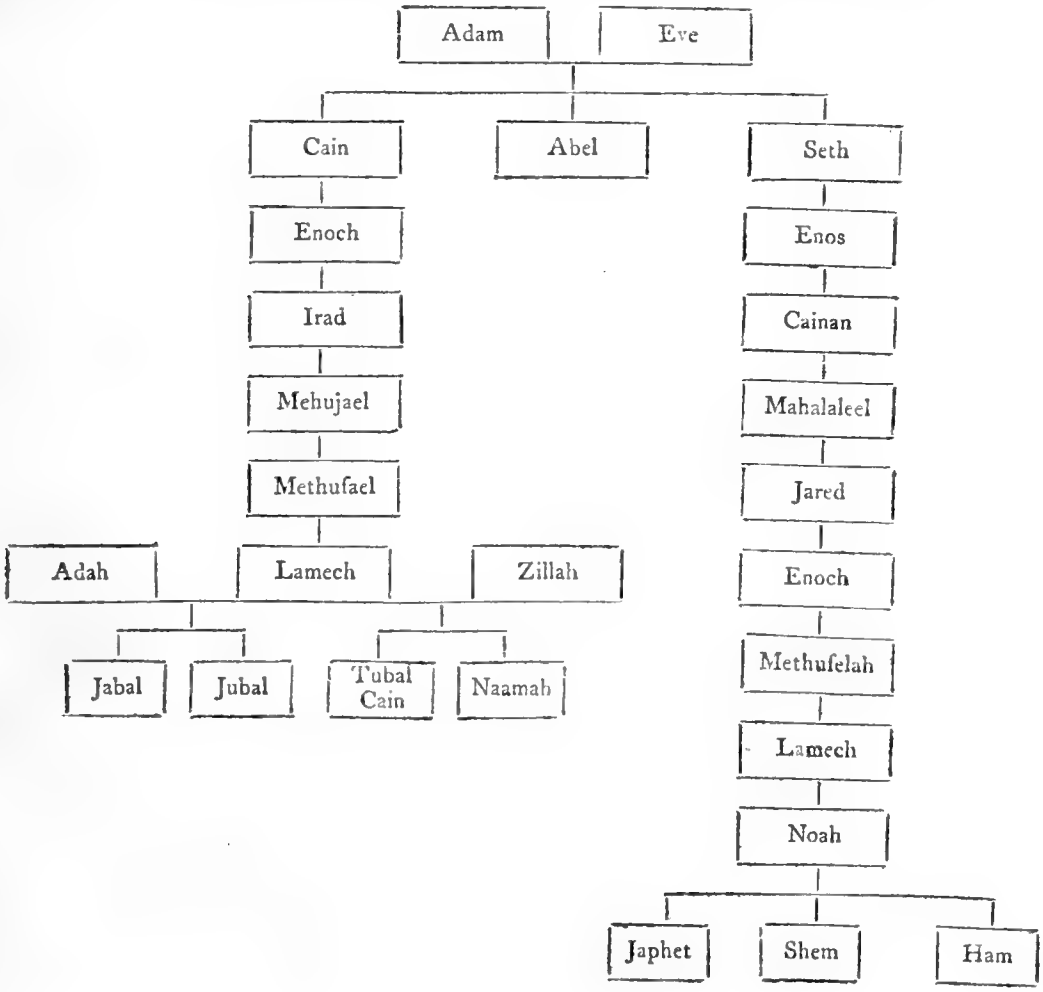
Scaliger, on the authority of an old Samaritan chronicle, having at the end a table of the years of the patriarchs to the time of Moſes, would correct two of the Samaritan numbers in Euſebius; viz. inſtead of 65, the age of Mahalaleel when he begat Jared, he thinks it ſhould be 75; and inſtead of 67, the age of Methuſelah when he begat Lamech, he would have it 77. By which alterations he reckons 20 years more to the flood than Euſebius and the manuſcript; that is, 1327: but as he acknowledges the table whereon he grounds theſe corrections, contains ſome great abſurdities, it ſeems unreaſonable to oppoſe it to the joint authority of Euſebius and the Samaritan manuſcript.

As to the Septuagint, in the common editions of that verſion, the age of Methuſelah at the birth of Lameeh is 167; and conſequently the ſum of this period, according to them, is no more than 2242. But in this caſe Methuſelah will outlive the flood 14 years; and we may well wonder, with Euſebius, where he was preſerved. To obviate this objection, we are told, that, in ſome copies, Methuſelah is ſaid to have lived but 782 (not 802) years after the birth of Lamech, and no more than 949 in all. But the Alexandrian manuſcript entirely takes away the difficulty, by giving the ſame number in this place with the Hebrew.

Pezron is of opinion, that the age of Lamech at the birth of Noah ſhould be but 182, as it is both in the Hebrew and in Joſephus; ſuppoſing, with St. Auſtin, that the preſent number is the error of the ſcribe, who firſt copied the original Septuagint manuſcript in Ptolemy's library. So that he computes 2256 years to the flood. And, if this correction be admitted, and one more mentioned alſo by St. Auſtin, viz. that Lamech lived 595 years after the birth of Noah, and not 565, as in the preſent copies, there will then remain no other difference between the Septuagint and the Hebrew than 600 years added to the ages of the ſix patriarchs when they begat their ſons; and Methuſelah will, conformably to the Hebrew and Samaritan, die in the year of the flood.

The chronology of the learned archbiſhop Uſher has been followed in the calculations of this period; and they may, with very little trouble, be reduced to that of the Samaritan or Septuagint, by thoſe who prefer the accounts of thoſe copies.

As in the courſe of this work we ſhall collect, under ſeparate articles, the leading particulars which ſacred hiſtory has recorded concerning the principal patriarchs, of the Antediluvian world, it is needleſs to enlarge in this place. It will be ſufficient to obſerve, that the whole progeny of Adam, of whom we have any mention in ſcripture, were the deſcendants of Cain and Seth, and the following genealogical table exhibits their ſucceſſion.



Sacred

Sacred hiſtory is chiefly confined to the line of Seth, and affords few particulars concerning that of Cain, ſo that no conjectures can be formed how long he or any of his deſcendants lived. The whole of what we know is, that Lamech, the fifth in deſcent from him, married two wives, Adah and Zillah, which connection furniſhes the firſt known inſtance of polygamy: that by the former he had two ſons, Jabal, who was the firſt that dwelt in tents and fed cattle, and Jubal, the inventor of muſic; and by the other, a ſon named Tubal-Cain, who found out the art of forging and working metals. Zillah likewiſe brought him a daughter named Naamah, who is ſuppoſed to have invented ſpinning and weaving. For other particulars, ſee LAMECH. The poſterity of Cain became in a very great degree degenerate and wicked; whilſt, on the other hand, the deſcendants of Seth were as eminent for their piety and virtue. In proceſs of time, however, or after ſeven generations, according to Joſephus, they alſo became corrupt and profligate; and every kind of wickedneſs overſpread the earth. At length the race of man became incorrigible, and all the means which Providence ordained for awakening and reclaiming them were ineffectual; ſo that it pleaſed God, in juſt diſpleaſure and after ſignal forbearance, to exterminate the whole ſpecies, Noah and his family excepted, by the deluge.

Of the Antediluvian period ſome accounts have been tranſmitted to us by thoſe ancient authors who have recorded the Phœnician, Babylonian, and Egyptian antiquities. Sanchoniatho (who is ſuppoſed by ſome to have been contemporary with Gideon, or with David; whilſt others deny the exiſtence of ſuch a perſon, and conſider his hiſtory as a fiction of Philo Biblius for diſcrediting Joſephus's book againſt Apion) wrote the Phœnician antiquities. His hiſtory commences with the origin of the world and of mankind; but as it was written with a view of apologiſing for idolatry, he deduces the hiſtory, not from Adam in the line of Seth, but in the idolatrous line of Cain, nor does he make the leaſt mention of the deluge. The firſt pair of mortals with whom his hiſtory begins, are called by Philo, his tranſlator, Protogonus and Æon. Their iſſue were denominated Genus and Genea, and they dwelt in Phœnicia. From Genus ſprung Phos, Phur, and Phlox, that is, light, fire, and flame. Theſe found out the method of producing fire by rubbing pieces of wood againſt each other, and taught men its uſe. Their ſons were of enormous height and bulk, and gave to the mountains of which they took poſſeſſion their own names of Caſſius and Libanus, Antilibanus and Brathys. From theſe again, in the fifth generation, proceeded Memrumus and Hypſuranius, who were ſo denominated by their mothers, who lived in a brutal ſtate of proſtitution. Hypſuranius inhabited Tyre, and there invented the art of making huts with reeds and ruſhes, and the papyrus. He quarrelled with his brother Uſous, who was the firſt inventor of a covering for his body, made of the ſkins of wild beaſts; and he alſo made a raft of boughs, and ventured upon it into the ſea. He likewiſe conſecrated two rude ſtones or pillars to fire and wind, and worſhipped them, pouring out to them the blood of ſuch wild beaſts as had been caught in hunting. Afterwards, however, ſtumps of wood and pillars were alſo conſecrated and worſhipped as deities. In the next generation ſucceeded Agreus and Halieus, the inventors of the arts of hunting and fiſhing, from whom the names of huntſmen and fiſhermen were derived. Theſe begot two brothers, who formed the ſeventh generation, and who diſcovered iron and the method of forging it; one of theſe was called Chryſor, the ſame with Hephæſtus or Vulcan, and exerciſed himſelf in words and charms, and divinations: he found out the hook, bait, and fiſhing line, built light boats, and was the firſt man that ſailed; ſo that after his death he was worſhipped as a god, and called Zeus Michius, or Jupiter the engineer; and ſome ſay, that his brothers invented the art of making bricks. From this generation deſcended two brothers, one called Technites, or the Artiſt, and the other Geinus Autochthon, or the home-born man of the earth. Theſe found out the art of mingling ſtubble or ſmall twigs, with the clay of which they made bricks and tiling. One of their poſterity, in the ninth generation, was called Agrus, field, and the other Agrouerus or Agrotes, huſbandman, who had a ſtatue much worſhipped, and a temple carried about by one or more yoke of oxen, in Phœnicia; and among thoſe of Byblus he is called by way of eminence, the greateſt of the gods. Theſe firſt made courtyards about houſes, fences, and caves or cellars. Huſbandmen and ſuch as uſe dogs in hunting, derive their origin from theſe: and they are alſo called Aletæ, and Titans. From theſe ſucceeded, in the 10th generation, Amynus and Magus, who taught men to form villages, and to feed flocks. Of Amynus and Magus were deſcended Miſor and Sydec; and the ſon of Miſor was Taautus or Thoth. The Protogonus and Æon of the Phœnician genealogy, were, without doubt, Adam and Eve; and Miſor, the Mizraim of Moſes. From Protogonus to Miſor, Sanchoniatho reckons 11 generations; and from Adam to Mizraim, Moſes makes 12: ſo that Sanchoniatho falls ſhort of Moſes only by one generation, which is owing to his not having recorded the flood. In this age there was one Eliun, importing in Greek Hypſiſtus, the moſt high; and his wife was named Beruth, who dwelt about Byblus; and by him was begotten one Epigeus, or Autochthon, whom they afterwards called Uranus, heaven. He gave his name to the element which is over us, and on account of its excellent beauty, is called heaven; and he had a ſiſter of the ſame parents, called Ge, the earth, and by reaſon of her beauty, the earth was denominated from her. Hypſiſtus, the father of theſe, being ſlain by wild beaſts, was conſecrated, and his children offered ſacrifices and libations to him. But Uranus, taking the kingdom of his father, married his ſiſter Ge, and had by her four ſons; Hus, who is called Chronus or Saturn; Betylus; Dagon, who is Siton, or the god of corn; and Atlas: but by other wives, Uranus had a numerous iſſue.

The Babylonian antiquities were collected by Beroſus, who was by birth a Chaldæan, and lived in the time of Alexander the Great. He gives a ſeries of ten kings, who reigned in Chaldæa before the flood, and computes their reigns by Sari or decads of years; making the whole ſum 1200, or more accurately, 1199 years, which is a number that offers no violence to the Moſaic chronology. As theſe ten ſucceſſions correſpond to the ten generations that elapſed between the creation and the flood, the firſt king, whoſe name was Alorus, has been ſuppoſed to be the ſame with Adam; and Xiſuthrus, the ſame with Noah. Alorus pretended to dominion by divine right, and maintained that God himſelf had declared him the paſtor of the people; a prerogative that peculiarly belonged to Adam. Alaſparus, the ſecond king, was ſucceeded by Amelon, or Amelarus, of the city of Pantibibla, probably the Sipphara of Ptolemy, and ſuppoſed by Sir Iſaac Newton to be the Sepharvaim of Scripture. After Amenon and Metalarus, who were both of Pantibibla, and the ſucceſſors of Alaſparus, aroſe Daonus, an inhabitant of the ſame city, and a ſhepherd. The ſeventh prince, called Eudereſchus, was of the ſame city; the eighth or ninth were of another city, called Laranchi; and

the

the laſt of theſe; Ohartes or Ardates, was ſucceeded by his ſon Xiſuthrus, in whoſe time the great deluge happened. See DELUGE.

Beroſus aſcribes the origin of the arts and ſciences among the Antediluvians to the following circumſtance. There appeared, ſays he, out of the Red Sea, at a place near the confines of Babylonia, a certain irrational animal, whoſe name was Oannes. His body reſembled that of a fiſh, and beneath his head another grew; his feet were like thoſe of a man, and proceeded from the fiſh's tail, and he had a human voice. This animal converſed with men in the day, and communicated the knowledge of letters, arts, and ſciences; he taught men to dwell together in cities, to erect temples, to introduce laws, to acquire geometry, and to gather ſeeds and fruits; and in ſhort, he imparted to mankind whatever was neceſſary and convenient for a civilized life. When the ſun ſet, this animal, which was of the amphibious kind, retired into the ſea, and ſtayed there during the night. This animal not only delivered his inſtructions by word of mouth, but wrote concerning the origin of things, and of political economy. Other authors have alſo mentioned this Oannes, with ſome trivial difference in their accounts. Hyginus alſo writes, that Euahanes, a name not very different from Oannes, came out of the ſea in Chaldæa, and explained aſtrology. According to Abydenus, a ſecond animal, called Annedotus, and reſembling the demi-god Oannes, aroſe out of the ſea in the reign of Amelon; and in the time of Daonus, four ſuch animals aroſe from the ſea, and their names were Euedocus, Eneugumus, Eneubulus, and Anementus; and under Euedereſchus there appeared another animal, like the former, called Odacon. All theſe explained more particularly what Oannes had delivered in a more ſummary and conciſe manner.

The Egyptians have alſo a ſeries of kings, who, as they pretend, reigned in Egypt before the flood; and their account begins in the ſame year with that of Beroſus. They had an ancient chronicle, extant among them not many centuries ago, which contained 30 dynaſties of princes who ruled in that country, by a ſeries of 113 generations, through an immenſe interval of 36,525 years, during which period Egypt was ſucceſſively governed by three different races, *viz.* the Auritæ, the Meſtræi, and the Egyptians. Manetho, a writer ſomewhat later than Beroſus, and whoſe remains furniſh the ancient Egyptian hiſtory, has not adopted this extravagant number of years, though he has probably been led into errors in chronology by this old chronicle, which nevertheleſs ſome have ſuppoſed to have been a compoſition of later date than his time. This writer begins his hiſtory with 16 dynaſties or reigns of princes; of whom the firſt ſeven were called gods, and the other nine demigods; theſe, he ſays, reigned 1985 years.

The knowledge we are able to deduce from the ſcriptures, the only ſource of authentic intelligence on this ſubject, concerning the religion, arts and ſciences, and policy of the Antediluvians, is very limited and imperfect, and depends more upon conjecture than upon certain concluſions from a detail of facts. Their religious rites, we know, conſiſted of ſacrifices, both of the fruits of the earth and of animals; but it is not agreed, whether the blood and fleſh of the animals, or only their milk and wool were offered. See SACRIFICE. Some have endeavoured to prove, that all the patriarchs from Adam had ſtated places, and both annual and weekly times ſet apart for divine worſhip, and alſo a ſeparate maintenance for the prieſts; but theſe particulars, though they may be true, cannot be proved from the ſcripture. See SABBATH. The arts and ſciences, as we may naturally ſuppoſe, made but ſlow progreſs during the period to which we now refer. It appears that the art of working metals was diſcovered by the laſt generation of the line of Cain, and muſic, which they might have been ſuppoſed to practiſe for their pleaſure, was not brought to any perfection (if indeed it was actually invented) before the ſame generation. Some have ſuppoſed, that the ſcience of aſtronomy was cultivated by the Antediluvians; but this opinion is probably owing to a miſapprehenſion of Joſephus: but if it was known, the progreſs they made in it, or indeed in any other ſcience, was inconſiderable. It has been even doubted, whether or not letters were known before the flood. See LETTERS and WRITING. As to their politics and civil conſtitutions, we can only ſay, that the patriarchal form of government was probably the firſt that was adopted; but this was ſet aſide, when tyranny and oppreſſion began to take place; and this change occurred much ſooner, as we have reaſon to believe, among the race of Cain than that of Seth. Their communities were few, and conſiſted of much larger numbers of people than thoſe which were formed after the flood; and it has been queſtioned, whether after the union of the two great families of Seth and Cain, there was any diſtinction of civil ſocieties, or diverſity of regular governments at all. It is more likely, that all mankind formed one great nation, living in a kind of anarchy, divided into ſeveral diſorderly aſſociations; which was almoſt the natural conſequence of their having but one common language, and muſt have greatly contributed to the general corruption, that could not otherwiſe have ſo univerſally overſpread the Antediluvian world. For this reaſon chiefly, as ſoon as the poſterity of Noah were ſufficiently increaſed, a plurality of tongues was miraculouſly introduced, in order to divide them into diſtinct ſocieties, that they might not be ſo eaſily debauched for the future. See CONFUSION of TONGUES, and DISPERSION.

The Antediluvian world was, probably, ſtocked with a much greater number of inhabitants in proportion to the extent in which we may ſuppoſe it to be habitable than the earth, in its preſent ſtate, is perhaps capable of containing or ſupplying. This increaſe of population ſeems naturally to follow from the great length of their lives, exceeding the preſent ſtandard of life in the proportion of at leaſt ten to one; the Antediluvians muſt, accordingly, in any long ſpace of time, double themſelves, at leaſt, in about the 10th part of the time in which mankind do now double their number; for they began to procreate as early, and left off as late, in proportion, as men do now; and the ſeveral children of the ſame father ſeem to have ſucceeded as quickly one after another as they uſually do at this day; and as many generations, which are but ſucceſſive with us, were contemporary before the flood, the number of people living on the earth at once, would be ſufficiently increaſed to anſwer any defect which might ariſe from other circumſtances not conſidered. So that, if we make a computation on theſe principles, we ſhall find, that there was a conſiderable number of people in the world at the death of Abel, though their father Adam was not then 130 years old, and that the number of mankind before the deluge would eaſily amount to above 100,000 millions, even according to the Samaritan chronology; that is, to 20 times as many as our preſent earth has, in all probability, now upon it, or can well be ſuppoſed capable of maintaining in its preſent conſtitution. It is now generally owned, as the reſult of good obſervations, that mankind double themſelves in about 360 or 370 years; or, allowance being made for all excepted caſes, ſuch as wars, famines, &c. in about 400 years. So that allowing the period for doubling mankind from the creation

creation to the deluge to be ten times ſhorter by reaſon of their ſo much longer lives; if we have a ſeries of 40 numbers, beginning at two, for ſo many God created at firſt, and doubling themſelves in 40, or for convenience, in 41 years, at a mean, or one age with another, till the deluge, we ſhall, in ſome degree, obtain the ſum total of mankind at the deluge, and alſo in the ſeveral ages before that time; though this period of doubling muſt ſtill have been much ſhorter in the earlieſt, and longer in the lateſt times of the interval; which computation Mr. Whiſton, who has furniſhed theſe obſervations has given in the following table.

Number of mankind.	Years of the world.	Years of doubling.	Series.
4	2	2	1
8	6	4	2
16	12	6	3
32	20	8	4
64	30	10	5
128	42	12	6
256	56	14	7
512	72	16	8
1,024	90	18	9
2,048	110	20	10
4,096	132	22	11
8,192	156	24	12
16,384	182	26	13
32,768	210	28	14
65,536	240	30	15
131,072	272	32	16
262,144	306	34	17
524,288	342	36	18
1,048,576	380	38	19
2,097,152	420	40	20
4,194,304	462	42	21
8,388,608	506	44	22
16,777,216	552	46	23
33,554,432	600	48	24
67,108,864	650	50	25
134,217,728	702	52	26
268,435,456	756	54	27
536,870,912	812	56	28
1,073,741,824	870	58	29
2,147,483,648	930	60	30
4,294,967,296	992	62	31
8,589,934,592	1,056	64	32
17,179,869,184	1,122	66	33
34,359,738,368	1,190	68	34
68,719,476,736	1,260	70	35
137,438,953,472	1,332	72	36
274,877,906,944	1,406	74	37
549,755,813,888	1,482	76	38

Mr. Cockburn, in his Treatiſe on the Deluge, has made ſeveral objections to the principles upon which the above table is calculated, for which we muſt refer to the author's own account. This author has computed two tables, exhibiting the increaſe of mankind in the Antediluvian world; the firſt on the ſuppoſition of their doubling themſelves in 50 years, and the other in 40 years, and both beginning at the year 500, when there could not be fewer than 100 married or marriageable perſons deſcended from Adam and Eve.

Years of the World.	Number of Mankind.
500	200
550	400
600	800
650	1,600
700	3,200
750	6,400
800	12,800
850	25,600
900	51,200
950	102,400
1,000	204,800
1,050	409,600
1,100	819,200
1,150	1,638,400
1,200	3,276,800
1,250	6,553,600
1,300	13,107,200
1,350	26,214,400
1,400	52,428,800
1,450	104,857,600
1,500	209,715,200
1,550	419,430,400
1,600	838,860,800
1,650	1,677,721,600
1,700	3,335,443,200
1,750	6,710,886,500
1,800	13,421,772,800
1,850	26,843,545,600
1,900	53,687,091,200
1,950	107,374,182,400
2,000	214,748,364,800
2,050	429,496,729,600

This table is calculated at the long interval of 50 years, that it may appear that even by under-rating the number of mankind, there would be ſo many millions born into the world before the deluge came, that they would be obliged to ſpread themſelves over the face of the earth, though but one half of the ſum total of 429,496 millions had been alive at the time of the deluge; but as the interval here allowed may appear to be too long for the time of doubling, the ſecond is calculated at the interval of 40 years, which comes nearer to the truth of the caſe, though even this may exceed the time of doubling.

Years of the World.	Number of Mankind.
500	200
540	400
580	800
620	1,600
660	3,200
700	6,400
740	12,800
780	25,600
820	51,200
860	102,400
920	204,800
940	409,600
980	819,200
1,020	1,638,400
1,060	3,276,800
1,100	6,553,600
1,140	13,107,200
1,180	26,214,400
1,220	52,428,800

Years of the World.	Number of Mankind.
1,260	104,857,600
1,300	209,715,200
1,340	419,430,400
1,380	838,860,800
1,420	1,677,721,600
1,460	3,355,443,200
1,500	6,710,886,400
1,540	13,421,772,800
1,580	26,843,545,600
1,620	53,687,091,200
1,660	107,374,182,400
1,700	214,748,364,800
1,740	429,496,729,600
1,780	858,993,459,200
1,820	1,717,986,918,400
1,860	3,435,973,836,800
1,900	6,871,947,673,600
1,940	13,743,895,347,200
1,980	27,487,790,694,400
2,020	54,975,581,388,800

The author, allowing for all obſtructions and deficiences in the courſe of nature, and for all caſualties and accidents, reduces the former number to one-half, *viz.* to 27,487,790,694,400, that is, 27 billions, or millions of millions, four hundred and eighty-ſeven thouſand, ſeven hundred and ninety millions, ſix hundred and ninety-four thouſand, and four hundred. This he ſuppoſes to be the whole number of thoſe who were born into the world before the deluge, or during an interval which he ſtates at 2256 years. He then allows for thoſe who died before the deluge, and on this account reduces the above number again to one-half, and ſtates the whole number of mankind alive upon the earth at the time of the deluge to have been no more than 13,743,895,347,200, that is, 13 billions, or millions of millions, ſeven hundred and forty-three thouſand eight hundred and ninety-five millions three hundred and forty-ſeven thouſand and two hundred; a number far exceeding that of the preſent inhabitants of the whole earth. The firſt of the above tables is brought down no lower than to the year 2050, and the ſecond to the year 2020, though there remain by the firſt 206, and by the ſecond 236 years to the flood; the reaſon of which is, that in the laſt 200 years of the world, mankind would not increaſe in any meaſure equal to what they had done in the preceding years, though regularly the increaſe ſhould have been much greater; becauſe violence was then great in the earth, and thouſands, yea millions, might have been cut off by untimely deaths; for which cauſe the deſtruction of the world was determined 120 years before the flood came.

For the longevity of the Antediluvians, and the probable cauſes of it, ſee LONGEVITY.

It has been a queſtion much debated, whether or not fleſh was permitted to be eaten before the deluge. By the permiſſion given expreſsly to Noah for that purpoſe, after the flood, and God's aſſigning vegetables only for food to man, as well as beaſt, at the creation, one would imagine it was not lawful before; yet others have ſuppoſed, that it was included in the general grant of dominion given by God to Adam over the animal creation; and the diſtinction of beaſts into clean and unclean, which was well known before the flood, is alleged as a ſtrong argument on this ſide, and which it is not eaſy to anſwer. On the other hand it is urged, that if fleſh were eaten before the flood, it does not appear that there was any occaſion to renew this grant after it, which grant, ſpecifying diſtinctly animal food, contradiſtinguiſhed from vegetable, reſpected not Adam only, but all his poſterity. It is farther urged, that the diſtinction between clean and unclean, reſpected animals offered in ſacrifice in the Antediluvian world; as appears from this circumſtance, that upon the grant of animal food to him and his deſcendants, which was poſterior in time to the ſacrifice, there is not the leaſt mention of any diſtinction between clean and unclean with reſpect to food, but the contrary. The diſtinction of clean and unclean with regard to food, was introduced by the law of Moſes, and differed from that of ſacrifices; as there were ſeveral creatures clean for food which were not to be offered in ſacrifice. Others contend, that if it be alleged that this diſtinction was uſed proleptically, it is a mere ſubterfuge; and to ſuppoſe it made ſolely to diſtinguiſh what was lawful or unlawful to be ſacrificed, and not what might or might not be eaten, is little better; it being the cuſtom to offer to God ſuch fruits and animals as were fit for food and ſuſtenance, and not ſuch as were of no uſe or benefit to mankind in this reſpect. Shuckford's Connection, &c. vol. i. book i. p. 1—57. Anc. Un. Hiſt. vol. i. p. 21—72.

ANTEJURAMENTUM, from *ante*, *before*, and *juramentum*, *oath*, or PRÆJURAMENTUM, by our anceſtors alſo called *juramentum calumniæ*, in *Law*, an oath which both the accuſer and the accuſed were anciently obliged to make before any trial or purgation. The accuſer was to ſwear that he would proſecute the criminal; and the accuſed was to make oath on the very day that he was to undergo the ordeal, &c. that he was innocent of the fact of which he was charged. If the accuſer failed, the criminal was diſcharged; if the accuſed, he was underſtood to be guilty, and was not to be admitted to purge himſelf by the ordeal.

ANTEJUSTINIANEAN, an appellation ſometimes given to the ancient Roman law, as it ſtood before the time of the emperor Juſtinian.

Tribonian has been often condemned for ſuppreſſing the writings of the Antejuſtinianean lawyers. Schulting, a celebrated profeſſor at Leyden, has a diſſertation on the equity of this cenſure. Fabricius gives a catalogue of the ancient Antejuſtinianean lawyers. Schulting has publiſhed a collection of the Antejuſtinianean writers.

ANTELIA, in *Ancient Geography*, a town of Aſia, in Armenia.

ANTELIUS, or ANTHELIUS, in *Ancient Writers*, denotes an idol placed over the doors of houſes, ſuppoſed to have the guardianſhip, or protection of them.

The word is originally ἀντήλιος, *q. d. againſt the ſun*, as being expoſed to it.

ANTELMI, JOSEPH, in *Biography*, a French writer of Eccleſiaſtical Hiſtory, was a canon of Frejus, in Provence, in the 17th century. He publiſhed, in 1680, a Latin "Diſſertation, Hiſtorical, Chronological, and Critical, on the church of Frejus." He alſo wrote a critical inquiry concerning the author of the creed, commonly called Athanaſius's, with other tracts, abounding with curious reſearch. He died, a victim to immoderate ſtudy, at the age of 49, in the year 1697. Nouv. Dict. Hiſt.

ANTELOPE, ANTILOPE, in *Zoology*, a genus of the *Mammalia Pecora*, in the Linnæan ſyſtem by Gmelin; the characters of which are, that it has concave horns, turned upwards and round, annulated, *i. e.* ſurrounded with prominent rings, or ſpiral and permanent. The lower jaw has eight broad fore-teeth; the upper jaw none; and there are no tuſks in either. To theſe characters Mr. Pennant adds, that the inſide of the ears is marked lengthways with three feathered lines of hair, and that the limbs are of a light and elegant form. The antelope forms an intermediate genus between the deer and the goat; though arranged with the latter by Linnæus, in his former editions, and by ſeveral other naturaliſts: but Gmelin, in imitation of Pennant, Erxleben,

and Pallas, has referred them to a diſtinct genus. In the form of their bodies they agree with deer, and in the texture of their horns, which have a core in them, they reſemble the goats; they have all gall-bladders, diſtinct lachrymal gutters, or pits under the eyes; a plait of the ſkin divided into ſeveral cells in the groins; bruſhes of hair on the knees, and beautiful black eyes. In general their fleſh is excellent, as they feed on the tender ſhoots of trees, though ſome ſpecies have a rank hircine or muſky flavour, which probably reſults from the qualities of the plants on which they feed. None of the numerous ſpecies of this genus are found in America; they are moſtly confined to Aſia and Africa, inhabiting the hotteſt regions of the Old World, or the temperate zones near the Tropics. None of them, except the chamois and ſaiga, are found in Europe. They chiefly inhabit hilly countries, though ſome reſide in the plains; and ſome ſpecies form herds of two or three thouſand, while others keep in ſmall troops of five or ſix. Theſe animals are elegantly formed, active, reſtleſs, timid, ſhy, and aſtoniſhingly ſwift, running with vaſt bounds, and ſpringing or leaping with ſurpriſing elaſticity; they frequently ſtop for a moment in the midſt of their courſe to gaze at their purſuers, and then reſume their flight. The chace of theſe animals is a favourite diverſion among the eaſtern nations; and the accounts that are given of it ſupply ample proofs of the ſwiftneſs of the antelope tribe. The greyhound, the fleeteſt of dogs, is uſually outrun by them; and the ſportſman is obliged to have recourſe to the aid of the falcon, which is trained to the work, for ſeizing on the animal, and impeding its motion, that the dogs may thus have an opportunity of overtaking it. In India and Perſia, a ſort of leopard is made uſe of in the chace; and this animal takes its prey not by ſwiftneſs of foot, but by its aſtoniſhing ſprings, which are ſimilar to thoſe of the antelope; and yet if the leopard ſhould fail in its firſt attempt, the game eſcapes. The fleetneſs of this animal has been proverbial in the country which it inhabited from the earlieſt times: the ſpeed of Aſahel (2 Sam. ii. 18.) is beautifully compared to that of tzebi, which Shaw, in his Travels, tranſlates antelope, and not roe, as it is in our text; and the Gadites were ſaid to be as ſwift as the roes upon the mountains. We may add, that the diſciple reſtored to life at Joppa was ſuppoſed to have been called Tabitha, i. e. Dorcas, or the Antelope, from the beauty of her eyes; and it is ſtill a compariſon in the eaſt; ſo that *aine el ezazel*, or "You have eyes of an antelope," is uſed as the greateſt compliment that can be paid to a fine woman. Authors enumerate 29 ſpecies. 1. *Antilope leucophæa*, blue antelope, with recurved, roundiſh, and annulated horns, and of a bluiſh colour. This is the blauer-bock of Kolben, bouc-chamois of Journal Hiſtorique, and blue antelope of Pennant. It inhabits the country to the north of the Cape of Good Hope; is larger than the fallow deer or buck; its colour, when alive, is a fine blue, of a velvetty appearance, but when dead changes to a bluiſh grey, with a mixture of white; beneath each eye is a large white mark, and the belly is white. This ſpecies, according to Pennant, from the form of the horns, which are ſharp-pointed, taper, and arcuated, bending backwards, and marked with 20 prominent rings; and alſo from the length of the hair, ſeems to connect the goat and antelope kinds. 2. A. *Lerwia*, lerwee, with wrinkled horns, bent backwards, diſtant in the middle, and approaching each other at the baſe and points, having a remarkable tuft of hair on the nape of the neck, and of a reddiſh colour. This is the antelope kob of Erxleben; the kob or little brown cow of Buffon; the fiſh-tail or lerwee of Shaw's Travels; and the Gambian antelope of Pennant. It inhabits Africa, chiefly about the rivers Gambia and Senegal; it is about the ſize of the fallow-deer, and is remarkable for the tuft of hair on the nape of the neck, and for having long bruſhes of hair on the knees of the fore-legs. The horns are ſurrounded with eight or nine rings. 3. A. *Rupicapra*, chamois; ſee CHAMOIS. 4. A. *Dama*; ſee NANGUER. 5. A. *Reduncæ*; ſee NAGOR. 6. A. *Tragocamelus*; ſee BIGGEL and TRAGOCAMELUS. 7. A. *Pitta*; ſee NYLGHAU. 8. A. *Saiga*; ſee SAIGA. 9. A. *Gutturoſa*; ſee TZEIRAN. 10. A. *Subgutturoſa*, Perſian antelope, with horns bent in form of a lyre; the upper parts of the body of a browniſh aſh colour, the under parts pure white, and a yellowiſh white ſtripe along each ſide. It inhabits Perſia between the Caſpian and Euxine ſeas. In ſize and habit it reſembles the roe, lives in large flocks, and ſubſiſts chiefly on the artemiſia pontica; the horns are above 13 inches long, and ſmooth at the points; the throat has at the fore-part a protuberance, and the knees are furniſhed with bruſhes. The female brings forth in May. The fleſh is reckoned very good. 11. A. *Pygarga*, A. dorcas of Pallas; cervicapra of Houttuyn, Linn. ed. Belg.; and ſuggeſted, not without heſitation, by Gmelin to be the koba of Buffon, and mountain antelope of Ruſſel's Aleppo; klipſpringer or ſpring-bock of Sparrman; white-faced antelope of Pennant, with the horns bent like a lyre; the general colour a hoary-red, and a blood-red or bright bay neck, a deep red band along the ſides, white buttocks, and a white face. This ſpecies is about five feet four inches long, and three feet high at the ſhoulders; inhabits the countries to the north of the Cape of Good Hope, runs ſwiftly, bounding from rock to rock, is caught with difficulty, and its fleſh is much eſteemed. The horns bend outwards in the middle, and approach at the points; thoſe of the males have each ſix or ſeven rings on the lower part, and thoſe of the females have no rings. 12. A. *Saltans*, ſpringer antelope, with ſlender horns, twice contorted, and annulated half way, the general colour a pale brown, the cheſt, belly, inſides of the limbs, buttocks, and half way up the back are white, and a broad cheſnut coloured band along the ſides. This animal, if it be different from the preceding ſpecies, with which it agrees in the form of the horns and diſpoſition of the dark-coloured bands, inhabits the Cape of Good Hope. It is rather leſs than a roebuck; and migrates annually from the interior parts of the country, in ſmall herds; continues near the Cape for two or three months, and then retreats towards the north in herds of many thouſands. Herds of many hundred thouſands periodically migrate, in ſeven or eight years, from the north, probably compelled to leave their haunts in the Terra de Natal by the exceſſive drought of that region, and ſpreading over the whole country of Caffraria, which they deſolate, without leaving a blade of graſs. In their migrations, they are attended by lions, hyænas, and other wild beaſts, to which they afford prey. The Hottentots call them the lions' flocks of ſheep. Their fleſh is excellent; and with other antelopes, they furniſh the veniſon of the Cape. From their prodigious bounds, they are denominated ſpring-bocks; and when alarmed, they have the power of expanding the white ſpace about the tail into a circular form, which aſſumes again its linear ſhape when the animal is tranquil. Pennant. Maſſon in Phil. Tranſ. vol. lxvi. p. 310. 13. A. *Dorcas*; ſee DORCAS. 14. A. *Kevella*; ſee KEVEL. 15. A. *Corinna*; ſee CORINE. 16. A. *Bubalis*, the CERVINE *Antilope* of Pennant; which ſee. 17. A. *Koba*; ſee KOBA. 18. A. *Gnu*; ſee GNU. 19. A. *Oryx*; ſee PASAN. 20. A. *Oreotragus*, African antelope, with very ſtraight, tapering, and ſharp-pointed horns, ſlightly wrinkled at the baſes. It inhabits Africa; has a reddiſh head, the upper parts of the body greeniſh-yellow, and the under parts of a whitiſh aſh-colour; the tail is very ſhort.

ſhort. 21. A. *Gazella*, capra bezoardica, or bezoar goat of Syſt. Nat. ed. 12.; Hircus bezoardicus of Briſſon, &c.; animal bezoardicum of Ray; animal ignotum of Geſner; gazella of Belon and Proſper Alpinus; algazel of Pennant and Buffon, with very long, wrinkled, ſlender, upright, tapering, and ſharp pointed horns, which are ſlightly bent inwards at the ends. It inhabits India, Perſia, Egypt, and Ethiopia; runs ſwiftly up hill, but ſlowly on plain ground; is gregarious, and is eaſily tamed; the general colour of the fur is red, with a white breaſt and belly: the real oriental bezoar, of a greeniſh and bluiſh colour, and when recent, of a very powerful aromatic odour, is frequently found in the fourth ſtomach of this ſpecies, chiefly in that of males and full grown animals, and more rarely in the ſtomachs of females or younger individuals. 22. A. *Leucoryx*; ſee LEUCORYX. 23. A. *Orcas*, Indian or elk antelope; ſee COUDOU. 24. A. *Scripta*, or harneſſed antelope; ſee GUIB. 25. A. *Grimmia*, or Guinea, antelope; ſee GRIMM. 26. A. *Pygmæa*, or royal antelope; ſee GUEVEI. 27. A. *Sylvatica*, wood antelope, wood goat, or boſch-bock of Sparrman; with horns ſmooth, ſomewhat ſpirally twiſted, annulated at the baſes, and marked with ſeveral longitudinal ribs, the ends being taper and ſharp pointed. It inhabits chiefly the woods near the Cape of Good Hope, and lives in pairs. It is about three feet high, the upper parts of the body are brown, the forehead white, two white ſpots on each cheek, a large white ſpot under the throat, and another at the bottom of the neck; the breaſt and hinder part of the belly are white, and there are ſeveral white ſpots on the thighs and flanks; the tail is very ſhort, and a ſhort mane runs along the neck and ridge of the back; the whole fur is longiſh and coarſe. The female has no horns. 28. A. *Strepciceros*, or ſtriped antelope; ſee CONDOMA. 29. A. *Cervicapra*, Indian, common, or brown antelope; ſee LIDMEE.

Profeſſor Pallas, in his travels through different provinces of Ruſſia and northern Aſia, has deſcribed the method of *hunting the antelope*, which is the principal amuſement of the Tonguſes, who inhabit the heaths of Daouria beyond the lake Baikal. They chooſe for this purpoſe the level and open tracts, ſituated near a mountain, a river, or a foreſt. In autumn, at which ſeaſon their horſes are moſt vigorous, they form companies of 150 or 200 hunters, all on horſeback, attended by led horſes. Each has a trained dog; and they are armed with bows and arrows. This chace commonly laſts ſeveral days. When arrived at the rendezvous, they ſend before three or four ſharp-ſighted huntſmen to get a view of the game from the heights or mountains; who ſtop to wait for their companions as ſoon as they perceive the antelopes. When the troop comes in ſight, the ſcouts make ſignals to them, or by ſome evolutions of their horſes ſignify the place in which the antelopes feed, and the courſe that muſt be taken in order to come up with them. The troop then breaks into ſeveral diviſions, and the hunters ſeparate to the diſtance of 60 or 80 fathoms from each other, in order to form a great ring. Thoſe on the wings advance towards the paſturage of the herd, and endeavour to conceal themſelves behind the heights till the animals are ſurrounded: the ring then cloſes. When the antelopes, at the approach of the hunters, attempt to eſcape, the men ruſh on them, chaſe them from one party to another, terrifying them with their ſhouts and the whiſtling of their arrows, which, for that purpoſe, are furniſhed with a button of bone, perforated beneath the head. In this manner they kill all that they can reach. This chace is more ſucceſsful when the ſcene of it lies near a river or a mountainous foreſt, as the antelopes or heath-goats never take to the water, though long and furiouſly haraſſed, but rather ſtrive to eſcape by ſudden and vaſt leaps through the troops of their purſuers. They are almoſt equally ſhy of foreſts. They are no ſooner hunted into a wood, than they are ſo bewildered among the trees as not to be able to move a hundred paces, but run their heads againſt every tree, and ſoon fall breathleſs. Pallas, Travels, tom. i. p. 402. tom. iii. p. 204.

ANTELUCAN, from *ante* and *lux*, *light*, in *Eccleſiaſtical Writers*, is applied to things done in the night, or before day. We find frequent mention of the antelucan aſſemblies, *cœtus antelucani*, of the ancient chriſtians in times of perſecution for religious worſhip.

ANTELUDIA, from *ante*, and *ludus*, *game*, in *Antiquity*, a day of ſhow or parade preceding the circenſes, wherein the preparations made for thoſe ſolemnities were expoſed in great form and pomp.

ANTEMETICA, in the *Materia Medica*, denote medicines ſuited to cure a preternatural vomiting.

ANTEMNA, in *Ancient Geography*, a town of Italy to the north or north-eaſt of Rome. Although it was built in the territory of the Sabines, it was founded by a colony from Alba, and compriſed in the diviſion called Ancient Latium. According to Varro, its name, derived from *ante amnem*, denoted its poſition, which Cluvier and M. d'Anville aſſign at the confluence of the Anio and Tiber. Its inhabitants were called *Antemnates*; and in the fourth year of Rome, they contended with the Romans, and were totally vanquiſhed by them, and their city was deſtroyed. They afterwards became citizens of Rome.

ANTEMURALE, from *ante*, and *murus*, *wall*, in *Middle Age Writers*, denotes a kind of outer wall environing the other walls and works of a place, and preventing the too near acceſs of the enemy to them.

This is alſo called by Iſidore, *promurale*, as being *pro munitione muri*, *for the defence of the wall*.

In ſome writers we find it denominated *antepectoralis muris*, in other *anpits*.

ANTEMURALE is alſo uſed to denote any work without-ſide the rampart or wall of the place.

In this ſenſe, antemurale amounts to the ſame with what we otherwiſe call OUTWORK.

ANTEMURALE, is alſo uſed, in *Eccleſiaſtical Writers*, for the veſtibule or entrance of the *preſbyterium*, or BEMA.

ANTENATUS, from *ante*, and *natus*, *born*, is uſed, in ſome *Law Writers*, for the firſt-born, or eldeſt ſon, anſwering to what we call *aiſné*.

ANTENATUS, is alſo ſometimes uſed for a ſon, the iſſue of a former marriage. In which ſenſe, antenatus amounts to the ſame with *privignus*.

ANTENATI, in the modern *Engliſh Hiſtory*, is chiefly underſtood of the ſubjects of Scotland, born before king James the Firſt's acceſſion to the Engliſh crown, and alive after it. In relation to theſe, thoſe who were born after the acceſſion were denominated POSTNATI. The antenati were conſidered as aliens in England, whereas the poſtnati claimed the privilege of natural ſubjects.

ANTENCLEMA, αντιγκλημα, in *Oratory*, is where the whole defence of the perſon accuſed turns on criminating the accuſer. Such is the defence of Oreſtes, or the oration for Milo, *Occiſus eſt ſed latro. Exſectus ſed raptor.* See RECRIMINATION.

ANTENICENE, in *Eccleſiaſtical Writers*, denotes a thing or perſon prior to the firſt council of Nice.

We ſay the antenicene faith, antenicene creeds, antenicene fathers.

ANTENNÆ, in *Entomology*, are thoſe delicate moveable horns with which the anterior part of the heads of inſects are invariably furniſhed. Theſe are peculiar to this order of beings, and are eaſily diſtinguiſhed from the tenta-

culæ of vermes, in being cruſtaceous; and from the palpi of inſects, by their ſituation being nearer the mouth, though not in their number, as naturaliſts formerly imagined, for they are not alſo more numerous than the antennæ (Fundamenta Entomologiæ). The palpi are uſually four in number, as Linnæus mentions; but in moſt lepidopterous inſects, when accurately conſidered, only amount to two; and the ſame may be obſerved of the libellulæ, phalangiæ, and ſeveral others; while, on the contrary, in the cancer, ſcyllarus, aſtacus, gammarus, and ſome other genera, the number of them is ſix. Fabricius. The antennæ in all inſects, or at leaſt with the exception of a few of the apterous kinds that have four, and ſome ſix, rarely exceed two. Both the antennæ and palpi are of the utmoſt conſequence in the ſyſtematic arrangement of inſects, as will be noticed hereafter.

For the want of a more appropriate term in the Engliſh language for the antennæ of inſects, they are ſometimes called the horns, and ſometimes the feelers; the latter of which is by no means applicable, ſince it confounds them with the palpi, which are the true feelers. Of the purpoſes for which nature has deſigned the antennæ we are ignorant: ſome have conjectured, that they are the organs of ſmell or hearing; and others have ſuppoſed they are appropriated to a feeling more delicate than our own, and ſenſible to the leaſt motion or diſturbance in the ambient fluid in which they move. In form and ſize they vary extremely in different inſects, and even generally in the two ſexes of the ſame ſpecies, as is fully exemplified in the phalæna genus.

Andrew John Bladh, a pupil of Linnæus's and author of the paper in the ſeventh volume of Linnæus's Amoenitates Academicæ, called Fundamenta Entomologiæ, characteriſes the different ſtructure of the antennæ of inſects in the following manner.

SETACEÆ, *ſetaceous*, are thoſe which gradually taper towards the point, and reſemble a briſtle.

FILIFORMES, *filiform*, ſuch as are of an uniform thickneſs throughout, like a thread.

MONILIFORMES, *moniliform*, are filiform like the preceding, but conſiſting of a ſeries of round knobs, like a necklace of beads.

CLAVATÆ, *clavated*, club ſhaped, or increaſing gradually from the baſe to the extremity.

CAPITATÆ, *capitated*, club-ſhaped like the former, but the laſt articulation larger than the reſt, and forming a kind of capital or head.

FISSILES are capitatæ, but have the capitulum divided horizontally into three or four laminæ or plates, as in the ſcarabæi, &c.

PERFOLIATÆ are likewiſe capitatæ, but have the capitulum divided horizontally, and connected by a kind of thread that paſſes through their centre.

PECTINATÆ, ſo called from their reſemblance to a comb, though they more properly reſemble a feather, having uſually lateral appendages on both ſides, as in phalænæ, &c.

ARISTATÆ, ſuch a have a lateral hair, which is either naked or furniſhed with leſſer hair, as in ſome muſcæ, &c.

The terms *breviores*, *longiores*, and *mediocres*, are occaſionally employed in ſpeaking of the length of the antennæ, and of courſe imply whether they are ſhorter, longer, or of the ſame length as the body. See ENTOMOLOGY.

ANTENNATOR, a ſpecies of ICHNEUMON that inhabits Cayenne. It is pale yellow, crown, back of the thorax, tail, and tip of the wings black. Fabricius and Gmelin.

ANTENNELLA, a name given by ſome to phalæna lucella *(tinea)* of Gmelin. Vide Wien. Schmetterl. p. 135. n. 19.

ANTENNINA, in *Natural Hiſtory*, a ſpecies of SERTULARIA, having denticles verticillate, in fours, and ſetaceous; veſicles obliquely truncated; ſtems rather ſimple. Linn. Gmelin. This is corallina aſtaci corniculorum aemula of Ray and Petiver. Muſcus marinus fecundus of Dodon. Pempt. &c. Myriophyllum non ramoſum of Ginann. &c. Inhabits European coaſts.

ANTENOR, in *Entomology*, a ſpecies of PAPILIO that inhabits India. Wings tailed; both ſurfaces black with white ſpots; and a marginal row of red lunated ſpots on the poſterior pair. Fabricius. Gmelin. Donovan's Inſects of India, &c.

ANTENOR, in *Ancient Hiſtory*, a Trojan prince, of whom various fabulous narrations are recorded. He is ſuppoſed to have been a ſon of Laomedon, and younger brother of Priam. Homer repreſents him as one of the prudent counſellors who adviſed the reſtoration of Helen, and giving ſatisfaction to the Greeks. Some later writers have charged him with betraying Troy to the enemy. However that be, he was ſpared in the maſſacre: and Virgil in his Æneid has adopted a ſtory concerning him, that, after the deſtruction of Troy, he led a colony of Heneti, a people of Paphlagonia, into Italy, near the mouth of the Po, where expelling the Euganei from their lands, he ſettled in them, and founded Padua. From this emigration the name of the Veneti is ſaid to be derived. The pretended tomb of Antenor, diſcovered in the thirteenth century, is manifeſtly fictitious. His wife Theano, the daughter of Ciſſæus, king of Thrace, was prieſteſs of Minerva. Gen. Biog.

ANTENUPTIAL, ſomething that precedes marriage.

In this ſenſe we ſay, *antenuptial* promiſes, *antenuptial* preſents, *antenuptial* covenants, *antenuptial* fornication, &c. Neoſtadius has a treatiſe, *De Pactis Antenuptialibus*.

ANTEPAGMENTA, or ANTIPAGMENTA, in the *Ancient Architecture*, the jambs of a door, or lintels of a window. The word is uſed for the entire *chambranle*, i. e. the door-caſe or window-frame.

ANTEPENULTIMA, or ANTEPENULTIMATE, in *Grammar*, the third ſyllable of a word, reckoning from the latter end; or the laſt ſyllable except two.

The word is compounded of the prepoſition *ante*, *before*, and *penultima*, *laſt but one*, or *pene ultimam*.

It was upon this ſyllable that the Greeks placed their acute accents, and alſo on the laſt and laſt but one; but they never placed the accent before the antepenultima. See ACCENT. The *Antepenultimate* of a dactyle is always long.

ANTEPILANI, among the *Ancient Romans*, denote the haſtati or principes of a legion.

They are ſuppoſed to be thus called becauſe ranged before the triarii, who were alſo called pilani.

Some will have the word to be a corruption for *antefignani*.

ANTEPILEPTICS, in *Medicine*, denote a quality in remedies, whereby they prevent, diminiſh, or cure epileptic fits.

The practice of claſſing the articles of the materia medica according to the diſeaſes or parts of the body they are ſuppoſed to cure, is unſcientific, and now diſuſed.

There are many medicines which diminiſh irritation in the nervous ſyſtem; ſuch as opium, caſtor, muſk, valerian, ſpiritus ætheris vitr. comp. &c. which for the ſake of abridging medical language, we call ANTISPASMODICS, all which are antepileptics. Many abſurd articles, calculated to excite diſguſt and horror, may be found in old authors, as ſpecifics in this very common and formidable diſeaſe: the human ſkull, ſecundines, and blood; lizards, frogs, and the dung of various animals, rank high in theſe writers: at preſent, the

the metallic ſalts, the calces of metals, and ſome of the vegetable poiſons, together with a ſuitable regimen, are principally relied on. See EPILEPSY.

ANTEPOSITION, from *ante*, and *pono*, *I place*, a grammatical figure, whereby a word which, by the ordinary rules of ſyntax, ought to follow another, comes before it. As when, in Latin, the adjective is put before the ſubſtantive, the verb before the nominative caſe, &c.

Antepoſition ſtands oppoſed to poſtpoſition. One caſe or ſpecies of this figure is called by a particular name, *antaſtrophe*.

ANTEPREDICAMENTS, ANTEPRÆDICAMENTA, in *Logic*, certain previous matters, requiſite to a more eaſy and clear apprehenſion of the doctrine of PREDICAMENTS or CATEGORIES.

Such are definitions of common terms; as equivocals, univocals, &c. See DEFINITION, DIVISION, &c.

They are thus called, becauſe treated by Ariſtotle, before the predicaments: that the thread of the diſcourſe might not afterwards be interrupted.

ANTEQUERA, in *Geography*, a well built town of Spain in the kingdom of Grenada, divided into two parts, the *higher* and the *lower*. The former is ſituated upon a hill much above the reſt, has a fortified caſtle, and is occupied by the nobility; and the latter is in a fertile plain, watered by a number of ſtreams. It has a collegiate church, four pariſhes, fourteen convents of monks, and eight of nuns, and about 13,000 inhabitants. The mountain on which part of the town is ſituated, yields a quantity of ſalt; and at a ſmall diſtance is a fountain of water, which is ſaid to cure the gravel. In the neighbourhood are alſo excellent quarries of ſtone for building. It is 26 miles north-north-weſt from Malaga, and 54 weſt from Grenada. N. lat. 37° 6'. W. long. 4° 40'.

ANTEQUERA is alſo a town of New Spain in America, in the province of Guaxaqua, 30 leagues ſouth-eaſt from Guaxaqua.

ANTERIDES, in the *Ancient Architecture*, denote butreſſes erected to ſupport a wall.

Theſe are ſometimes called *antes*, ſometimes *criſmæ*, and by the Greeks ερισματα.

Anterides anſwer to what the modern builders call counterforts and archbutants; the Italians barbicane, and ſperoni or ſpurs.

ANTERIOR, or ANTERIOUR, formed of the prepoſition, *ante*, *before*; ſomething before another, chiefly in reſpect to place. In which ſenſe the term amounts to the ſame with *prior*, and ſtands oppoſed to *poſterior*.

ANTERIOR *Ramus*. See the article RAMUS.

ANTERNACHA, ANDERNACH, in *Ancient Geography*, a town of Gaul, belonging to the Rupeni, and ſituate at the confluence of the Moſelle and Rhine. See ANDERNACH.

ANTEROS, in *Mythology*, the ſon of Venus and Mars, one of the two Cupids who were the chief of the number. They are placed at the foot of the Venus of Medici. This is repreſented with a heavy ſullen look, agreeably to the poetical deſcription of him, as the cauſe of love's ceaſing. The other was called *Eros*. Ovid. Rem. Amor. V. verſe 549 to 576.

ANTEROTES, a name given by ſome of the ancient writers on gems to a ſpecies of the amethyſt. Some have imagined they meant by it a ſort of opal; but Pliny expreſsly contradicts this, making the *anterotes* the fifth kind of AMETHYST in value. Plinii Hiſt. Nat. lib. xxxviii, ch. 40.

ANTES, in *Architecture*. See ANTA.

ANTESIGNANI in the Roman armies, a kind of ſoldiery poſted before the eagles, and other enſigns of the legions, whence their appellation.

The *anteſignani* ſtand contradiſtinguiſhed from the *ſubſignani*, who were ranged in the ſame line with the enſigns; and from the *poſtſignani*, who were placed behind them. Cæſar and Livy mention the anteſignani as the firſt line, or firſt body, of heavy armed troops. The velites, who uſed to ſkirmiſh before the army, were alſo called anteſignani.

ANTESIGNANI was a denomination given to thoſe inferior officers, called campi doctores, who inſtructed the troops in their exerciſe.

ANTESIGNANUS, PLTER, in *Biography*, an induſtrious grammarian, was born at Rabaſteins in Languedoc, and flouriſhed in the ſixteenth century. He publiſhed a Greek grammar, which paſſed through ſeveral editions, and a treatiſe on univerſal grammar; but his moſt eſteemed publications were his editions of Terence's comedies, in which he took pains to facilitate the learning of the Latin language. The epiſtle to this work was dated at Lyons in 1556. His induſtry alſo appears in his "Thematis Verborum inveſtigandi Ratio," and his "Praxis Præceptorum Linguæ Græcæ," annexed to ſeveral Greek grammars. "Let others," ſays he, "affect the reputation of learning: I honeſtly and truly own, that I have to the utmoſt of my power devoted my labours to the uſeful purpoſe of forming and aſſiſting the ſtudies of boys." Gen. Dict.

ANTESINISTRA, a name given by the augurs to thoſe thunderbolts, or birds, which proceeded from the ſouth and paſſed to the eaſt, and which were thought to afford unfavourable preſages. Virgil calls by this name a crow, Eclog. ix. 15, according to Servius:

"Anteſiniſtra cava monuiſſet ab ilice cornix."

ANTESTARI, in *Roman Antiquity*, denoted to bear witneſs againſt any one who refuſed to make his appearance in the Roman courts of judicature, on the day appointed, and according to the tenor of his bail. The plaintiff finding the defendant after this breach of his engagement, was allowed to carry him into court by force, having firſt aſked any of the perſons preſent to bear witneſs. The perſon aſked to bear witneſs in this caſe expreſſed his conſent by turning his right ear, which was inſtantly taken hold of by the plaintiff, and this was to anſwer the purpoſe of a ſubpœna. The ear was turned upon this occaſion, ſays Pliny, as being the ſeat of memory; and therefore the ceremony was a ſort of admonition to the party to remember his engagement.

ANTESTATURE, in *Fortification*, a ſmall retrenchment, made of paliſadoes, or ſacks of earth ſet up in haſte, to diſpute with the enemy the remainder of a piece of ground part whereof had been already gained.

ANTEVERTA, or ANTEVORTA, and POSTVERTA, or POSTVORTA, in *Mythology*, deities worſhipped among the Romans: the firſt, called alſo *Prorſa*, or *Porrima*, was ſuppoſed to know paſt events, and was invoked to repair injuries that had already occurred; and the ſecond, being acquainted with futurity, was ſupplicated to prevent evils that might happen.

ANTEVIRGILIAN HUSBANDRY. See ANTIVIRGILIAN.

ANTHALIUM, among the *Ancients*, a root growing in dry places, and about the bigneſs of the fruit of the medlar; it was dug up for food, and eſteemed very pleaſant and wholeſome.

ANTHANA,

ANTHANA, or ANTHENA, in *Ancient Geography*, was a city of Peloponneſus, and one of the 100 towns of Laconia, according to Stephanus Byz. It is ſaid to have derived its name from Anthe, the ſon of Neptune, who was killed by Cleomenes, the brother of Leonidas.

ANTHEDON, a town of Bœotia, placed by Pauſanias, and after him by M. d'Anville, a little to the north of Mount Meſſapius, and owing its name to its elevated ſituation. In the midſt of this city was a temple of the Cabiri, and near it the ſacred wood of Ceres, and the temple of Proſerpine, with her ſtatue in white marble; it had alſo a temple and ſtatue of Bacchus. The poet Anthes, who compoſed hymns, was, according to Plutarch, a native of this city. Imperial Greek medals were ſtruck here in honour of Caracalla.

ANTHEDON, or AGRIPPIAS, a town of Paleſtine, in the country of the Philiſtines, upon the borders of the ſea, to the ſouth-weſt of Gaza. Herod gave it the ſecond name in honour of Agrippa, his friend, and the favourite of Auguſtus.

ANTHEIA, a town of Meſſenia, which Homer mentions, and which had been promiſed to Achilles by Agamemnon. In Strabo's time it bore the name of Thuria.

ANTHELA, a town or burgh of Greece, near the ſtraits of Thermopylæ. According to Herodotus (lib. vii. 176), it was near the river Phœnix, and watered by the Aſopus.

ANTHELION, from ἀντι and ἡλιος, *ſun*, in *Phyſics*, ſignifies a mock or ſpurious ſun; and denotes a meteor, not very common, of a luminous appearance, ſomewhat reſembling the ſun, ſeen through clouds, bigger, ſometimes four or five times, than the ſolar diſk. In its moſt refulgent ſtate, it is as yellow as the ſun: but the lucid tract ſurrounding it is of a paler yellow or whitiſh caſt, interſperſed ſometimes with a few reddiſh or ſubfuſcous ſpots. The moſt received opinion relative to the formation of this kind of meteor attributes the phænomenon to a multitude of minute icy or ſnowy particles ſuſpended in the air, and either refracting or reflecting the ſolar rays in ſuch a manner, as to multiply the image of the ſun. But the theory of anthelia, for want of a proper number of obſervations, ſeems not yet to be brought to ſuch a degree of ſatisfaction, as by every lover of phyſiology could be deſired. The inſtances of them are but rare. See Phil. Tranſ. vol. lii. Part. i. N° 16. An. 1761. See HALO and PARHELION.

ANTHELIX, in *Anatomy*, the inner circle of the auricle: thus called from its oppoſition to the outer circuit, called the HELIX.

ANTHELMIA, Indian PINK.

ANTHELMINTICS, in the *Materia Medica*, medicines good to deſtroy worms.

The word is compounded of ἀντι, *contra, againſt*, and ἑλμινθες, *a worm*.

There are two principal kinds of worms which infeſt the human ſtomach and bowels; the flat or tape worm; and worms of various ſizes, which are round, ſomewhat like earth-worms. The former is called TÆNIA, the latter ASCARIS, lumbricus, &c. See Memoirs of Med. Soc. Lond. vol. v.

The preſence of worms in the primæ viæ generally ariſes from weak digeſtion; and therefore the cure of DYSPEPSIA will generally deſtroy the worms. Particular kinds of worms, however, require particular anthelmintics, which will be found under thoſe heads. See ASCARIDES, &c.

Two or three grains of calomel, with one of ſalt of ſteel, taken in treacle, for two or three mornings, and then a briſk purge of rubarb and jalap, ten or fifteen grains of each, is the beſt general *vermifuge*.

ANTHEM, from ἀντι, and ὕμνος, *a hymn*. In our church ſervice, any pſalm or portion of ſcripture, ſet in florid counterpoint, different from chanting in our cathedrals, and from metrical pſalmody in our pariſh-churches, is called an *anthem*, whether for one, two, three, or more voices. Anthems, in our choral ſervice, are diſtinguiſhed by the epithets ſolo, verſe, or full anthems. *Solo anthems* have frequently ſymphonies or ritornels for particular ſtops on the organ. In *verſe-anthems*, there are ſolo parts for voices of different regiſters or compaſs, and different ſides of the choir. A *full anthem* is in conſtant chorus, except at the leading off a fugue, or new point of imitation. *Anthems* for a ſingle voice, in the Romiſh church, are called *motets*. At the latter end of the 17th century and beginning of the laſt, the *motetti* of Baſſani, the maſter of Corelli, were in great favour in England, as well as Italy. In eccleſiaſtical hiſtory, anthems are ſtyled Αντιφωνοι ὕμνοι, from ἀντι, *contra*, and Φωνή, *vox, ſonus*. Antiphonal ſinging implies ſinging from ſide to ſide, alternately, as the pſalms are chanted in our cathedrals. St. Ignatius, a diſciple of the apoſtles, according to Socrates the eccleſiaſtic hiſtorian, was the author of this kind of ſinging in the Greek church, and St. Ambroſe introduced it into the Roman.

There is in the Brit. Muſ. an admirable collection of ſolo, verſe, and full *anthems*, and ſervices, compiled by Dr. Tudway, of Cambridge, for the Earl of Oxford, in ſix huge vols. fol. (N° 7337). Dr. Green began to collect our beſt cathedral muſic from the time of the reformation, to the middle of the laſt century; but he dying before any great progreſs was made in the work, it was carried on with great judgment and ſpirit by his worthy ſcholar and ſucceſſor, Dr. Boyce, and engraved and publiſhed, in a correct and ſplendid manner, in three vols. large fol. 1760, 1768, and 1773. This uſeful publication has been reſumed and carried on ſince the deceaſe of Dr. Boyce, by Drs. Arnold and Dupuis.

The ſolo anthems of Purcell, Drs. Crofts, and Green, are elegantly printed, and in conſtant uſe in our cathedrals. It is hoped that the ſolemn and dignified ſtyle of the fathers of our church muſic, Tallis, Bird, and Gibbon, will long be regarded as a model for our ſervices and full anthems, as that of Paleſtrina continues to be, for the beſt compoſers, *a capella*, in Italy.

Anthems were firſt introduced into the reformed ſervice of the Engliſh church in the beginning of the reign of queen Elizabeth.

ANTHEMIS, in *Botany*, ſuppoſed from ἀνθεω, *floreo*, having an abundance of flowers, a genus of plants of the chamomile kind. Lin. G. 970. Juſſieu 185. Linnæan claſs and order, *ſyngeneſia polygamia ſuperflua*; natural order, *compoſitæ diſcoideæ*, and of the *corymbiferæ* of Juſſieu. Its general characters are, that it has a *calyx* common, hemiſpherical, conſiſting of numerous linear ſubequal ſcales; *corolla* compound radiate; florets in the diſk hermaphrodite and tubular, thoſe in the radius female, and more than five; the former are funnel-ſhaped, five-toothed, erect, the latter ligulate, lanceolate, and ſometimes three-toothed. In the hermaphrodite florets the *filaments* are five, capillary, very ſhort, ſupporting cylindrical tubular *antheræ*. *Germen* oblong, *ſtyle* filiform, *ſtigmata* two, reflex; *ſeeds* ſolitary, receptacle chaffy, convex.

Nineteen ſpecies of this genus are deſcribed, of which five are natives of Britain. 1. A. *cota*, which bears a very large flower, and the *palea* or chaff between the florets is rigid and prickly: it is a native of Spain, growing in ploughed fields; annual. 2. A. *altiſſima*, grows three feet in height; leaves pinnatifid, compound, with pointed teeth: it grows wild

in the ſouth of Europe; annual. 3. A. *maritima*, with ſtems proſtrate, branches ſmooth; leaves pinnate, fleſhy, cut into ſmall teeth; calyx and peduncles pubeſcent; a native of the ſouth of France, and alſo of Britain. 4 A. *tomentoſa*, with ſtems a foot high, one flowered, leaves tomentoſe; the two outer diviſions of the corolla larger than the others: a native of the ſouth of Europe. 5. A. *mixta*, with leaves ſimple, jagged, toothed: a native of France and Italy; annual. 6. A. *alpina*, with leaves tooth-pinnated, entire, linear; ſtem villoſe, one-flowered; florets of the radius ſtriated, three-toothed, See Jacq. Fl. Auſt. vol. v. t. 30: a native of Italy; perennial. 7. A. *chia*, with leaves pinnatifid, jagged, peduncles naked, ſubvilloſe: a native of the Levant. 8. A. *nobilis*, with root perennial, ſtems trailing, hairy; leaves bipinnated, pinnulæ two or three-cleft, pointed, hairy; flowers ſolitary; calyx hairy, with broad, ſhining, membranaceous edges; florets of the circumference ſomewhat elliptical, entire, or with two or three teeth, thoſe of the centre yellow: this is the common chamomile; it grows wild in many parts of England, and flowers in July and Auguſt. See Woodv. Med. Bot. t. 108. 9. A. *arvenſis*, with ſtems erect, much branched; leaves bipinnatifid, hairy; peduncles tomentoſe, terminal, one-flowered; diſk yellow; florets of the radius white, three-toothed; receptacle conical: it is a common annual weed among corn, and therefore called corn-chamomile; it flowers in June and July. See Eng. Bot. 602. 10. A. *auſtriaca*, with ſtems upright, branched, ſcarcely a foot high; leaves bipinnate: flowers ſolitary, diſk yellow, radius white; ſeeds naked: a native of Auſtria. 11. A. *cotula*, with ſtems much branched, ſmooth; leaves bipinnatifid, ſmooth, of a light green colour; diſk of the flower convex, yellow: radial florets white: this, from its ungrateful ſmell, is called ſtinking chamomile, or May-weed; it is very common, and flowers in June and July, annual. Curt. Fl. Lond. faſc. v. t. 61. 12. A. *pyrethrum*, with ſtem ſimple, trailing, ſcarcely a foot high, one-flowered; leaves bipinnated, ſegments linear, pointed: florets at the centre yellow, thoſe of the circumference white, and purple on the under ſide: it is perennial, and flowers in June and July; it is called Spaniſh chamomile, or pellitory of Spain. 13. A. *valentina*, with ſtem branched, leaves pubeſcent, tripinnate, briſtle-ſhaped; calyx villoſe: a native of Spain. Miller, fig. 73. 14. A. *repanda*, with leaves ſimple, alternate, obtuſe; flowers terminal, globoſe: a native of Spain and Portugal. 15. A. *trinervia*, with ſtem erect, ſimple; leaves ſmooth, coloured; peduncles terminal, one-flowered: a native of South America. 16. A. *americana*, with leaves triternate, peduncles terminal, longer than the branch: a native of America. 17. A. *tinctoria*, with ſtem erect, angular, about a foot and a half high; leaves bipinnatifid, ſmooth, laciniæ pointed; flowers of a bright golden colour; ox-eye chamomile: it is a native of Sweden and Germany, and alſo of Britain, flowering in July and Auguſt. See Flor. Dan. t. 741. 18. A. *arabica*, with ſtem upright, proliferous, round, purpliſh; leaves ſingly and doubly pinnatifid; one flower terminates the ſtem; it is large, and of a beautiful golden colour. See Smith, ſpicil. 20. This handſome annual plant is a native of Arabia. 19. A. *odorata*, with leaves pinnatifid at the tip, calyx membranaceous: a native of the Cape of Good Hope, where it was diſcovered by Mr. Maſſon in 1774.

Medicinal Properties. The common chamomile, ſpecies 8, and the pellitory of Spain, ſpecies 12, are both articles of the materia medica, in the London and Edinburgh pharmacopœias. Both the leaves and flowers of the former have a ſtrong, though not ungrateful ſmell, and a very bitter nauſeous taſte; but the latter are preferred, being bitterer, and conſiderably more aromatic. The flowers readily give out their virtues to water, and alſo to rectified ſpirit. They poſſeſs the ſtomachic and tonic qualities uſually aſcribed to ſimple bitters, having very little aſtringency, but a ſtrong, aromatic, penetrating odour, from which they are alſo judged to be carminative, emmenagogue, antiſpaſmodic, and anodyne. They have been ſucceſsfully employed for the cure of intermittents, as well as of fevers of the irregular nervous kind, accompanied with viſceral obſtructions, for which we have the authority of ſir John Pringle. That chamomile flowers have been effectually ſubſtituted for Peruvian bark, we have the teſtimony of ſeveral reſpectable phyſicians, among whom we may notice Dr. Cullen, who recommends them to be given, conjoined with an aſtringent, to prevent their tendency to produce diarrhœa. A watry infuſion of theſe flowers is frequently uſed for the purpoſe of exciting vomiting, or for promoting the operation of emetics. Externally they are directed in the *decoctum pro fomento;* they are alſo ordered in the *decoctum pro enemate.* Murray, ap. Med. vol. i. p. 150. Woodville, Med. Bot. vol. ii. p. 103.

From the aromatic and ſtimulating qualities of the root of the pellitory of Spain, there can be no doubt that it might be found an efficacious remedy, and equally valuable as an internal medicine with many others of this claſs now conſtantly preſcribed. Its uſe, however, has been long confined to that of a maſticatory, for on being chewed or long retained in the mouth, it excites a glowing heat, ſtimulates the excretories of the ſaliva, and thereby produces a diſcharge which has been found to relieve tooth-achs and rheumatic affections of the face; in this way too, it is recommended in lethargic complaints, and paralyſes of the tongue. Woodv. Med. Bot. vol. ii. p. 287.

ANTHEMIS, or ANTHEMUSA, in *Ancient Geography*, one of the names of the iſle of Samos, according to Pliny.

ANTHEMIUS, in *Biography*, and *Hiſtory*, emperor of the weſt, was a native of Conſtantinople, and deſcended from an ancient, illuſtrious, and wealthy family. His name was derived from his grandfather by the mother's ſide, Anthemius, prefect of the eaſt, and the excellent prime miniſter of Theodoſius the younger. Having married Marciana, the only daughter of the emperor Marcian, he was ſucceſſively advanced to the chief dignities, and had ſome claim to the empire itſelf. He was conſul A. D. 455, and afterwards patrician and general, in which office he gained a victory over the Huns on the banks of the Danube. Being nominated by the emperor Leo I. to terminate the interregnum in the weſt, Anthemius left Conſtantinople with a ſplendid retinue, and entered Rome with univerſal acclamations, where he was inaugurated A. D. 467. Soon after this event, he married his daughter to Ricimer, the powerful commander of the barbarians. His government was too feeble to protect Gaul from the inroads of the Viſigoths, who defeated a body of Britiſh troops ſent for by Anthemius to protect his ſubjects, unuſed to military operations. In the diſcord that aroſe between the emperor and Ricimer, the latter fixed his reſidence at Milan, and exerciſed an independent ſovereignty over that part of Italy; and marching with an army of Burgundians and Suevi, brought with him Olybrius, whom he deſtined for the empire. Anthemius, faithfully ſupported by the ſenate and citizens of Rome, reſiſted a ſiege of three months; but at length Ricimer took the capital by ſtorm, and diſcovering Anthemius in his place of concealment, cauſed him to be maſſacred. Anc. Un. Hiſt. vol. xiv. p. 429—433. Gibbon's Hiſt. vol. vi. 193, 194. 217, 218.

ANTHEMIUS, a celebrated architect in the time of Juſtinian, was a native of Tralles in Aſia Minor, and employed by him in the conſtruction of various edifices, and particularly

particularly the church of St. Sophia in Conſtantinople, who on this occaſion formed the deſign, and directed the operations of 10,000 workmen, whoſe payment in pieces of fine ſilver was never delayed beyond the evening. Anthemius was alſo a ſculptor, a mathematician, and an experimental philoſopher. He is ſaid to have ſo well imitated an earthquake, as to frighten out of his houſe one Zeno, a rhetorician, who had offended him. At another time the friends of Zeno, as they ſat at table, were dazzled by the intolerable light which flaſhed in their eyes from the reflecting mirrors of Anthemius. Tzetzes deſcribes the artifice of theſe burning glaſſes, which he had read in a mathematical treatiſe of Anthemius, intitled, "Περὶ παραδόξων μηχαμάτων," Of Wonderful Machines; which treatiſe has been publiſhed, tranſlated, and illuſtrated by M. Dupuys, a ſcholar and a mathematician. Mem. de l'Acad. des Inſcriptions, tom. xvii. p. 302—451. Gibbon's Hiſt. vol. vii. p. 113.

ANTHEMUSIA, in *Ancient Geography*, a town of Aſia, in Meſopotamia, mentioned by Pliny, Strabo, and Tacitus; ſituate to the ſouth-eaſt of Samoſata, and nearly eaſt from Zeugma, and ſeparated by a chain of mountains from Edeſſa to the north-eaſt. An imperial Greek medal of this city was ſtruck in honour of Caracalla.

ANTHENA, a town of the Argolide, in Cynuria.

ANTHERÆ, in *Botany*, a term uſed by ſome authors for the yellow or ruddy globules in the middle of certain flowers, as of lilies, ſaffron, &c.

Some confine the antheræ to the yellowiſh globules in the middle of roſes. Theſe are held more aſtringent than the reſt of the plant.

Others apply the name antheræ to thoſe little tufts or knobs which grow on the tops of the ſtamina of all other flowers; more uſually called APICES.

The anthera or apex of the ſtamen, in the Linnæan ſyſtem, is a principal part of the male organ of generation in plants, and contains within it a fine powder, called *pollen*, or *farina fecundans*, deſtined for the impregnation of the *germen*, and which, when come to maturity, it diſcharges.

ANTHERICUM, ſaid to be derived from Ἄνθος μύκος, i. e. *flower of the hedges*. Lin. G. Pl. n. 422. Gertn. 16. Phalangium, Juſſieu, 52. Claſs, *hexandria monogynia*; natural order of *coronariæ* and of *aſphodeli* of Juſſieu. Its generic characters are as follows: *Calyx* none; *corolla*, petals ſix, oblong, obtuſe, ſpreading; *ſtamina*, filaments ſubulate, erect; *antheræ* ſmall, incumbent, four-furrowed; *piſtillum*, germen obſcurely triangular; *ſtyle* ſimple, of the length of the ſtamina; *ſtigma* obtuſe, triangular; *capſule* ovate, ſmooth, three-furrowed, three-celled, three valved; *ſeeds* numerous, angular. There are more than thirty ſpecies of this genus, many of which are very difficult to aſcertain. The only ſpecies which is a native of Britain is the A. *ſerotinum*, the A. *oſſifragum* and *calyculatum*, being by Dr. Smith now referred to other genera. 1. A. *floribundum*, with leaves flat, ſmooth, linear-lanceolate, acute; ſcape ſimple, raceme many-flowered, cylindric, compact; petals ſpreading; ſtamina ſmooth: a native of the Cape of Good Hope, from whence it was ſent by Mr. F. Maſſon, and introduced into the Royal Garden at Kew, in 1774; it flowers in March and April. 2. A. *ſerotinum*, with root perennial, conſiſting of oblong curved bulbs; ſtem or ſcape erect, ſmooth, round, commonly one-flowered; radical leaves exceeding in height that of the ſtem, ſemicylindrical, nerved, narrow from the baſe, thoſe of the ſtem alternate, ſhort; petals elliptical, equal, nerved, white on the inſide, externally reddiſh; ſtamina ſmooth; it grows on high mountains among rocks in ſeveral parts of Europe: in Britain it has only been found in Wales. Jac. Flor. Auſtr. 5. t. 38. It flowers in June. 3. A. *graecum*, with leaves flat, ſcape ſimple, flowers corymbed, filaments woolly: a native of the Levant. 4. A. *planifolium*, with leaves flat, ſcape and filaments woolly: it is a native of Portugal, flowering in April. 5. A. *revolutum*, curled-flowered anthericum, with leaves flat, ſcape branched, corolla revolute: it is a native of the Cape of Good Hope; and was firſt cultivated here by Mr. Miller, in 1731. 6. A. *ramoſum*, branching anthericum, with leaves linear ſubulate, flat; ſcape branched, peduncles ſolitary, corolla flat, piſtils ſtraight: it is a native of Sweden, Switzerland, Auſtria, the ſouth of France, &c. and was firſt cultivated in England by Gerard, about the year 1597. 7. A. *elatum*, tall anthericum, with leaves flat, ſcape branched; flowers ſcattered, white: it is a native of the Cape of Good Hope, flowering in Auguſt and September. 8. A. *triflorum*, three-flowered anthericum, with leaves channelled, ſword-ſhaped, ſcape ſimple, bracteæ remote, three-flowered: it is a native of the Cape of Good Hope, and introduced into the King's Garden at Kew, in 1782, by George Winch, Eſq. 9. A. *canaliculatum*, channelled anthericum, with leaves rather fleſhy, hairy, ſword-ſhaped-triquetrous, channelled; ſcape ſimple: this is alſo a native of the Cape: it flowers in April. 10. A. *albucoides*, ſtriped flowered anthericum, with leaves linear, channelled, ſmooth, with a cartilaginous edge; ſcape ſimple: a native of the Cape, flowering in Auguſt; it was diſcovered by Mr. F. Maſſon, in 1788. 11. A. *liliago*, graſs leaved anthericum, with leaves flat; ſcape perfectly ſimple; corolla flat; piſtillum bending down. Jac. Hort. i. t. 83. Fl. Dan. t. 616: it is a native of Germany, France, and Denmark; cultivated here, in 1597, by Gerard. 12. A. *liliaſtrum*, Savoy anthericum, with leaves flat; ſcape perfectly ſimple; corolla bell-ſhaped, white; ſtamina bending down: the French call this ſpecies St. Bruno's lily; it grows wild on the mountains of Switzerland and Savoy. 13. A. *ſpirale*, without leaves; ſcape four inches high, filiform, ſpiral, bearing three or four flowers; a native of the Cape. 14. A. *fruteſcens*, ſhrubby anthericum, with leaves fleſhy, columnar; ſtem ſhrubby: a native of the Cape; firſt cultivated in Chelſea garden, in 1702. 15. A. *aloides*, aloe-leaved anthericum, with leaves fleſhy, ſubulate, flattiſh: a native of the Cape; cultivated by Dr. Sherrard, in 1732. 16. A. *aſphodeloides*, glaucous-leaved anthericum, with leaves fleſhy, ſubulate, ſemi-columnar, upright, ſtiff; flowers yellow: a native of the Cape; cultivated by Mr. Miller, in 1759. 17. A. *annuum*, annual anthericum, with leaves fleſhy, ſubulate, columnar; ſcape ſubracemed; flowers yellow: a native of the Cape; cultivated by Mr. Miller, in 1748. 18. A. *hiſpidum*, hairy-leaved anthericum, with leaves fleſhy, compreſſed, rough; flowers white: a native of the Cape, and ſent to the King's Garden at Kew, by Mr. F. Maſſon, in 1774. The preceding five ſpecies have all fleſhy leaves, but thoſe that follow are ſword-ſhaped. 19. A. *calyculatum*, ſee TOFIELDIA. 20. A. *oſſifragum*, See NARTHECIUM. 21. A. *japonicum*, with leaves ſword-ſhaped, convolute, ſmooth; ſcape branched, angular; flowers racemed, nodding: a native of Japan, China, and Java. 22. A. *filiforme*, thread-leaved anthericum, with leaves filiform, rather cylindric, rough; filaments ſmooth; it is perennial, flowering in April: a native of the Cape, and introduced here by Mr. F. Maſſon, in 1774. 23. A. *flexifolium*. 24. A *muricatum*. 25. A. *latifolium*. 26. A. *cauda-felis*. 27. A. *triquetrum*. 28. A. *ciliatum*. 29. A. *falcatum*. 30. A. *contortum*. 31. A. *ſcabrum*. 32. A. *ſquameum*. The above ten ſpecies are all Cape plants, and mentioned in the Supplementum Plantarum, but unknown in this country. They were all but the laſt diſcovered by Thunberg. 33. A. *cirratum*, with leaves lanceolate, flattiſh; ſcape panicled: a native of New Zealand.

34. A.

34. A. *adenanthera*, with leaves linear, enſiform, connate at the baſe; a gland between the filament and anther: a native of New Caledonia.

Propagation and Culture. All the ſpecies except the ſeventeenth are perennial, and are uſually propagated by offsets taken during the ſummer or autumn. Thoſe plants which do not throw out ſuckers freely, may be propagated by ſeeds, ſown in the ſpring or autumn, in a warm ſituation, on a bed of light ſandy earth. When the leaves decay, the roots ſhould be broken up and tranſplanted. If the winter prove ſevere, they ſhould be defended from the cold by covering the bed with ſtraw, or what is better, old tan, from a hot bed. Thus treated, they will be ſtrong enough to flower in one year, and in autumn may be taken up, and planted in the borders of the flower-garden, where they will live ſeveral years, if the roots be well defended from the froſt. Some of the ſpecies, as the 7th, muſt be houſed in winter, or placed under a hot-bed frame, which is to be preferred to a common green-houſe. See Martyn's Miller's Dict.

ANTHERINUS, in *Entomology*, a ſpecies of CRYPTOCEPHALUS, in Gmelin's arrangement. It is black, with two ferruginous bands. This is tenebrio pedicularis of the tenth edition of the Linnæan Syſtema Naturæ, and meloe antherinus of the twelfth edition of the ſame work, and the Fauna Suecica. Fabricius places it in his genus lagria, in the Species Inſectorum: this inſect is very ſmall, lives on flowers, and runs faſt.

ANTHESPHORIA, in *Antiquity*, a feaſt celebrated in Sicily, in honour of Proſerpine. The word is derived from ανθος, *flower*, and φερω, *I carry*, in relation to Pluto's having forced away that goddeſs when ſhe was gathering flowers in the fields. Yet Feſtus does not aſcribe the feaſt to Proſerpine; but ſays it was thus called, becauſe ears of corn were carried on this day to the temples. Antheſphoria ſeems to be the ſame thing with the *floriſertum* of the Latins, and anſwers to the *harveſt-home* among us.

Antheſphoriæ were alſo celebrated in the temple at Argos, in honour of Juno Antheias; according to Pauſanias, in the Corinthiaca.

ANTHESTERIA, was a feaſt celebrated by the Athenians in honour of Bacchus.

The moſt natural derivation of the word is from ανθος, *flos*, *a flower*; it being the cuſtom at this feaſt to offer garlands of flowers to Bacchus.

Some are of opinion it took its name from the month *Antheſterion*, in which it was celebrated. Others pretend, that this was not the name of any particular feaſt, but that all the feaſts of Bacchus were called antheſteria.

The antheſteria laſted three days, the eleventh, twelfth, and thirteenth days of the month; each of which days had a name ſuited to the proper office of the day, and during which the maſters ſerved their ſlaves at table. The firſt day of the feaſt was called πιθοιγια, i. e. opening the veſſels, becauſe on this day they tapped the veſſels, and taſted the wine. The ſecond day they called χοος, *congii*, the name of a meaſure, containing the weight of about ten pounds: on this day they drank the wine prepared the day before. The third day they call χυτροι, *kettles*: on this day they boiled all ſorts of pulſe in kettles; which, however, they were not allowed to taſte, as being all to be offered to Mercury.

ANTHESTERION, in *Ancient Chronology*, the ſixth month of the Athenian year. It contained twenty-nine days, and anſwered to the latter part of our November and beginning of December. Neapolis, a commentator on the Faſti of Ovid, ſays, that it anſwered to the end of February and beginning of March. The Macedonians called it *Deſion* or *Deſion*. In this month the Athenians and other people of Greece celebrated feaſts in honour of the dead.

It had its name from the feſtival ANTHESTERIA kept in it.

ANTHIAS, in *Ichthyology*, a ſpecies of LABRUS, very concifely deſcribed by Gmelin, after Artedi, as being entirely reddiſh, "totus rubeſcens." This is Anthea of Rondel, and according to Cateſby, found in Carolina; it is alſo ſaid to inhabit the ſouth of Europe, and to have the gill covers ſerrated. Some have ſuppoſed this fiſh to be a perch.

ANTHISTIRIA (Ανθιστηρια, *floralia*, an Athenian feſtival obſerved in honour of Bacchus), in *Botany*, an exotic plant, of a graſs-like appearance, belonging to the claſs *polygamia monoecia*, and natural order, *gramina*. The eſſential generic character is, that the *calyx* is cleft at the baſe into four equal diviſions or valves. *Anthiſtiria ciliata* is the only ſpecies of the genus hitherto diſcovered.

ANTHIUS, FLOWERED, in *Mythology*, a ſurname given to Bacchus, at Athens, and alſo Patras in Achaia; becauſe the ſtatues of this god were covered with a robe charged with flowers.

ANTHOCEROS, a ſmall cryptogamious plant, of the order *algæ*. Lin. Gen. 1201. In the *male* flower the *calyx* is ſeſſile, cylindrical, entire; anther very long, ſubulate, two-valved; in the *female*, the *calyx* is cut into ſix diviſions, and contains three ſeeds. 1. A. *punctatus*, with the fronds undivided, indented, dotted: a native of Britain, growing on heaths and moiſt ſhady places. 2. A. *laevis*, with ſmooth, undivided, indented fronds. 3. A. *multifidus*, with bipinnated linear fronds. See Hedwig's Figures and Flor. Dan. 396.

ANTHOINE, NICHOLAS, in *Biography*, was born at Brieu in Lorrain, of Roman Catholic parents, and educated in the college at Luxemburg, and alſo under the Jeſuits at Triers and Cologne. Conceiving a diſlike to the church of Rome, he embraced the Proteſtant religion; and ſuch was his zeal in his new profeſſion, that he endeavoured to proſelyte his relations. In purſuing his theological ſtudies, he became a convert to Judaiſm, and ſolicited the Jews in ſeveral cities to admit him among them as a proſelyte, but his application was ineffectual. Returning to Geneva, he made an external profeſſion of Chriſtianity, but privately performed his devotions as a Jew. He was at length admitted into the miniſtry of the reformed church; and appointed by the ſynod of Burgundy, to be miniſter of the church of Divonne in the country of Gex. Here he was ſuſpected, and became inſane; but upon the recovery of his underſtanding, he was committed to priſon. After ſome time, he was brought to his trial; upon which he avowed himſelf a Jew, and beſought God that he might die in the Jewiſh religion. The reſult was his condemnation by the council, who, in 1632, ſentenced him to be ſtrangled and burnt; and he was executed on the day of his condemnation. His ſentence expreſſed, that "laying aſide all fear of God, he was guilty of apoſtacy and high treaſon, having oppoſed the Holy Trinity, denied our Lord and Saviour Jeſus Chriſt, blaſphemed againſt his holy name, renounced his baptiſm to embrace Judaiſm and circumciſion, and perjured himſelf, which are great and horrid crimes, &c." Anthoine left ſeveral pieces written with his own hand, ſuch as ſeveral prayers, that are ſaid to be compoſed in a ſtrain of great devotion, though he introduces in them no mention of Jeſus Chriſt; a ſmall paper, containing eleven philoſophical objections againſt the Trinity; a confeſſion of his faith in twelve articles, which are as follow, *viz.* that there is only one God, without diſtinction of perſons;—that there is

no other way of ſalvation, without fulfilling the law of Moſes;—that circumciſion is of perpetual obligation, and alſo the ſabbath, and alſo the diſtinction of clean and unclean meats;—that ſacrifices will be reſtored, and the temple and city of Jeruſalem rebuilt;—that the true Meſſiah is to come, and that he will be a glorious, holy, and juſt king, and reſtore the kingdom of Iſrael;—that there is no imputation of Adam's ſin;—that there is no predeſtination, by which God has decreed to ſave ſome perſons and to damn others, but that men ſhall be rewarded and puniſhed according to their actions;—that no perſon can make ſatisfaction for us, but that if we ſin there is room for repentance;—and that the New Teſtament is not agreable to the Old. Gen. Dict.

ANTHOLOGION, a church-book in uſe among the Greeks. It was called ανθολογιον, q.d. *florilegium*, or a collection of flowers. The anthologion is a ſort of breviary or maſs-book, containing the daily offices addreſſed to our Saviour, the Virgin, and the principal ſaints; with other common offices of prophets, apoſtles, martyrs, pontiffs, and confeſſors, according to the Greek rite. See BREVIARY, MASS, and OFFICE.

ANTHOLOGY, ANTHOLOGIA, a diſcourſe or treatiſe of flowers, or of beautiful paſſages from any authors. Thus called from ανθος, *flos*, *a flower*, and λογος, *ſermo*, *diſcourſe*: though others chooſe rather to derive it from ανθος, *flos*, *a flower*, and λεγω, *I gather*; and uſe it to ſignify a collection of flowers.

ANTHOLOGY is frequently uſed for a collection of epigrams of divers Greek poets.

ANTHOLYZA (Ανθος, *a flower*, and λυσσα, *madneſs*), in *Botany*, Lin. Gen. 58. claſs *triandria monogynia*; natural order *enſatæ*; and *irides* of Juſſieu.

Generic Character. *Calyx*, ſpathes two-valved, alternate, imbricated, permanent; *corolla*, petal one, gradually dilated, from the tube into a compreſſed ringent throat; *upper-lip* ſtraight, ſlender, very long, furniſhed with two ſhort diviſions at the baſe; *under-lip* ſhorter, trifid; *ſtamina*, filaments long, ſlender, under the upper lip; antheræ acute; *piſtillum*, germen inferior; ſtyle filiform; ſtigma trifid, capillary, reflex; *per.* capſule roundiſh, three-cornered, three-celled, three-valved; *ſeeds* many, triangular.

Eſſ. generic Character. *Cor.* tubular, irregular, recurved; *capſ.* inferior.

Species. 1. A. *ringens*, narrow-leaved antholyza, with lips of the corolla divaricated, throat compreſſed; it grows two feet high, producing red flowers cut into ſix unequal ſegments, and appearing in June; cultivated by Mr. Miller in 1759. 2. A. *plicata*, plaited-leaved antholyza, with leaves plaited; ſtem branching hirſute; corolla ringent, ſhorter than the ſtamina: a native of the Cape, and diſcovered by Thunberg and Maſſon. 3. A. *cunonia*, ſcarlet-flowerd antholyza, with corolla ſomewhat butterfly-ſhaped, the two outer lobes of the five-parted lip broader and aſcending. Miller, fig. 113. and Bot. Magazine, 343. A native of the Cape and Perſia; cultivated by Miller in 1756; it flowers in May and June. 4. A. *æthiopica*, broad-leaved antholyza, with corolla incurvate; the two alternate lobes of the five-parted lip ſpreading, large, lanceolate: its flowers are ſcarlet, and appear in May and June; cultivated by Mr. Miller in 1759. This and the preceding ſpecies very much reſemble the gladiolus. 5. A. *meriana*, red-flowered antholyza; with corolla funnel-ſhaped; leaves linear ſword-ſhaped: the flowers have long tubes, of a copper colour on the outſide, but of a deeper red within; appearing in April or May. Bot. Magazine, 418. Cultivated by Miller in 1756. See fig. 276, Miller. 6 A. *merianella*, dwarf antholyza, with corolla funnel-ſhaped, leaves linear; the flowers are of a pale red, larger than thoſe of the preceding ſpecies. Curt. Bot. Mag. 441. The ſeeds were brought from the Cape in 1754. Both this and the meriana differ much from all the other ſpecies of antholyza, and ought perhaps to conſtitute another genus. 7. A. *lucidor*, with radical leaves filiform at the baſe, broad, ſubulate, furrowed at the top; ſtem ſimple, leafy, ſpiked, a foot and a half high; flowers oblong, a little bent, purple above, cut into ſix unequal lanceolate parts. This, as well as the other ſix ſpecies, are natives of the Cape of Good Hope.

Propagation and Culture. As theſe are very ornamental plants, much attention has been given to their cultivation. They do not always ripen their ſeeds in this country, and are therefore frequently propagated by offſets, which their bulbous roots ſend forth in great abundance. Miller ſays, "the ſeeds ſhould be ſown ſoon after they are ripe, for if they are kept out of the ground till the following ſpring, they often miſcarry, or at leaſt remain a year in the ground before they grow. If the ſeeds are ſown in pots of light earth, and plunged into an old bed of tan, which has loſt its heat, and ſhaded in the middle of the day in hot weather, the ſeeds will come up the following winter; therefore they muſt be kept covered with glaſſes to ſcreen them from cold, otherwiſe the young plants will be deſtroyed. Theſe may remain in the pots two years, if the plants are not too cloſe, by which time they will have ſtrength enough to be planted each into a ſeparate ſmall pot filled with light earth. The time for tranſplanting theſe roots is in July or Auguſt, when their leaves are decayed. In ſummer, the pots may be placed in the open air, but in winter they muſt be removed and placed under a hot-bed frame, for they are not very tender; but where any damp ariſes, it is very apt to occaſion a mouldineſs upon their leaves. The roots ſhoot up in autumn, and the flowers begin to appear in May; the ſeeds ripen in Auguſt, and ſoon after their leaves and ſtalks decay: the roots may then be taken up, and kept ſix weeks or two months out of the ground, ſo that they may be eaſily tranſported from one country to another at that time." See Martyn's Miller's Dictionary.

ANTHON, in *Geography*. See VILLETTE D'ANTHON.

ANTHONY, FRANCIS, in *Biography*, the ſon of —— Anthony, goldſmith, who held a lucrative place in the Jewel Office under queen Elizabeth, was born in London in the year 1550. After paſſing through the uſual ſteps, he was ſent to Cambridge, where he graduated in the year 1574. Having applied himſelf diligently to the ſtudy of medicine, particularly of chemiſtry, and invented a panacea, which he called Aurum Potabile, he returned to London, and commenced practitioner of phyſic, but without obtaining a licence from the College. He was therefore ſummoned before them, and interdicted practiſing, Goodall ſays, for incapacity; and on his proving refractory, was committed by them to the Compter-priſon. He was, however, ſoon after releaſed, on his ſubmitting to the college, and paying them a fine of five pounds. Two years after, Dr. Taylor and two other members of the college, accuſed him of occaſioning the death of ſundry perſons, to whom he had given his medicine. Againſt this charge he defended himſelf, in 1610, by a work intitled, "Medicinæ Chymicæ et veri Potabilis Auri aſſertio," "by no means (Aikin ſays) devoid of learning and art, although in the preſent ſtate of chemiſtry and medicine, it would be thought deſtitute of ſolidity." This was anſwered by Dr. Matthew Gwynne, in a tract called "Aurum non Aurum, ſive adverſaria in aſſertorem Chymiæ, ſed veræ Medicinæ deſertorem Fran. Anthonium." It is curious to find this

this writer calling upon the king to prohibit the ſale of the medicine, leſt the buſineſs of the phyſician, ſurgeon, and apothecary ſhould be ruined. This at leaſt ſhewed it poſſeſſed conſiderable efficacy. This produced from the inventor, in 1616, an apology in defence of his medicine, written in Engliſh, in which, beſides ſome popular arguments in favour of the idea of an univerſal medicine, there is a large collection of atteſted cures. He had now acquired ſuch a degree of popularity, and ſo many powerful protectors, that the College did not think it prudent, it would ſeem, to proſecute him farther. He is ſaid to have been liberal to the poor, and to have lived hoſpitably in his houſe in Bartholomew-cloſe, where he died, aged 74, on May 26th, 1623. There is a monument erected to him and his ſon John, who ſucceeded him in the ſale of his medicine, in the church of Bartholomew the Great, in London. Charles, his ſecond ſon, removed to the town of Bedford, where he practiſed phyſic with conſiderable reputation and ſucceſs.

ANTHONY, or *Antony*, ST. the firſt inſtitutor of the monaſtic life, was born at Coma, a village of Egypt, in the lower parts of the Thebais, in the year 251 (252, Cave). Some have ſaid, that though born of wealthy parents, he was wholly illiterate; while others affirm, that he could read and write in the Coptic, which was his native tongue. At the age of 18, he was left in poſſeſſion of a large eſtate, which, under the impulſe of a fanatical ſpirit, he ſold, diſtributing the produce of it among the poor, and devoting himſelf to religion in a ſtate of ſolitude and poverty. After a long and painful noviciate among the tombs, and in a ruined tower, he boldly advanced into the deſert, three days' journey to the eaſtward of the Nile, diſcovered a lonely ſpot, which poſſeſſed the advantages of ſhade and water, and fixed his laſt reſidence on Mount Colzim, near the Red Sea; where an ancient monaſtery ſtill preſerves the name and memory of the ſaint. Before his ſettlement at Colzim, and during the perſecution of Maximin, in the year 311, he left his ſolitary retreat, and viſited Alexandria, for the purpoſe of adminiſtering conſolation to thoſe who were ſuffering in the Chriſtian cauſe. During the latter part of his life, in the year 355, he took another journey to this city, at the requeſt of Athanaſius and other Catholic prelates, to aſſiſt them in defending the faith againſt the Arians; where he is ſaid to have ſupported his fame with diſcretion and dignity. Declining to accept an invitation from the emperor Conſtantine to viſit Conſtantinople, he returned to his cell, and there lived to the advanced age of 105 years. The venerable patriarch beheld the numerous progeny, which had been formed by his example and leſſons to that kind of monaſtic ſeclusion and mortification, which ſuperſtition may deem meritorious, but which an enlightened and benevolent philoſophy muſt pronounce abſurd and miſchievous. The prolific colonies of monks multiplied with rapid increaſe on the ſands of Libya, upon the rocks of Thebais, and in the cities of the Nile. To the ſouth of Alexandria, the mountain and adjacent deſert of Nitria were peopled by 5000 anachorets; and the traveller may ſtill inveſtigate the ruins of 50 monaſteries, which were planted in that barren ſoil by the diſciples of Anthony. But "what honour can be due to the memory of the fanatic who laid the foundation of an inſtitution, which has alienated millions of human beings from the firſt duties and the firſt enjoyments of ſociety?" Anthony left his cloak to Athanaſius, and his hair-cloth to two brethren who were with him at his death. Seven letters, written originally in Egyptian, and tranſlated into Latin, abounding more with piety than eloquence, with ſome other pieces, aſcribed to this protomonk, may be found in the "Bibliotheca Patrum." Cave's Hiſt. Lit. vol. i. p. 220. Gibbon's Hiſt. vol. vi. p. 241, &c. See MONK.

ANTHONY, *St. of Hainault*. The order of St. Anthony in Hainault, was inſtituted by Albert, duke of Bavaria and earl of Hainault, Holland, and Zealand, in 1382, on deſigning an expedition againſt the Turks and Moors. The enſign of the order was a collar of gold made like an hermit's girdle; at the centre thereof hung a crutch, and a ſmall bell of gold.

ANTHONY, *St. of Æthiopia*. The order of St. Anthony in Æthiopia. After the death of St. Anthony the hermit, who died in 357, many of his diſciples remaining near Æthiopia, followed his example and manner of life; and their ſucceſſors lived in great auſterity in the deſert, and were called Anchorites till the year 370; when John, emperor of Æthiopia, erected them into a religious order of knighthood, under the title and protection of St. Anthony, patron of his empire. Being thus inſtituted, they received St. Baſil's rule, and lived in monaſteries; their habit was black, with a blue Croſs Tau. Philip VII. ſon to the *Founder*, enlarged their lands and privileges, and added a bordure of gold to the badge of the blue croſs. In Italy, France, and Spain, there was formerly a ſort of monks that had the title of Knights of St. Anthony, which obſerved the rule of St. Auguſtine, and they wore a plain croſs like that in Æthiopia; but the principals of thoſe wore a double St. Anthony's croſs of blue ſatin, the one above the other. Their chief ſeat was at Vienne in Dauphine, of which place the General of the Order bore the title of abbot; the monaſtery being erected, in 1297, in honour of St. Anthony, whoſe body was tranſlated thither from Conſtantinople. The badge of this order was a Croſs flowery azure, the baſe point thereof couped, and the whole edged with gold.

The friars of this order came into England in the reign of king Henry III. and had one houſe at London, and another at Hereford.

It is ſaid that, in ſome places, theſe monks aſſume to themſelves a power of giving, as well as removing the *ignis ſacer*, or ERYSIPELAS; a power which is uſefully employed for keeping the poor people in ſubjection, and extorting alms.

ST. ANTHONY'S *Fire*. See ERYSIPELAS.

ANTHONY, ST. *Iſland of*, in *Geography*, the moſt northern of all the Cape Verd iſlands, lying in N. lat. 18°, and divided from St. Vincent by a clear and navigable channel, about two leagues broad. This iſland ſtretches from north-eaſt to ſouth-weſt, and abounds with high mountains, whoſe tops are conſtantly covered with ſnow, and generally hid in the clouds. On the north ſide is a good road for ſhipping, and a ſupply of freſh ſpring water. The inhabitants are chiefly Negroes, amounting in number to about 500, under the protection of the Portugueſe. The iſland produces a variety of fruits, oranges, lemons, palms, melons, bacovas, pomegranates, and the ſugar-cane. The potatoes and melons are particularly excellent, and much ſought after by mariners.

ANTHONY *Cave's Iſland*, an iſland in the Pacific Ocean. S. lat. 3° 10'. E. long. 152° 50'.

ANTHONY'S *Falls*, ST. lie in the river Miſſiſippi, about ten miles north-weſt of the mouth of St. Pierre river, which joins the Miſſiſippi from the weſt, and are ſituated in N. lat. 44° 50'. They were ſo named by father Louis Hennipin, who travelled into thoſe parts about the year 1680, and was the firſt European ever ſeen there by the natives. The whole river, 250 yards wide, falls perpendicularly above 30 feet, and forms a very agreeable cataract. The rapids below, in the ſpace of about 300 yards, render the deſcent apparently greater, when viewed at a diſtance. In the middle of the falls is a ſmall iſland, about 40 feet ſquare, in which

grow a few hemlock and ſpruce trees. Theſe falls are ſo peculiarly ſituated, that they may be approached without any intervening hill or precipice; and the ſcene around them is uncommonly beautiful. At a little diſtance below the falls is a ſmall iſland, about 1½ acre, on which grow a great number of oak trees, all the branches of which are loaded, at the proper ſeaſon, with the neſts of eagles, where they are ſecure from the attack both of man and beaſt.

ANTHONY's *Kill*, a weſtern water of Hudſon's river; the mouth of which is ſeven miles above that of Mohawk river, with which it likewiſe communicates at the eaſt end of Long Lake.

ANTHONY's *Noſe*, a point of land in the highlands, on Hudſon's river, in the ſtate of New York; from which to Fort Montgomery on the oppoſite ſide, a large boom and chain was extended in the late war, at an expence of 70,000l. ſterling. It was partly deſtroyed by general Clinton in 1777. This is alſo the name of a point of a mountain on the north bank of Mohawk river, about 30 miles above Schenectady. The ſtage road runs about this point.

ANTHOPHYLLUM, in *Natural Hiſtory*, a ſpecies of MADREPORA, found in the Mediterranean. The ſtalk is ſimple and ovate; ſtar terminal, hemiſpherical, and concave, with radiated lamellæ, which are thickeſt at the bottom. Gmelin, Eſper, &c.

ANTHOPHYLLUM, is alſo a name given by Rumpfius to madrepora ramea of Linnæus. *Vide* Anthophyllum faxeum. Rumpf. amb. vi. p. 245.

ANTHORA, in the *Materia Medica*, a medicinal plant, of the *aconite* kind, having yellow flowers, reſembling helmets; growing chiefly on the mountains in Switzerland and Savoy. See ACONITUM.

This is otherwiſe called *antithora*, as being reputed an antidote againſt the *thora*; ſometimes *aconitum ſalutiferum*; in Engliſh, the *helmet-flower*.

The root, *anthoræ radix*, has been chiefly in uſe. It holds a place in the catalogues of the *Materia Medica*, but is not kept at this time in the ſhops. It is of a duſky brown without and whitiſh within, of a warm bitteriſh taſte, and is reputed a cardiac and alexipharmic, much of the ſame qualities with CONTRAYERVA root; on which account ſome alſo denominate it the *German contrayerva*, though it now only obtains in a few officinal compoſitions.

ANTHORISMUS, in *Rhetoric*, denotes a counter definition or deſcription of a thing.

Thus, if a plaintiff urge, that to take any thing away from another, without his knowledge or conſent, is a theft; this is called ὁρος, or definition. If the defendant reply, that to take a thing away from another, without his knowledge or conſent, provided it be done with deſign to return it to him again, is not theft; this is an ἀνθορισμος.

ANTHOS, in its original Greek, ſignifies flower; but by way of excellency is appropriated to roſemary, ſo as to expreſs only that plant.

ANTHOSPERMUM (Ἀνθος and σπερμα, *flower-ſeed*), in *Botany*, Linn. Gen. 1164. Claſs, *polygamia dioecia*; natural order, *ſtellatæ*; and *rubiaceæ*, Juſſ.

Generic Character. MALE. *Calyx*, perianth one-leafed, conical, quadrifid beyond the middle; diviſions ovate-oblong, revolute, obtuſe; *corolla* none; *ſtamina*, filaments four, capillary, erect, the length of the calyx, inſerted into the receptacle; *antheræ* twin, oblong, four-cornered, erect.

FEMALE. *Calyx* and *corolla* as in the male; *piſtillum*, germen inferior, ovate, four-cornered; ſtyles two, recurved; ſtigmata ſimple.

Eſſen. Generic Character. *Calyx* four-parted; *corolla* none; *ſtamina* four; *piſtillum* two; germ. inferior; male and female in the ſame, or a diſtinct plant.

Species. 1. A. *æthiopicum*, amber-tree: it bears male and hermaphrodite flowers on diſtinct plants; a beautiful ever-green ſhrub, with ſmooth poliſhed leaves, which emit a very fragrant odour on being rubbed between the fingers. 2. A. *ciliare*, with root perennial, woody, much branched; leaves ciliated, narrow, lanceolate; flowers axillary, ſeſſile. 3. A. *herbaceum*, with leaves ſix, poliſhed; ſtem herbaceous. This has the appearance of a galium. All theſe ſpecies are natives of the Cape of Good Hope.

Propagation and Culture. All theſe plants may be eaſily propagated by cuttings during the ſummer months: they will take root in a border of light earth, provided they are watered and ſhaded as the ſeaſon may require; or if theſe cuttings are planted in pots, and placed in a moderate hot-bed, they will take root ſooner. Afterwards they ſhould be taken up, and planted in pots filled with light ſandy earth, and expoſed to the open air till October, when they ought to be removed into the conſervatory. See Miller's Dict. by Martyn.

ANTHOXANTHION. See RUMEX *maritimus*.

ANTHOXANTHUM (Ἀνθος and ξανθος, *yellow flower*), Lin. Gen. 42. claſs, *diandria digynia*; natural order, *gramina*, or graſſes.

Generic Character. *Calyx*, glume one-flowered, two-valved; valves ovate, acuminate, concave, the inner one larger; *corolla*, glume one-flowered, two-valved, of the length of the greater valve in the calyx, each valve emitting an awn from the lower part of the back, one of them jointed; *nectary* two-leaved, very ſlender, cylindric; leaflets ſubovate, embracing; *ſtamina*, filaments two, capillary, very long; *antheræ* oblong, forked at both ends; *piſtillum*, germen oblong; ſtyles two, filiform; *ſtigmata* ſimple; *pericarpium*, glume of the corolla grows to the ſeed; ſeed one, pointed at both ends.

Eſſen. generic Character. Glume two-valved, one-flowered; glume of the corolla two-valved, acuminate; ſeed one.

Species. 1. A. *odoratum*, ſweet vernal graſs, with ſpike oblong-ovate; flowers longer than the awn, on ſhort peduncles. This is an early graſs, and grows about a foot high: it may be eaſily diſtinguiſhed from all the other graſſes which are natives of this country, by having only two ſtamina; its fragrance is alſo very remarkable, giving that pleaſant ſmell diſcovered in new-mown hay. See Eng. Botany, 647. 2. A. *indicum*, with ſpike linear; flowers ſeſſile, ſhorter than the awn; culm, or ſtem, a foot high, jointed; leaves broad, ſhort, ſpike very narrow: a native of the Eaſt Indies. 3. A. *crinitum*, with culm high, ſmooth; panicle long, ſpike-ſhaped; with awns long, ſpreading, looſe: a native of New Zealand.

ANTHOXANTHUM *aculeatum*. See CRYPSIS.

ANTHOXANTHUM *paniculatum*. See FESTUCA *ſpadicea*.

ANTHRACIS, in *Natural Hiſtory*, a word uſed for a gem by the ancients, but in ſeveral different ſenſes; all which ſeem evidently to refer to the cat's eye, or *aſteria* kind.

Many of the ancients alſo have called the HÆMATITES, or blood-ſtone, by this name, becauſe of its being of the colour of a burning coal.

ANTHRACOLITE (of Kirwan), in *Mineralogy*. See COAL.

ANTHRACOSIS, in *Surgery*, is a diſeaſe affecting the eye or its appendages, which more commonly bears the appellation of *Anthrax*, *Carbo*, or *Carbuncle*. This diſorder may, however, be ſeated in any other external part of the body; and there is no good reaſon why its name ſhould be altered, when it affects the eye. See CARBUNCLE.

ANTHRAX, in the *Natural Hiſtory of the Ancients*, was a word uſed by the moſt early writers for the ſubſtance we now call pit coal, and *lithanthrax*. Theophraſtus plainly tells us, that the ſubſtance ſtrictly and properly called *anthrax* (for they alſo knew a gem by the ſame name, uſed in a metaphorical ſenſe) was an earthy foſſile ſubſtance, which was broken in pieces to be uſed, and kindled well, and burnt almoſt like wood-coals, and was uſed by the ſmiths. See COAL.

ANTHRAX *Morio*, in *Entomology*, a name given by Scopoli to the muſca morio of Linnæus. *Vide* Scop. ent. Carn. 971.

ANTHRAX, in *Surgery*, a circumſcribed tumour ſeated in the common integuments, and readily becoming gangrenous. For a more particular deſcription of this complaint, ſee CARBUNCLE, which is ſynonymous. The diſtinction which ſome perſons have made between *anthrax* and *carbo* is not founded in nature.

ANTHRENUS, in *Entomology*, a genus of coleopterous inſects in Gmelin's arrangement of the Syſtema Naturæ, comprehending ſeven ſpecies, *viz.* pimpinellæ, ſcrophulariæ, muſcorum verbaſci, vagus, glaber, and fuſcus. The character of the genus is, antennæ clavate; club ſolid; palpi unequal, filiform; maxilla membranaceous, linear, and two-cleft; lip entire.

ANTHRIBUS, a name given by Geoffroy to the Cryptocephalus Crioceris of Gmelin.

ANTHRISCUS, in *Botany*. See CHÆROPHYLLUM and SCANDIX.

ANTHROMETRICA *machina*. See ANTHROPOMETRICA.

ANTHROPODÆMON, in *Ancient Writers*, a demon concealed under the figure or appearance of man.

ANTHROPOGLOTTUS, in *Natural Hiſtory*, ſomething that has a tongue or ſpeech reſembling that of a man.

The parrot kind are denominated anthropoglotti, on account of their broad, thick and muſcular tongues, by which they are enabled to ſpeak, and to roll their meat from ſide to ſide under the edges of their bills.

ANTHROPOGRAPHIA, a deſcription of man; more particularly of the ſtructure of his body, and the parts thereof.

ANTHROPOLATRÆ, in *Eccleſiaſtical Hiſtory*, a title given to the Neſtorians, on account of their believing Chriſt to be a mere man, yet paying him the honour of a God.

ANTHROPOLATRIA, the paying divine worſhip or honours to a man. *Anthropolatria* is ſuppoſed by ſome to have been the moſt ancient ſpecies of IDOLATRY.

ANTHROPOLITES, in *Natural Hiſtory*, a term denoting petrifactions of the human body; as thoſe of quadrupeds are called *zoolites*. See PETRIFACTION.

ANTHROPOLOGY, compounded of ανθρωπος, *man*, and λογος, *diſcourſe*, a diſcourſe or treatiſe upon man, or human nature; conſidered as in a ſound or healthy ſtate.

Anthropology includes the conſideration both of the human body and ſoul, with the laws and effects of their union; as ſenſation, motion, &c.

It is particularly uſed, in *Theology*, for a way of ſpeaking of God after the manner of men; by attributing human parts and paſſions to him; as eyes, hands, ears, anger, joy, &c. We have frequent inſtances of anthropology in holy ſcripture; by which we are only to underſtand the effect, or the thing which God does, as if he had hands, &c.

ANTHROPOMANCY, compounded of ανθρωπος, *man*, and μαντεια, *divination*, a method of divination, performed by inſpecting the *viſcera* of a perſon deceaſed: the emperor Heliogabalus practiſed this method of divination. The ſame is related by Cedrenus and Theodoret of Julian II. who, in his nocturnal ſacrifices and magical operations, deſtroyed a number of young children, for the purpoſe of inſpecting and conſulting their entrails. The Scythians were addicted to this barbarous practice; and Strabo informs us, that it prevailed amongſt the ancient inhabitants of Luſitania.

ANTHROPOMETRIA, a deſcription of the human body, with its ſeveral parts and members, according to the three dimenſions, length, breadth, and thickneſs, both conſidered in themſelves, and comparatively to each other.

ANTHROPOMETRICA *machina*, a name which Sanctorinus gave to his weighing-chair, contrived for meaſuring the quantity of *inſenſible* PERSPIRATION.

ANTHROPOMORPHA, derived from ανθρωπος, *a man* and μορφη, *form*, in the Linnæan ſyſtem of nature, a denomination formerly given to the primates claſs of animals which had the greateſt degree of reſemblance to the human form.

ANTHROPOMORPHITE, formed of ανθρωπος, *man* and μορφη, *ſhape*, in a general ſenſe, one who attributes to God the figure of a man.

ANTHROPOMORPHITES, in *Eccleſiaſtical Hiſtory*, were a ſect of ancient heretics, who, taking every thing ſpoken of God in the ſcriptures in a literal ſenſe, imagined he had real hands, feet, &c. The paſſage they chiefly inſiſted on was that in Geneſis, where it is ſaid, that God made man after his own image.

Even philoſophers, for want of a better acquaintance with metaphyſics, ſeem to have fallen into *anthropomorphiſm*, repreſenting God much after the manner of a human ſoul, without conſidering the difference between a finite and infinite being; limited, and abſolute perfections. Wolfius has laboured hard to avoid this rock, by having the difference ſtill preſent to his mind, and proceeding according to the ancient rule, *Quæ de Deo dicuntur* ανθρωποπαθως, *ea intellige* Θεοπρεπως.

The whole ſect of Stoics held God to be corporeal: and, not to mention Tertullian, Lactantius and others among the fathers, Hobbes and his followers aſſert the ſame among ourſelves. Leibnitz charges ſir Iſaac Newton and his followers with repreſenting God under the conditions of a man; but with what juſtice it would be hard to ſay.

Thoſe who held the contrary, *viz.* that God is incorporeal, and without any bodily form, the anthropomorphites branded by the name of *Origeniſts*, becauſe *Origen* taught how to allegorize thoſe expreſſions.

Epiphanius calls the *Anthropomorphites*, *Audiani*, or *Odiani*, from *Audius*, the ſuppoſed founder of the ſect; who lived about the time of Arius, in Meſopotamia. St. Auguſtine calls them *Vadiani*.

This ſyſtem was revived in the year 930.

ANTHROPOMORPHOUS, ſomething that bears the figure or reſemblance of a man. Naturaliſts give inſtances of anthropomorphous plants, anthropomorphous minerals, &c. Theſe generally come under the claſs of what they call *luſus naturæ*, or monſters.

Anthropomorphous ſtones make a ſpecies of thoſe called figured ſtones.

ANTHROPOMORPHOUS, is an appellation more peculiarly given to MANDRAGORA, or mandrake.

ANTHROPOPATHY, compounded of ανθρωπος, *man*, and παθος, *paſſion*, a figure, expreſſion, or diſcourſe, whereby ſome paſſion is attributed to God, which properly belongs only to man.

Anthropopathy is frequently uſed promiſcuouſly with anthropology; yet, in ſtrictneſs, they ought to be diſtinguiſhed as the genus from the ſpecies. Anthropology may be underſtood of any thing human attributed to God; but

anthro-

anthropopathy, only of human affections, paſſions, ſenſations, &c

ANTHROPOPHAGI, compounded of the Greek ἀνθρωπος, *man*, and φαγω, *edere, to eat*, people who feed on human fleſh.

The Cyclops, the Leſtrygons, and Scylla, are all repreſented in Homer as anthropophagi, or man-eaters; and the female phantoms, Circe and the Syrens, firſt bewitched with a ſhow of pleaſure, and then deſtroyed. This, like the other parts of Homer's poetry, had a foundation in the manners of the times preceding his own. It was ſtill in many places the age ſpoken of by Orpheus:

> "When men devour'd each other like the beaſts,
> Gorging on human fleſh.——"

Some remains of the uſage ſubſiſted much longer, even among the moſt civilized nations, in the practice of offering human ſacrifices.

Hiſtory gives us divers inſtances of perſons driven by exceſs of hunger to eat their own relations. Others commence anthropophagi out of revenge and hatred; there are many inſtances of ſoldiers, who in the heat of battle have been carried to ſuch exceſs of rage, as to tear their enemies with their teeth.

The violence of love has ſometimes produced the ſame effect as the exceſs of hatred. The *Tapuii* eat the bodies of their friends and neareſt relations to preſerve them from worms and putrefaction, thinking they do not only hereby afford them an honourable grave, but even a new life, a kind of reviviſication in themſelves. Artemiſia did ſomething like this, when ſhe ſwallowed the aſhes of her dead huſband, Mauſolus. Among the Eſſedonian Scythians, when a man's father died, his neighbours brought him ſeveral beaſts, which they killed, minced, and mixed up with the fleſh of the deceaſed, and made a feaſt.

Among the Maſſageti, when any perſon grew old, they killed him and ate his fleſh: but if the party died of ſickneſs they buried him, eſteeming him unhappy.

Idolatry and ſuperſtition have occaſioned the eating more men, than both love and hatred put together. There are few nations but have offered human victims to their deities; and it was an eſtabliſhed cuſtom to eat part of the ſacrifices they offered.

This practice has prevailed more or leſs in different parts of the globe, in more modern times. The Caribbees uſed to make eunuchs of their children, in order to fatten and eat them. Garcilaſſo de la Vega mentions a people in Peru, who were accuſtomed to fatten and eat the children produced by their female captives, whom they kept as concubines for that purpoſe; and when the mothers had done breeding, they themſelves were killed and eaten. The virtues whereby the Tououpinambos believed they merited Paradiſe, were revenge, and eating abundance of their enemies. Herrera ſpeaks of great markets in China, that were furniſhed wholly with human fleſh for the better ſort of people.

The Jagos, and the ſubjects of the great Macoco, are ſaid to be anthropophagi. This prince is very powerful, having ſeveral kings for his vaſſals; his court is ſo numerous, that there are two hundred men butchered every day to ſupply the table; part of this number are criminals, the reſt ſlaves furniſhed in the nature of tribute. See ANSIKO.

It appears pretty certain from Dr. Hawkeſworth's Account of the voyages to the South Seas, that the inhabitants of the iſland of New Zealand, a country unfurniſhed with the neceſſaries of life, eat the bodies of their enemies. It appears alſo to be very probable, that both the wars and anthropophagia of theſe ſavages take their riſe, and owe their continuance, to irreſiſtible neceſſity, and the dreadful alternative of deſtroying each other by violence, or of periſhing by hunger. See vol. iii. p. 447, and ſeq. and vol. ii. p. 389, &c.

Mr. Marſden, in his account of Sumatra, informs us, that the Battas, a people of that iſland, are anthropophagi. They do not eat human fleſh to ſatisfy hunger, becauſe other food is wanting, or as a gluttonous delicacy, but as a mode of ſhewing their deteſtation of crimes by an ignominious puniſhment, and as an indication of revenge and inſult to their enemies. The objects of this ſavage repaſt are the priſoners taken in war, and offenders convicted and condemned for capital crimes. When ſentence is pronounced, the unhappy object is tied to a ſtake; and when mortally wounded by lances thrown at him by the aſſembled multitude, they ruſh upon him as in a rage, cut pieces from the body with their knives, dip them in a diſh, previouſly prepared, of ſalt and lemon-juice, ſlightly broil them over a fire, and then ſwallow the morſels with a kind of ſavage enthuſiaſm. In ſome caſes, they tear the fleſh from the carcaſe with their mouths. Some ſay that they do not eat the bodies of their enemies ſlain in battle; but though the practice be not general, inſtances of it occaſionally occur.

M. Petit has a learned diſſertation on the nature and manners of the anthropophagi. Among other things, he diſputes whether or not the anthropophagi act contrary to nature? The philoſophers, Diogenes, Chryſippus, and Zeno, followed by the whole body of Stoics, held it a very reaſonable thing for men to eat each other.

According to Sextus Empiricus, the firſt laws were thoſe made to prevent men from eating each other, as had been done till that time. The Greek writers repreſent anthropophagia as univerſal before Orpheus. To ſhew farther, that anthropophagia is not contrary to nature, a modern author urges, that cats, dogs, rabbits, and other animals feed on each other. Pliny, after Ariſtotle, affirms, that ſwans eat each other; and the bees alſo eat their *nymphæ*, which are their young. The Dutch, in Nova Zembla, ſaw bears devour each other; and the like has been obſerved of the fiſh kind: the *tiburones*, according to Ovid, are caught with a hook baited with their own fleſh. Leonardus Floroventius having fed a hog with hog's fleſh, and a dog with dog's fleſh, found a repugnancy in nature to ſuch food; the former loſt all its briſtles; the latter its hair; and the whole body broke out in blotches.

It may be ſaid, that whether the dead body of an enemy be eaten or buried, is a matter perfectly indifferent; but whatever the practice of eating human fleſh may be in itſelf, it certainly is, relatively, and in its conſequences, moſt pernicious. It manifeſtly tends to eradicate a principle, which is the chief ſecurity of human life, and more frequently reſtrains the hand of the murderer, than the ſenſe of duty, or the dread of puniſhment. If even this horrid practice originates from hunger, ſtill it muſt be perpetual from revenge. Death muſt loſe much of its horror among thoſe who are accuſtomed to eat the dead; and where there is little horror at the ſight of death, there muſt be leſs repugnance to murder. See ſome farther obſervations on this ſubject, equally juſt and ingenious, by Dr. Hawkeſworth, *ut ſupra*.

Some carry their reſpect for dead bodies to a great length. M. Petit does not think it lawful for anatomiſts to diſſect human bodies in order to learn their ſtructure, except thoſe of condemned criminals, and ſuch as are denied the rites of burial. The Arabs went farther; notwithſtanding all their curioſity, and deſire to be acquainted with the human ſtructure, they could never be induced to make one diſſection; but were contented to borrow all their knowledge of this kind from the Greek phyſicians.

Some maintain it impoſſible, whatever precaution is uſed, to prevent the ingreſs of the parts of dead bodies with our food and drink. Add, that if we do not feed on our own ſpecies, we feed on plants and animals which derive a great part of their nutriment from us. Whence the impoſſibility of the RESURRECTION of the ſame body has been inferred.

ANTHROPOPHAGIA, the act or habit of eating human fleſh.

This is pretended by ſome to be the effect of a diſeaſe, which leads people affected with it to eat every thing alike. Some chooſe only to conſider it as a ſpecies of PICA.

The annals of Milan furniſh an extraordinary inſtance of anthropophagia. A Milaneſe woman, named Elizabeth, from a depraved appetite, like what women with child, and thoſe whoſe *menſes* are obſtructed, frequently experience, had an invincible inclination to human fleſh, of which ſhe made proviſion by enticing children into her houſe, where ſhe killed and ſalted them; a diſcovery of which having been made, ſhe was broken on the wheel and burnt in 1519.

ANTHROPOSCOPIA, the art of judging or diſcovering a man's character, diſpoſition, paſſions, and inclinations, from the lineaments of his body.

In which ſenſe anthropoſcopia ſeems to be ſomewhat more extenſive than PHYSIOGNOMY, or METOPOSCOPY.

Otto has publiſhed an "*Anthropoſcopia, ſive judicium hominis de homine ex lineamentis externis.*

ANTHROPOSOPHIA, the ſcience of the nature of man, and his ſtructure and compoſition, both internal and external.

In this ſenſe, anthropoſophia amounts to much the ſame with the medical *phyſiology* or *anatomy*.

ANTHROPOTHYSIA, in *Ancient Writers*, denotes the offering of human victims.

The anthropothyſia was a frequent practice among the ancients. Some have imagined that the ſacrifice of Abraham was the firſt inſtance. Many reaſonings and diſquiſitions have been founded on this ſuppoſition; by which the ſeverity of Abraham's trial is thought by ſome to have been ſomewhat exaggerated. Human ſacrifices were in uſe among the Gentiles before that time; practiſed by kings as well as by private perſons; nay by entire nations, as the Egyptians, Phœnicians, Canaanites, &c.

ANTHUMON, in the *Materia Medica of the Ancients*, a name given to the EPITHYMUM, or *dodder*, growing upon THYME.

ANTHUS, in *Ornithology*, a name by which Aldrovand and ſome other authors have called that ſpecies of the OENANTHE LOXIA, called the *chloris* or green finch.

ANTHYLLA, in *Ancient Geography*, a town of Egypt, ſituate, according to Herodotus, in a plain, nearly weſt of the Canopic branch, and north-weſt of Naucratis.

ANTHYLLIS. See ARENARIA, ASPALATHUS, CAMPHOROSMA, CRESSA, EBENUS, POLYCARPON, POLYCNEMUM, SALSOLA, and TEUCRIUM.

ANTHYLLIS *Valentina*. See FRANKENIA.

ANTHYLLIS (Ἀνθυλλις, *floris lanugo*, a downy flower), in *Botany*. Lin. Gen. 864. Juſſ. 355. Gærtn. 145. Claſs, *diadelphia decandria*; natural order of *papilionaceæ* or *leguminoſæ*.

Generic Character. *Calyx*, perianth one-leafed, ovate-oblong, ſwelling, villoſe; the mouth five-toothed, unequal, permanent; *corolla* papilionaceous; banner longer than the wings, the ſides reflex, claw the length of the calyx; wings oblong, ſhorter than the banner; keel compreſſed, of the length of the wings; *ſtamina*, filaments connate, riſing; antheræ ſimple; *piſtillum*, germen oblong; ſtyle ſimple; ſtigma obtuſe; *perianthium*, legume roundiſh, concealed within the calyx, very ſmall, bivalve; *ſeeds* one or two.

Eſſen. generic Character. *Calyx* ſwelling; legume roundiſh, concealed.

Species. 1. A. *tetraphylla*, four-leaved anthyllis or kidney-vetch; with leaves pinnate, with four lobes; flowers lateral: an annual, the ſpontaneous growth of Spain and Italy; it flowers in the open border in July. Curt. Bot. Mag. 108. 2. A. *vulneraria*, kidney vetch, lady's-finger, with leaves pinnate, unequal; head double; root woody, perennial; ſtems decumbent, hairy; leaves lyrato-pinnate; flowers yellow. There is a variety with red flowers: a common native of Britain, flowering in July and Auguſt. This plant is recommended as an excellent paſturage for ſheep. Figured in Eng. Bot. 104, and Flor. Dan. 988. 3. A. *montana*, mountain kidney-vetch, with leaves pinnate, equal; head terminal; flowers oblique; ſtems four to ſix inches high; flowers pale, ſtreaked with a deep purple; they appear early, and the ſeeds ripen in July: a native of the ſouth of Europe. 4. A. *cornicina*, with leaves pinnate, unequal; heads ſolitary; ſtem ſeven or eight inches high; flowers of a pale yellow colour, appearing in May and June: it is a native of Spain, annual. 5. A. *lotoides*, with leaves three-parted; calyces priſmatic, faſcicled, of the length of the legumes, half a foot high; leaves alternate, diſtant; flowers about nine, of a deep ſulphur colour: a native of Spain, annual. 6 A. *Gerardi*, with leaves pinnate, unequal; peduncles lateral, longer than the leaf; heads leafleſs: grows wild on the ſea coaſt of Provence. 7. A. *quinqueflora*, with leaves ternate, linear; head five-flowered; it bears yellow flowers: a native of the Cape of Good Hope. 8. A. *involucrata*, ſub-herbaceous; with leaves ternate, ſtipuled, ſword-ſhaped; flowers in a head, yellow: a native of the Cape. 9. A. *liniſolia*, with leaves ternate, ſeſſile, enſiform; flowers in a head: it riſes eight feet high. 10. A. *barba jovis*, with leaves pinnate, equal, tomentoſe; flowers in a head Miller. t. 41. f. 2. A ſhrub ten or twelve feet high, bearing yellow flowers, which appear in June: a native of France, Spain, Portugal, &c. 11. A. *heterophylla*, with leaves pinnate; floral leaves ternate; a ſmall ſhrub, bearing minute flowers in pairs: a native of Spain and Portugal. 12. A. *viſciflora*, with leaves digitate-pinnate; calyces ſhaggy, viſcous; head of five or ſix flowers, which are yellow: diſcovered at the Cape of Good Hope by Sparrman. 13. A. *cytiſoides*, downy-leaved anthyllis, with leaves ternate, unequal; calyx woolly, lateral; a low ſhrub with yellow flowers, appearing three or four together on the ſides of the branches: a native of Spain and the South of France; cultivated by Miller in 1759. 14. A. *hermanniæ*, lavender-leaved anthyllis, with leaves ternate, ſub-peduncled; calyces naked; a ſhrub five or ſix feet high; flowers yellow, in ſmall cluſters at the ſide of the branches: a native of the moſt ſouthern parts of Europe. 15. A. *erinacea*, prickly anthyllis, a ſpinoſe ſhrub, with ſimple leaves; it ſomewhat reſembles gorſe or whin: a native of Spain and Portugal; cultivated by Miller in 1759. 16. A. *tragacanthoides*, with leaves pinnate, equal, tomentoſe; petioles ſpineſcent; flowers in racemes. It has a ſhrubby ſtem about a ſpan high, and bears purple flowers; a native of Mount Lebanon. 17. A. *indica*, with leaves pinnate, equal, ſmooth, racemes oblong, ſub-terminating; a large ſhrub, with white flowers: it is a native of the mountains of Cochinchina.

Propagation and Culture. Moſt of the herbaceous ſpecies may be propagated by ſeeds, ſown either in the autumn or ſpring in a bed of light earth, and tranſplanted at a proper age in the place where they are to remain. The ſhrubby ſpecies are commonly propagated either by ſeeds or cuttings; if by ſeeds, they ſhould be ſown in the autumn in pots filled with light earth; and placed under a frame in winter, to

protect:

protect them from froſt. The following ſpring the plants will riſe; and when they are ſtrong enough to be removed, they ſhould be each planted in a ſmall pot filled with light earth, and placed in the ſhade till they have taken new root; after which, they may be put along with other hardy exotic plants, in a ſheltered ſituation, till October, when they muſt be removed into ſhelter. See Miller's Gardener's Dict. by Martyn.

ANTHYLLOIDES. See SALSOLA.

ANTHYPNOICA, in the *Materia Medica*, medicines ſuited to diſpel ſleep.

ANTHYPOCHONDRIACA, medicines adapted to the cure of hypocondriaſis.

ANTHYPOMOSIA, in *Ancient Writers*, an oath taken by a proſecutor or accuſer, declaring that the abſence of the party accuſed is not for any juſt cauſe, and therefore demanding that judgment may no longer be delayed on that account.

ANTHYPOPHORA, in *Rhetoric*, a figure whereby we covertly obviate a reaſon or objection.

In this ſenſe anthypophora ſtands oppoſed to *hypophora*, e. gr. if the HYPOPHORA be, grammar is very difficult to obtain; the anthypophora may be, grammar is indeed a little difficult to obtain, but then its uſe is infinite.

ANTI, Ανti, is a prepoſition uſed in compoſition with ſeveral words in Greek, Latin, Engliſh, &c. in different ſenſes. In Engliſh, it ſometimes ſignifies before; as in *antichamber*, a place before the chamber. In which caſe it has the ſame meaning with the Latin *ante*, *before*.

Sometimes, again, it ſignifies *contrary*, or *oppoſite*; and is then derived from ανti, *contra*, *againſt*. In this latter ſenſe, the word makes part of the name of various medicines, to denote ſome peculiar or ſpecific virtue in them againſt certain diſeaſes: ſuch, e. gr. are antivenereals, antiſcorbutics, antinephritics, &c.

The prepoſition is frequently, however, omitted on theſe occaſions, without any alteration of the ſenſe; as in nephritics, arthritics, aſthmatics, &c.

ANTI, in *Matters of Literature*, is a title given to divers pieces written by way of anſwer to others, whoſe names are uſually annexed to the *anti*.

See the *Anti* of M. Baillet; and the *Anti-Baillet* of M. Menage: there are alſo Anti-Menagiana, &c. Cæſar the dictator wrote two books by way of anſwer to what had been objected to him by Cato, which he called *Anti-Catones*; theſe are mentioned by Juvenal, Cicero, &c. Vives aſſures us, he had ſeen Cæſar's Anti-Catones in an ancient library.

ANTIADES, a term uſed by ſome writers for the glandules and kernels, more commonly called TONSILS and ALMONDS *of the ears*.

ANTIADIAPHORISTS, compounded of ανti, *contra*, *againſt*, and αδιαφορος, *indifferent*, oppoſite to the ADIAPHORISTS, a name given in the fourteenth century to the rigid Lutherans, who diſavowed the epiſcopal juriſdiction, and many of the church-ceremonies retained by the moderate LUTHERANS.

ANTIANA, *Sezziu*, in *Ancient Geography*, a town of Pannonia, placed by M. D'Anville north of Teutoburgium.

ANTIBACCHI, an iſland of the Red Sea.

ANTIBACCHIUS, in the *Ancient Poetry*, a foot, conſiſting of three ſyllables; the two firſt of which are long, and the third ſhort.

Such are the words *cāntārĕ*, *vīrtūtĕ*, Ελλῆνες.

It is ſo called, as being contrary to the BACCHIUS, the firſt ſyllable whereof is ſhort, and the two laſt long. Among the ancients, this foot is alſo denominated *Palimbacchius*, and *Saturnius*; and, by ſome, *Propontieus*, and *Theſſalius*. Diom. III. p. 475.

ANTIBARBAROUS, a title given to ſeveral works levelled againſt the uſe of barbarous terms and phraſes, chiefly in the Latin tongue.

Eraſmus, Nizolius, and Cellarius, have publiſhed "Antibarbara." Noltemus has given us a Lexicon "*Antibarbarum*," conſiſting of obſervations made by the grammarians of late ages in relation to the purity and corruption of Latin words. Sixt. Amama has given an "Antibarbarus Biblicus," wherein he pretends to have diſcovered ſeven ſources of the barbariſms which have been introduced in late ages into the BIBLE. Peter du Moulin uſed the title "Antibarbarous" for a book againſt the uſe of an unknown tongue in divine ſervice.

ANTIBARIS, in *Ancient Geography*, a town of Servia, taken by Perigord, general of Manuel, emperor of Conſtantinople, in 1143.

ANTIBES, in *Geography*, a ſea-port town of France, in the department of the Var, and chief place of a canton, in the diſtrict of Graſſe. The place contains 5,270, and the canton 14,171 inhabitants; the territory includes 165 kiliometres and 19 communes. In the firſt ages of Chriſtianity, it was the ſee of a biſhop, but removed by pope Innocent IV. to Graſſe, in 1250, becauſe the piratical Moors of Africa and Spain frequently ſacked the town, and plundered the inhabitants. The harbour is ſmall, nor is the trade conſiderable. N. lat. 43° 5′. E. long. 7° 50′.

ANTIBIBLOS, in the *Civil Law*, an inſtrument or ſignature, whereby the defendant owns he has received the libel, or a copy of it, and notes the day whereon he received it. This is uſually done on the back of the LIBEL.

ANTICADMIA denotes a ſpecies of mineral CADMIA, ſometimes alſo called *pſeudo*-CADMIA.

It takes the denomination anticadmia, not as being oppoſite in quality to the cadmia, but becauſe it is uſed as a ſubſtitute for it.

ANTICACHECTICA, in the *Materia Medica*, medicines adapted to the cure of cachexy.

ANTICARDIUM, in *Anatomy*, &c. that hollow part under the breaſt, juſt againſt the heart, commonly called the pit of the ſtomach; called alſo ſcrobiculus cordis.

The word is compounded of ανti, *contra*, *againſt*, and καρδια, *cor*, *heart*.

ANTICASIUS, in *Ancient Geography*, a mountain oppoſite to Mount Caſius, at no great diſtance from Antioch.

ANTICATARRHAL, an epithet given to medicines preſcribed for catarrhs.

ANTICATEGORIA, in *Oratory*, denotes a recrimination or mutual accuſation; where the two parties charge each other with the ſame crime.

Apollodorus conſiders the anticategoria as two ſeveral cauſes or actions.

ANTICAUSOTICS, among *Phyſicians*, denote medicines againſt burning fevers. In this ſenſe, Juncker has given the deſcription of anticauſotic ſyrup.

ANTICHAMBER; ſee ANTECHAMBER.

ANTICHORUS, in *Botany*; claſs *octandria monogynia*; natural order of *columniferæ* and of *tiliaceæ* of Juſſ. Lin. Gen. Reich. n. 508. Juſſ. 290.

Generic Character. *Calyx*, perianthium four-leaved, very much expanded; leaflets lanceolate, acuminate, deciduous; *corolla*, petals four, obovate, obtuſe, the length of the calyx; *ſtamina*, filaments ſetaceous, erect, ſhorter than the corolla; antheræ roundiſh; *piſtillum*, germen ſuperior, ovate; ſtyle cylindric; ſtigma obtuſe; *pericarpium*, capſule ſubulate, four-

four-celled, four-valved; ſeeds very many, truncated, in four rows.

Eſſential generic character. *Calyx* four-leaved; *petals* four; *capſule* ſuperior, four-celled, four-valved; *ſeeds* very numerous. There is only one ſpecies of this genus, *viz.* A. *depreſſus*, which is a ſmall procumbent annual, not exceeding three or four inches long, with alternate branches, bearing yellow flowers: it is a native of Arabia.

ANTICHRESIS, in the *Civil Law*, a covenant or convention, whereby a perſon borrowing money of another engages or makes over his lands or goods to the creditor, with the uſe and occupation thereof, for the intereſt of the money lent. This covenant was allowed of by the Romans, among whom uſury was prohibited: it was afterwards called MORT-GAGE, to diſtinguiſh it from a ſimple engagement, where the fruits of the ground were not alienated, which was called VIF *gage*.

ANTICHRIST, compounded of ἀντι, *contra*, *againſt*, and χριστος, *Chriſt*, in a general ſenſe, denotes an adverſary of Chriſt, or one who denies that the Meſſiah is come. In this ſenſe, Jews, infidels, &c. may be ſaid to be *Antichriſts*.

The epithet, in the *general* ſenſe of it, is applicable to any power or perſons acting in direct oppoſition to Chriſt or his doctrine. Its *particular* meaning is to be collected from thoſe paſſages of Scripture in which it occurs. Accordingly it may either ſignify one who aſſumes the place and office of Chriſt, or one who maintains a direct enmity and oppoſition to him. See biſhop Hurd's Introd. to the ſtudy of the Prophecies, vol. ii. p. 10.

ANTICHRIST is more particularly uſed for a tyrant who is to reign on earth toward the end of the world: to make the ultimate proof of the elect: and to give a ſignal inſtance of the divine vengeance, before the laſt judgment.

The Bible and the fathers all ſpeak of Antichriſt as a ſingle man; though they alſo aſſure us, that he is to have divers precurſors, or fore-runners. Yet many Proteſtant writers apply to the Romiſh church, and the pope, who is at the head of it, the ſeveral marks and ſignatures of Antichriſt enumerated in the Apocalypſe; which would rather imply Antichriſt to be a corrupt ſociety, or a long ſeries of perſecuting pontiffs, than a ſingle perſon: or, rather, a certain power and government, that may be held for many generations, by a number of individuals ſucceeding one another. The Antichriſt mentioned by the apoſtle John, 1 Ep. ii. 18. and more particularly deſcribed in the book of Revelation, ſeems evidently to be the ſame with the *Man of ſin*, &c. characteriſed by St. Paul in his ſecond Epiſtle to the Theſſalonians, chap. ii. And the whole deſcription literally applies to the exceſſes of papal power. Had the right of private judgment, ſays an excellent writer, been always adopted and maintained, Antichriſt could never have been; and when that ſacred right comes to be univerſally aſſerted, and men follow the voice of their own reaſon and conſciences, Antichriſt can be no more.

A late writer (ſee Kett's Hiſtory, the Interpreter of Prophecy, vol. ii.), after collecting the principal prophecies relating to Antichriſt, infers from them, that a power, ſometimes repreſented as the little horn, the man of ſin, the Antichriſt, the beaſt, the harlot, the ſtar falling from heaven, the falſe prophet, the dragon, or as the operation of falſe teachers, was to be expected to ariſe in the Chriſtian world to perſecute and oppreſs, and delude the diſciples of Chriſt, corrupt the doctrine of the primitive church, enact new laws, and eſtabliſh its dominion over the minds of mankind. He then proceeds to ſhew, from the application of prophecy to hiſtory, and to the remarkable train of events that are *now* (1799) paſſing in the world, how exactly popery, Mahometaniſm, and infidelity correſpond with the character given in Scripture of the power of Antichriſt, which was to prevail a certain time for the eſpecial trial and puniſhment of the corrupted church of Chriſt. Upon this ſyſtem, the different opinions of the proteſtants and papiſts, concerning the power of Antichriſt, derived from partial views of the ſubject, are not wholly incompatible with each other. With reſpect to the commonly received opinion, that the church of Rome is Antichriſt, Mede and Newton, Daubuz and Clarke, Lowman and Hurd, Jurieu, Vitringa, and many other members of the proteſtant churches, who have written upon the ſubject, concur in maintaining, that the prophecies of Daniel, St. Paul, and St. John, point directly to this church. This was likewiſe the opinion of the firſt reformers; and it was the prevalent opinion of Chriſtians, in the earlieſt ages, that Antichriſt would appear ſoon after the fall of the Roman empire. Gregory the Great, in the ſixth century, applied the prophecies concerning the beaſt in the Revelation, the man of ſin, and the apoſtacy from the faith mentioned by St. Paul, to him who ſhould preſume to claim the title of univerſal prieſt, or univerſal biſhop in the Chriſtian church; and yet his immediate ſucceſſor, Boniface III. received from the tyrant Phocas the preciſe title which Gregory had thus cenſured. At the ſynod of Rheims, held in the tenth century, Arnulphus, biſhop of Orleans, appealed to the whole council, whether the biſhop of Rome was not the Antichriſt of the apoſtles, "ſitting in the temple of God," and perfectly correſponding with the deſcription of him given by St. Paul. In the eleventh century, all the characters of Antichriſt ſeemed to be ſo united in the perſon of pope Hildebrand, who took the name of Gregory VII. that Johannes Aventinus, a Romiſh hiſtorian, ſpeaks of it as a ſubject in which the generality of fair, candid, and ingenious writers agreed, that at that time began the reign of Antichriſt. And the Albigenſes and Waldenſes, who may be called the proteſtants of the twelfth and thirteenth centuries, expreſsly aſſerted in their declarations of faith, that the church of Rome was the whore of Babylon.

The papiſts imagine they view in the prophetical picture of Antichriſt, imperial Rome, elated by her victories, exulting in her ſenſuality and her ſpoils, polluted by idolatry, perſecuting the people of God, and finally falling like the firſt Babylon; whilſt a new and holy city, repreſented by their own communion, filled with the ſpotleſs votaries of the Chriſtian faith, riſes out of its ruins, and the victory of the croſs is completed over the temples of paganiſm. This ſcheme has had its able advocates, at the head of whom may be placed Boſſuet biſhop of Meaux, Grotius, and Hammond. Some writers have maintained, that Caligula was Antichriſt; and others have aſſerted the ſame of Nero. But in order to eſtabliſh the reſemblance, they violate the order of time, diſregard the opinions of the primitive Chriſtians, and overlook the appropriate deſcriptions of the apoſtles.

It is obſerved by an ingenious writer, that the term "Antichriſt" is uſed by the apoſtle John, and by no other ſacred writer. He firſt mentioned it in a period which he called "the laſt hour;" and this, ſays he, can admit of no tolerable interpretation, except that of the laſt period of the Jewiſh ſtate, juſt before the deſtruction of Jeruſalem, when the Roman army was actually in Judæa. The apoſtle refers to ſome prophecy of Antichriſt, who ſhould appear before the diſſolution of the Jewiſh ſtate; "Ye have heard," from the goſpels of Matthew, Mark, and Luke, "that Jeſus, ſitting

with his disciples, of whom I was one, on the mount of Olives, foretold the destruction of Jerusalem, and said, "When ye shall see Jerusalem compassed with armies, then know that the desolation foretold by Daniel is nigh; and then false Christs shall arise, to seduce, if it were possible, even the elect." Matt. xxiv. Mark, xiii. Luke, xxi. "Ye have heard that Antichrist shall come. Even *now* there *are* many Antichrists; whereby *we know*, that it is the last time." It was natural to ask, who these Antichrists were, and by what mark they who had not the gift of discerning spirits, as the apostles had, might know them? To this reasonable inquiry, the apostle answers by saying, "Every spirit that confesseth not that Jesus Christ is come in the flesh, is not of God; and this is that spirit of Antichrist, whereof you have heard that it should come, and even now already is it in the world." The sense of the apostle seems to be explained by himself in his second epistle, where he again describes an Antichrist. It was a teacher of a *doctrine*: it was a doctrine concerning Christ; but it was not *the doctrine of Christ*, which he himself taught. The doctrine of Christ had in it *both the Father and the Son*; but the doctrine of Antichrist, by not including both, *had not God*; that is, had not a right notion of the *kingdom* of God, either as it had been among the Jews, or as it was to be, after *the coming of Jesus in the flesh*, among both Jews and Gentiles; one dispensation of truth, virtue, and social love throughout the world. If it be inquired further, whence came these Antichrists? The apostle says, they were *none of us*, apostles; they *went out from* us. This must mean, that Antichristian teachers either withdrew from the *apostles*, or from the *doctrine* which they taught. It is too evident, that they did not withdraw from their persons; they followed them; they mixed in their churches; they taught there another gospel; they drew the attention of the people from *virtue*, and fixed it on ceremonies and secular glory. John calls Antichrist a *deceiver*; and by deceit this party prevailed. John foresaw the whole, and pointed out the place where this iniquity would fix its seat, and for ages try to conceal its ignorance and barbarity under such splendid ensigns of secular glory, as never fail to dazzle, to intoxicate, and to enervate mankind. When Rome boasts of her antiquity, she boasts of a true fact. There is a fine expression of Paul to the Galatians, which teaches readers to consider such Antichrists as abortives, exhibiting a sort of unformed Christianity. Robinson's Hist. of Baptism, p. 625.

After the point had been maturely debated at the council of Gap, held in 1603, a resolution was taken thereupon to insert an article in the confession of faith, whereby the pope is formally declared to be Antichrist. Pope Clement VIII. was stung to the life with this decision; and even king Henry IV. of France was not a little mortified, to be thus declared, as he said, an imp of Antichrist.

F. Malvenda, a Spanish Jesuit, has published a large and learned work, *De Antichristo*, in thirteen books. In the first he relates all the opinions of the fathers with regard to Antichrist. In the second, he speaks of the time when he shall appear; and shews, that all the fathers, who supposed Antichrist to be near at hand, judged the world also was near its period. In the third, he discourses of his origin and nation; and shews, that he is to be a Jew, of the tribe of Dan: this he founds on the authority of the fathers, on that passage in Genesis xlix. *Dan shall be a serpent by the way*, &c. on that of Jeremy viii. 16. where it is said, *The armies of Dan shall devour the earth*; and on the Apocalypse, chap. vii. where St. John, enumerating all the tribes of Israel, makes no mention of that of Dan. In the fourth and fifth books, he treats of the signs of Antichrist. In the sixth, of his reign and wars. In the seventh, of his vices. In the eighth, of his doctrine and miracles. In the ninth, of his persecutions; and, in the rest, of the coming of Enoch and Elias, the conversion of the Jews, the reign of Jesus Christ, and the death of *Antichrist*, after his having reigned three years and a half.

Hippolitus, and others, held that the devil himself was the true Antichrist; that he was to be incarnate, and make his appearance in human shape before the consummation of things.

How endless are conjectures! Some of the Jews, we are told, actually took Cromwell for Christ, while some others have laboured to prove him Antichrist himself. Pfaffius assures us he saw a folio Book in the Bodleian library, written on purpose to demonstrate this latter position.

ANTICHRISTIANISM, a state or quality in persons or principles, which denominate them *Antichristian*, or opposite to the kingdom of Christ, and the genius and spirit of his religion.

ANTICHRISTIANS properly denote the followers or worshippers of Antichrist.

ANTICHRISTIANS are more particularly understood of those who set up, or believe in a false Christ, or Messiah.

ANTICHTHON, in its primitive astronomical sense, denotes a kind of globe or earth resembling ours, and like it supposed to be moving round the sun, but invisible to us, because on the opposite side of the sun, that luminary is still exactly interposed between this other earth and ours.

In this sense it is, that Pythagoras and his disciples asserted an antichthon; for which we have the testimonies of Aristotle, Plutarch, &c.

By reason of the perfection of the number ten, they concluded there must be just so many spheres; and as our senses only discover nine, *viz.* the seven planets, the sphere of the fixed stars, and our earth, they imagined a tenth opposite to ours.

Some of the fathers, who endeavoured to accommodate the doctrine of the heathen philosophers to those of Christianity, assert that this Pythagorean earth is no other than the heavens of the righteous.

Thomasius has a dissertation on the Pythagorean antichthon.

ANTICHTHONES, in *Geography*, are those people who inhabit countries diametrically opposite to each other.

The word is compounded of ἀντι, *contra*, and χθων, *terra, earth*. They are sometimes also called, by Latin writers, *entigenæ*.

In which sense, antichthones amount to much the same with what we more usually call *antipodes*.

ANTICHTHONES is also used, in *Ancient Writers*, to denote the inhabitants of contrary hemispheres.

In which sense antichthones differs from *antoeci*, and *antipodes*.

The ancients considered the earth as divided by the equator into two hemispheres, the northern and southern; and all those who inhabited one of those hemispheres, were reputed antichthones to those of the other.

ANTICIMOLIS, or ANTICIMOLIS, in *Ancient Geography*, a small island of the Euxine sea, situate opposite and near to the town of Cimolis or Cinolis, on the northern coast of Paphlagonia, to the east of the mouth of the river Æginetis.

ANTICIPATION, from *ante*, *before*, and *capio*, *I take*, the

the act of preventing, or being before-hand with a perſon or thing; or of doing a thing before the time.

Anticipating a payment, denotes the diſcharging it before it falls due.

ANTICIPATION is alſo uſed, in a *logical* ſenſe, for a preſumption, prejudice, or preconceived opinion.

This is alſo denominated preconception, preſenſation, or inſtinct.

ANTICIPATION, in a medicinal ſenſe, is applied to diſeaſes, wherein ſome of the ſymptoms which regularly belong to ſome future period, appear in the beginning; or the word may be underſtood of thoſe diſeaſes, which having their acceſſes and remiſſions at ſtated hours, gain in point of time, and finiſh their period ſooner than ordinary.

In this ſenſe, *anticipation*, or *anticipated* diſeaſes, by the Greeks called προληπτικοι, ſtand oppoſite to ὑστερητικοι, which come after the time.

ANTICIPATION, in the *Epicurean Philoſophy*, denotes the firſt idea, or definition of a thing, without which we can neither name, think, doubt, or even inquire, concerning it.

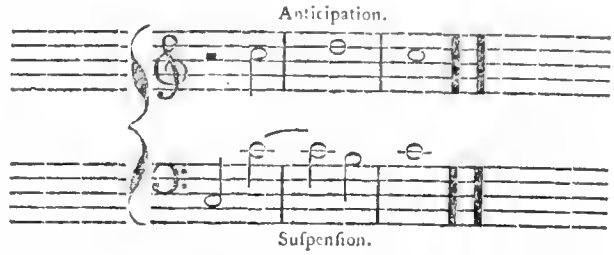
This is otherwiſe denominated PRENOTION.

Anticipation, in this ſenſe, makes the ſecond of Epicurus's criterions of truth.

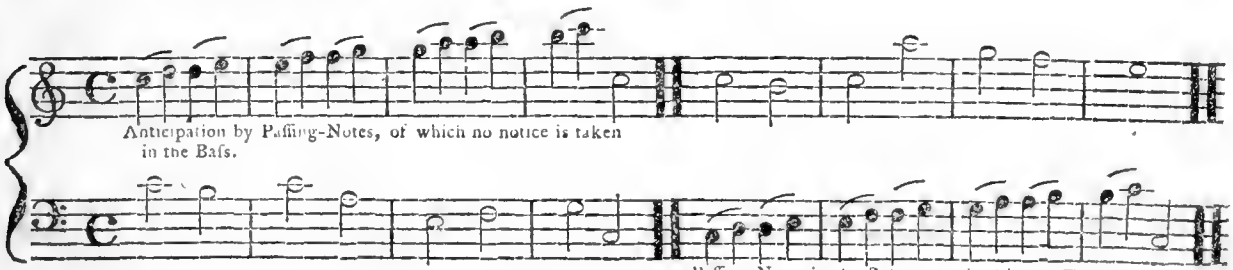
ANTICIPATION is alſo uſed by Shaftſbury, in ſpeaking of painting, to denote the expreſſion of ſome future action, reſolution, or the like.

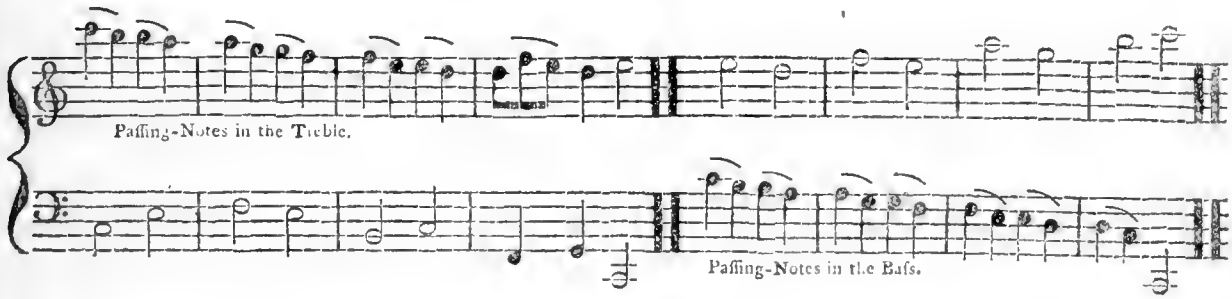
ANTICIPATION. This word, and *ſuſpenſion*, in ſpeaking of diſcords, were firſt uſed as technical terms, in *Muſic*, we believe, by Rameau; and as they are Engliſh words as well as French, they may be uſefully adopted.

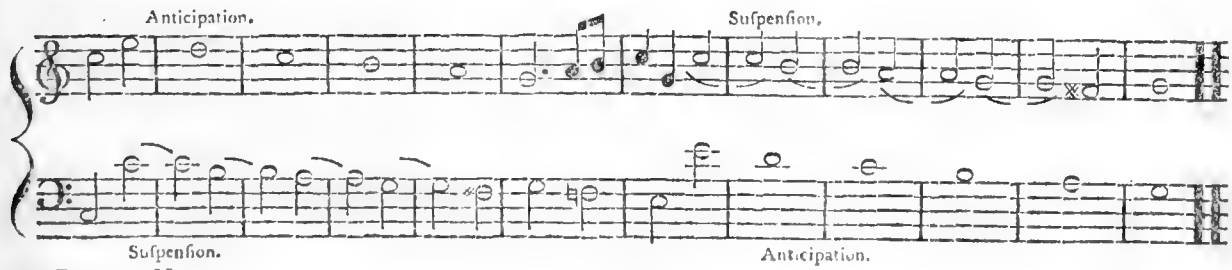
A ſound is ſaid to be *anticipated*, when a compoſer wiſhes a note to be heard before its time, in plain counterpoint. The ſame paſſage will explain both theſe terms. *Anticipation* in the treble, requires ſuſpenſion in the baſe, and *è contra*.



There are ſeveral kinds of *anticipation* in muſic: firſt, in paſſing-notes, of which no notice is taken in the baſe; but this muſt be done diatonically, not by diſtant intervals or leaps. Secondly, when the chord is ſtruck on a reſt, before the baſe. Thirdly, in ſerious and fundamental diſcords that are to be regularly prepared and reſolved, the anticipation in the treble is ſtriking the ſecond before it becomes a third, by the deſcent of the baſe. And *anticipation* in the baſe, or inferior parts, is when the baſe riſes before the treble falls; as from the eighth to the ſeventh, or tenth, (octave of the third,) to the ninth. The following are examples, in notation, of the ſeveral kinds of *anticipation*, in treble and baſe. See SUSPENSION.







See PASSING-NOTES.

ANTICIPATION, in *Rhetoric*, a figure otherwiſe called PROLEPSIS.

ANTICK, in *Sculpture* and *Painting*, denotes a fantaſtical compoſure of figures of different natures, ſexes, &c. as men, beaſts, birds, flowers, fiſhes, and even things merely imaginary, or which have no exiſtence in the nature of things.

Antick amounts to much the ſame thing with what the Italians call *grotteſca*, and the French *groteſque*.

ANTICLIMAX, from ανα, and κλιμαξ, *gradation*, in *Rhetoric*, is a figure, whereby the progreſs of a diſcourſe deſcends from great to little, and this is ſometimes rendered peculiarly agreeable by ſuch a concord between the ſenſe and ſounds as may contribute to make diminutions appear ſtill more diminutive. Horace affords a ſtriking example.

"Parturiunt montes, naſcitur ridiculus mus."

ANTICNEMION, from αντι, and κνημη, *tibia*, the *ſhinbone*, in *Anatomy*, denotes the ſhin, or the fore prominent part of the *tibia*.

This is otherwiſe called ακανθα, by the Latins *prima tibia*, or *anterior tibia*, and ſtands oppoſed to the *ſura*, or calf of the leg, ſometimes called *cerea*.

ANTICOLICA, in the *Materia Medica*, medicines ſuited to cure the colic.

ANTICOLIS, in *Ancient Geography*, a people of interior Lybia, according to Ptolemy.

ANTICONDYLI, a people placed by Stephanus Byz. in Bœotia, ſuppoſed by him to be originally Phrygians.

ANTICOSTI, in *Geography*, a barren uninhabited iſland, in the mouth of the river St. Lawrence. This iſland has no harbour, but is covered with wood, and excellent cod is found on the ſhores. N. lat. 49° 10′ to 49° 52′ W. long. 61° 42′ to 64° 4′.

ATICRAGUS, in *Ancient Geography*, a mountain of Lycia.

ANTICTERIC *Spirit*, in *Pharmacy*, is obtained by diſtilling one ounce and a half of ſpirit of turpentine with half a pound of rectified ſpirit of wine, with a gentle heat; and then ſeparating the oil that ſwims above in the receiver from the ſaturated ſpirit, which is to be preſerved for uſe. Some have imagined, that this combination of oil of turpentine with ardent ſpirit will furniſh a ſolvent for biliary calculi. Hence the origin of the name; but though this effect may be produced by a copious application to the calculi in a glaſs veſſel, yet it is not to be expected when the ſpirit reaches them in the courſe of the circulation.

ANTICUM, in *Architecture*, a porch before a door; alſo that part of a temple which is called the outer temple, and lies between the body of the temple and the portico. It is ſometimes called *antæ*.

ANTICUS, *ferratus minor*. See SERRATUS.

ANTICUS, *peronæus*. See PERONÆUS.

ANTICUS, *tibialis*. See TIBIALIS.

ANTICYRA, now ASPRO SPITIA, in *Ancient Geography*, a city in Phocis, in a ſmall iſthmus which joins a peninſula in the gulf of Corinth. Pauſanias ſuppoſes, that this was the city called by Homer Cypariſſa. This place was famous for its hellebore, and was reſorted to by ſick perſons for the benefit of this medicine, which was prepared by an excellent recipe; and hence the adage, "naviget Anticyram," Hor. Pliny relates, that the philoſopher Carneades, and Livius Druſus, tribune of the people, availed themſelves of this remedy. Pauſanias diſtinguiſhes two kinds of hellebore, and ſays that it grew among the rocks which encompaſſed the city. This place was adorned with many ſtatues of braſs. Above the port was a temple conſecrated to Neptune; and this city had gymnaſia, baths, and other curioſities, which Pauſanias has particularly deſcribed. The inhabitants of Anticyra were twice driven from their city; once by Philip, ſon of Amyntas, and a ſecond time by Titus Flamininus, the Roman general, as a puniſhment for their attachment to Philip king of Macedonia. Some traces of the buildings, from which it received its preſent name Aſpro-Spitia, or white houſes, ſtill remain. The port, which is land-locked, is frequented by veſſels for corn.

ANTICYRA was alſo a town of Greece, belonging to Theſſaly, near the mouth of the Sperchius, at an equal diſtance from Mount Oeta and the Maliac gulf. Strabo ſays, that its environs produced better hellebore than that of Anticyra in Phocis, but that the latter was prepared in a better manner.

ANTICYRA was alſo the name of another town belonging to the Weſtern Locrians.

Some writers have mentioned an iſland of this name among thoſe of the Ægean ſea; but as neither Pliny nor Gellius mention its ſituation, there was probably no ſuch iſland.

ANTIDACTYLUS, from αντι, and δακτυλος, *dactyle*, in *Poetry*, a name given by ſome to a kind of poetical foot, which is the reverſe of a dactyl, as conſiſting of three ſyllables, whereof the firſt two are ſhort, and the laſt long.

ANTIDÆMONICI, from αντι, and δαιμων, *dæmon*, in *Eccleſiaſtical Hiſtory*, a ſect who denied the exiſtence of devils or evil ſpirits; alſo all ſpectres, incantations, witchcrafts, &c.

ANTIDALEI, in *Ancient Geography*, a people placed by Pliny in Arabia Felix.

ANTIDESMA, from αντι, and δεσμος, vinculum, excellent for making ropes, in *Botany*, claſs *dioecia pentandria*, Linn. Gen. 1110. Gærtn. 39. *Gen. character*, male; *calyx* p. five-leafed; *leafſtts* oblong, concave, *corolla* none; *ſtamina*, filaments five, capillary, longer than the calyx, equal; *antheræ* roundiſh, ſemibifid. Female, *calyx* as in the male, permanent; *corolla* none; *piſtil* germen ſuperior, ovate; *ſtyle* none; *ſtigmata* five, obtuſe; *perianthium* a drupe roundiſh, one-celled, crowned with the ſtigmata, and having a furrowed ſhell; *ſeed* none. *Species* 1. A. *alexiteria*, a middle-ſized tree, with leaves reſembling thoſe of the lemon, evergreen flowers in racemes; fruit red and acid like the barberry: it is common in Malabar, where its fruit is eſteemed for its pleaſant cooling quality; the bark is uſed for making ropes. 2. A. *acida*, leaves obovate, ſpikes ſolitary, and either axillary, or terminating very ſhort lateral branches. It is a native of the Eaſt Indies. 3. A. *ſcandens*, leaves palmate, ſerrate; ſtem climbing without tendrils; filaments of the male flowers ſhort, terminated by erect antheræ, gaping at the tip. A native of China, near Canton.

ANTIDICOMARIANITES, from αντιδικος, *adverſary*, and Μαρια, *Mary*, in *Eccleſiaſtical Hiſtory*, a ſect of ancient Chriſtians who thought that the Holy Virgin did not preſerve a perpetual virginity, but that ſhe had ſeveral children by Joſeph after our Saviour's birth.

Theſe are otherwiſe called antidicomaritæ; and antidicomarites, and antidicomarianiſts; ſometimes alſo antimariani. The opinion was grounded on ſome expreſſions of our Saviour, wherein he mentions his brothers and his ſiſters; and on that text of St. Matthew, wherein he ſays, that Joſeph knew not Mary till ſhe brought forth her firſt-born ſon.

The antidicomarianites were the diſciples of Helvidius and Jovinian, who appeared in Rome towards the cloſe of the fourth century.

ANTIDINICA, in the *Materia Medica*, medicines ſuited to cure giddineſs.

ANTIDORON, in *Eccleſiaſtical Writers*, a name given by the Greeks to the conſecrated bread, out of which the middle part, marked with a croſs, wherein the conſecration reſides, being taken away by the prieſt, the remainder is diſtributed, after maſs, to the poor.

On the ſides of the antidoron are impreſſed the words, *Jeſus Chriſtus vicit*. The word is formed from δωρον, *donum, a gift*, as being given away *loco muneris*, or *in charity*. The antidoron is alſo called *panis præſanctificatus*.

Some ſuppoſe the antidoron to be diſtributed in lieu of the ſacrament, to ſuch as were prevented from attending in perſon at the celebration; and thence derive the origin of the word, the euchariſt being denominated *doron, gift*, by way of eminence.

ANTIDOSIS, from αντι, and διδωμι, *I give*, in *Antiquity*, denotes an exchange of eſtates, practiſed by the Greeks on certain occaſions with peculiar ceremonies, and firſt inſtituted by Solon.

When a perſon was nominated to an office, the expence of which he was not able to ſupport, he had recourſe to the antidoſis, that is, he was to ſeek ſome other citizen of better ſubſtance than himſelf, who was free from this and other offices; in which caſe the former was excuſed. In caſe the perſon thus ſubſtituted denied himſelf to be the richeſt, they were to exchange eſtates, after this manner: the doors of their houſes were cloſe ſhut up and ſealed, that nothing might be conveyed away; then both took an oath to make a faithful diſcovery of all their effects, except what lay in the ſilver mines, which by the law was excuſed from all impoſts: accordingly, within three days, a full diſcovery and exchange of eſtates were made. Potter, Archeol. lib. i. cap. 15.

ANTIDOTARY is uſed by ſome writers for what we more uſually call a DISPENSATORY.

We have *antidotaries* extant of ſeveral authors, as thoſe of Nicolaus, Meuſe, Myrepſus, Rhaſis, &c.

ANTIDOTE, a remedy taken either to prevent or cure ſome contagious, malignant, or other dangerous diſeaſe. The word is borrowed from αντι, *againſt*, and διδωμι, *I give*, as being ſomething given againſt poiſon, either by way of cure or preſervative.

ANTIDOTE, is alſo uſed to ſignify a medicine taken to prevent the ill effects of ſome other; for inſtance, poiſon.

In which ſenſe the word has the ſame ſignification with alexipharmic, alexiterial, and counterpoiſon.

The Indian phyſic conſiſts much in the uſe of antidotes, *viz.* the root *mungo*, and the viper ſtone; both held ſovereign againſt the bite of the *cobras de capello*, and other venomous creatures.

ANTIDOTE is alſo uſed, in a more general ſenſe, for any compounded medicine.

In which ſenſe, Peter Damian ſpeaks of a perſon who in his whole life never took an antidote.

ANTIDOTE is alſo uſed in a leſs proper ſenſe for any remedy againſt any diſeaſe, chiefly if it be inveterate, and ariſe from ſome ulcer or abſceſs.

ANTIDOTE is alſo uſed for a perpetual form of medicines, otherwiſe called *opiates*, or more properly CONFECTIONS.

ANTIDOTE is alſo *myſtically* applied to the philoſopher's ſtone.

ANTIENT. See ANCIENT.

ANTIDYSENTERICA, in the *Materia Medica*, medicines ſuited to cure dyſentery.

ANTIETAM CREEK, in *Geography*, a creek of America in Maryland, riſes by ſeveral branches in Pennſylvania, and empties into Potowmac river, three miles ſouth-ſouth-eaſt from Sharpſburgh. Elizabeth and Frank's towns ſtand on this creek; and it has alſo a number of mills and forges.

ANTIFEBRILIA, in the *Materia Medica*, medicines ſuited to cure fever.

ANTIGARECA, in *Geography*, an iſland near the weſt coaſt of the peninſula of India, in the tract called "the Pirate's Coaſt;" 10 leagues north of Gheria.

ANTIGENIDES, in *Biography*, a famous muſician of antiquity, was, according to Suidas, a native of Thebes in Bœotia, and the ſon of Satyrus, a celebrated flute-player, who, as we are informed by Ælian, was ſo charmed with the lectures of Ariſton, that, upon retiring from them, he ſaid, "If I do not break my flute, I hope I ſhall have my head cut off." Antigenides, after the example, and by means of the inſtructions of his father, and alſo of Philoxenus, became eminent in the ſame art; and is ſaid to have brought it to a greater degree of perfection than any muſician of his time. Suidas ſays, that he was flute-player in ordinary to Philoxenus, and that he accompanied him in the muſical airs which he had ſet to his own verſes. He had alſo diſciples of the firſt claſs who were attached to himſelf; and he was careſſed by the moſt celebrated princes. Pericles invited him to Athens, and committed his nephew, Alcibiades, to his tuition in the art of flute-playing. According to Athenæus, Antigenides played upon this inſtrument at the nuptials of Iphicrates, when that Athenian general eſpouſed the daughter of Cotys, king of Thrace; and Plutarch aſcribes to him the power of tranſporting Alexander to ſuch a degree, by his performance of the Harmatian air, at a banquet, that he ſeized his arms, and was on the point of attacking his gueſts. Highly, however, as he was eſteemed, he regarded public favour as a precarious poſſeſſion, and was never elated by the applauſe of the multitude. He endeavoured to inſpire his diſciples with the ſame ſentiments; and to this purpoſe he is ſaid to have conſoled an eminent performer, who received little applauſe from his audience, by ſaying, "the next time you play, it ſhall be *to me and the Muſes*." Antigenides was ſo fully perſuaded of the bad taſte of the common people, that one day, hearing at a diſtance a violent burſt of applauſe to a player on the flute, he ſaid, "there muſt be ſomething very bad in that man's performance, or thoſe people would not be ſo laviſh of their approbation." Antigenides was the author of many novelties on the flute. He increaſed the number of holes, which extended the compaſs of the inſtrument; and, probably rendered its tones more flexible, and capable of greater variety. This muſician had great occaſion for flutes upon which he could eaſily expreſs minute intervals and inflexions of ſound; ſince, according to Apuleius, he played upon them in all the modes; the Æolian and the Ionian, the one remarkable for ſimplicity, and the other for variety; the plaintive Lydian; the Phrygian, conſecrated to religious ceremonies; and the Dorian, ſuitable to warriors. His innovations extended even to the robe of the performer; and he is ſaid to have been the firſt who appeared in public with delicate Mileſian ſlippers, and a robe of ſaffron colour, called "crocoton." Plutarch has preſerved a bon-mot of Epaminondas, relative to Antigenides. This general, upon being informed, in order to alarm him, that the Athenians had ſent troops into the Peloponneſus, equipped entirely with new arms, aſked, "whether Antigenides was diſturbed when he ſaw new

flutes

flutes in the hands of "Tells?" who was a bad performer. Burney's Hift. of Muſic, vol. i. p. 418—422.

ANTIGNANA, in *Geography*, a town of Iſtria, two miles and a half north-north eaſt of Pedena.

ANTIGOCA, or ANTIGONIA, a town of European Turkey, 6 miles ſouth of Janiſſa.

ANTIGONE, daughter of Œdipus and Jocaſta, is celebrated by the ancient tragedians as a model of filial and fraternal virtue. She accompanied her father in the voluntary exile to which he was condemned, and conducted him in his wanderings after he had loſt his ſight; and when her brother Polynices was killed in the fatal war of Thebes, ſhe ventured to counteract the inhuman order of Creon, and to pay funeral honours to his expoſed corpſe. The tyrant commanded her, for this offence, to be ſtarved to death in priſon; but ſhe eluded his barbarous ſentence, by ſtrangling herſelf to death; and Hæmon, the ſon of Creon, who was her lover, killed himſelf upon her lifeleſs body. Gen. Biog.

ANTIGONE, in *Fabulous Hiſtory*, the daughter of Laomedon, boaſted of being more beautiful than Juno; and was transformed by this goddeſs into a ſtork.

ANTIGONE, in *Ornithology*, a ſpecies of ARDEA. The head is naked, collar papillous, and red; body cinereous; primary quill feathers black. Linnæus, Gmelin, &c. This is the Indian crane of Latham, and grus orientalis indica of Briſſon and Klein. According to Pennant and Latham, it inhabits the Mongolian deſerts; from whence it migrates into that part of the Ruſſian dominions which lies beyond Lake Baikal, keeping chiefly within the plains below the rivers Onon and Arſun, which is the weſtern extremity of the Gobean plain.

This bird is larger than the common crane, being in height five feet; the bill is of a greeniſh yellow, duſky at the tip; irides bright reddiſh hazel; crown of the head bare and white; on each ſide of the head, about the ears, is a bare white ſpot; the reſt of the head, and a ſmall part of the neck, covered with a fine red ſkin, and is alſo deſtitute of feathers; the plumage of the bird is aſh-colour, lighteſt about the neck; the quills are black; tail and ſecondaries aſh-colour; thoſe neareſt the body are pointed at the ends, longer than the quills, and hang over them; the legs and bare ſpace above the knee are red; the claws white; the middle and outer toe connected by a membrane as far as the firſt joint. Lath. Gen. Syn. v. p. 38.

There is a variety of this ſpecies found alſo in the Eaſt Indies, β grus torquata, and grue à collier of Buffon, which is four feet three inches and an half in length; bill long and black; the head and neck, for above half its length, are almoſt naked, being covered with a reddiſh-white down; round the middle of the neck is a collar of red; the lower part of the neck, and reſt of the body, bluiſh aſh-colour; on the rump is a tuft of flowing feathers, which hang over the ends of the wings and tail, as in the common crane; the tail is black, legs duſky.

ANTIGONEA, *in Ancient Geography*, a city of Macedonia in Mygdonia, founded, according to Stephanus Byz., by Antigonus, the ſon of Gonatas. This was alſo the name of a city of Epirus, placed by Steph. Byz. in Chaonia, and by M. d'Anville ſouth-eaſt of Apollonia, and near Celydnus. Another, in Arcadia, was founded on the ruins of the ancient Mantinea, and this name had ſuperſeded the other by the adulation of the Greeks, who gave it the name of King Antigonus.

ANTIGONIA, a city of Troas, probably the ſame with that which was called Alexandria. This name was alſo given, according to Strabo, to Nicæa, a city of Bithynia. Antigonia was alſo a city of Syria, upon the Orontes. Diodorus Siculus informs us, that it was built by Antigonus, and that it was 170 ſtadia in circuit, and that it was deſigned for the reſidence of the governors of Egypt and of Syria; but when Seleucia was built, he deſtroyed Antigonia, and removed the inhabitants to this city. There was alſo a city of the ſame name in Aſia Minor, in the vicinity of Cyzicus, or rather a fortreſs, about 50 ſtadia from the ſea. Antigonia was alſo an iſland of the Thracian Boſphorus, now called *Iſola del principe*. This was alſo the name of a city of Macedonia, in the Chalcidic territory, in the Thermaic gulf, now the gulf of Theſſalonica. It is called Antigoca.

ANTIGONIA, in *Geography*, an iſland of the Portugueſe, in the Æthiopic gulf, near that of St. Thomas, called by them *Ilha da principe*.

ANTIGONIS, in *Antient Geography*, a country of Greece, in Attica.

ANTIGONUS, in *Ancient Hiſtory* and *Biography*, one of Alexander's chief generals, was the ſon of Philip, a Macedonian nobleman. Upon the diviſion of the Macedonian empire, after the death of Alexander, Pamphylia, Lycia, and Phrygia Major were aſſigned to him; but Perdiccas, who aſſumed regal power, and who derided the talents and high ſpirit of Antigonus, determined to take him off; and with this view formed and encouraged various accuſations againſt him. Antigonus, whilſt he appeared to ſubmit to Perdiccas, and prepare for his trial, retired with his ſon Demetrius into Greece, in order to avoid the danger that threatened him, and put himſelf under the protection of Antipater and Craterus. After the death of Perdiccas, when the provinces were again divided by Antipater, Lycaonia was added to thoſe which Antigonus had originally poſſeſſed; and he was appointed to the command of the troops that were deſtined to act againſt Eumenes, who was now reputed a public enemy. Eumenes was at firſt totally routed, through the treachery of Apollonides, general of his horſe; and compelled to retire into the caſtle of Nora, which was ſituated on an inacceſſible rock, and very ſtrongly fortified. The place was inveſted by Antigonus, but he ſoon found that it was impoſſible to reduce it by force; and he therefore contented himſelf with erecting a ſtrong wall about it, and leaving a ſufficient number of troops to guard it, and marched againſt Alcetas and Attalus, who had raiſed a conſiderable force for the ſuccour of Eumenes. Having taken the one and reduced the other to the alternative of ſurrendering or deſtroying himſelf, which latter mode of eſcape he preferred; their troops were diſperſed, and Antigonus had leiſure to concert thoſe plans of ambition which he determined to accompliſh. Upon receiving the news of the death of Antipater, he reſolved to ſeize Aſia. In order to facilitate the execution of his projects, he removed all the governors of provinces who were not in his intereſt, and endeavoured to ſecure friends in whoſe conſtancy and valour he might confide. With this view, he ſolicited the concurrence of Eumenes; but this faithful commander having contrived to make his eſcape from the caſtle of Nora, aſſembled an army, and was appointed the royal general in Aſia. After ſeveral advantages which he gained over the army of Antigonus, he was at length delivered by treachery to his enemy, and put to death. Having thus removed the principal obſtacle to his progreſs, he ſoon vanquiſhed leſſer difficulties; and making himſelf maſter of the immenſe treaſures of Suſa, he marched forward to Babylon, of which Seleucus was governor. Seleucus eſcaped, and entered

entered into a league with Ptolemy, Lyſimachus, and Caſſander, in order to reduce the power of Antigonus, and ſecure themſelves in their poſſeſſions; but in the mean while Antigonus ſeized the provinces of Syria and Phœnicia. In conſequence of a diverſion given by Caſſander to his arms, Ptolemy recovered Syria, and defeated Demetrius, his ſon, who had been ſent to oppoſe him. Antigonus, however, who was then in Phrygia, hearing of this diſaſter, haſtened his march over mount Taurus to join his ſon, and recovered all the provinees which he had loſt. Emboldened by his ſucceſs, he formed a deſign of ſubduing the Nabath Arabs, who inhabited the deſerts bordering on Judæa. To this ſervice his general Athenæus was appointed; but after having ſurpriſed Petra, and poſſeſſed himſelf of its treaſures, he was followed by the Arabs; and his whole army, indulging themſelves in their imagined ſecurity, was cut off, with the exception only of 60 horſe, who made their eſcape. Upon this Antigonus ſent his ſon Demetrius againſt the Arabs, but he could only ſucceed ſo far as to bring them to a kind of compoſition, with which he was obliged to be ſatisfied, and to return. He was afterwards ſent againſt Seleucus, who had recovered the province of Babylon, but which he was now obliged again to abandon; and the reſult of this expedition was, that the confederates made a treaty with Antigonus, and ſurrendered to him the poſſeſſion of the whole of Aſia, upon condition that the Greek cities ſhould remain free. The treaty was ſoon broken; and Ptolemy made a deſcent in Leſſer Aſia, and ſome of the iſlands of the Archipelago, which was at firſt ſucceſsful; but he was defeated in a ſea-fight by Demetrius, who took the iſland of Cyprus, and alſo a great number of priſoners. Such was the effect of theſe ſucceſſes on the mind of Antigonus that he aſſumed the title of king, and conferred the ſame on his ſon; and from this period (ante Chriſt. 306) properly commence his reign in Aſia, and alſo the reigns of Ptolemy in Egypt, and thoſe of the other captains of Alexander in their reſpective territories. Antigonus now formed the deſign of driving Ptolemy out of his Egyptian dominions, and for this purpoſe he prepared a powerful army and fleet, putting himſelf at the head of the former, and committing the command of the latter to his ſon Demetrius. This expedition, however, proved unſucceſsful, and the deſign was abandoned. The reduction of Rhodes was the next object to which the attention of Antigonus was directed; but the enterpriſe was difficult of execution; and Demetrius having made a favourable treaty with the inhabitants, obeyed the ſummons which he received to aſſiſt the Athenians againſt Caſſander. This was followed by a new confederacy on the part of Caſſander, Seleucus, and Lyſimachus, againſt Antigonus and his ſon; and in order to reſiſt it, they combined their forces, and marched with a powerful army to Phrygia. Here they met Seleucus and Lyſimachus with a force nearly equal; and there enſued the deciſive battle of Ipſus, of the event of which Antigonus ſeemed to have ſome preſentiment; for in the proſpect of it he appeared thoughtful and melancholy, and was frequently ſilent; and, contrary to his uſual manner, was ſlow in his reſolutions, conſulted much with Demetrius, and as he was reviewing his troops, recommended him to the officers as his ſucceſſor. His uſual confidence, therefore, ſeems to have forſaken him. On the morning of the battle, as he was riſing from a fall with ſome difficulty, he exclaimed, "Immortal gods! grant me victory, if it be your will; but if not, let me fall in battle, and not ſurvive my fading glory." Whilſt the battle was advancing, the king was deſerted by a number of traitors, who went over to the enemy; and at length he was overpowered by a ſhower of arrows, and thus terminated his life in the 84th year of his age, ante Chriſt. 301.

The character of Antigonus was that of a ſoldier of fortune, brave, active, ſagacious, of inſatiable ambition and avarice, and too heedleſs of the means by which theſe paſſions were gratified. He had alſo other better qualities; and towards the cloſe of his life he became more mild and tolerant, and endeavoured by good will to retain the ſubjects whom he had acquired by force. In all private concerns he was ſtrictly juſt; and to his brother, who wiſhed him to hear in his cabinet a cauſe in which he was a party, he replied, "No, my dear brother; I will hear it in the open court of juſtice, becauſe I mean to do juſtice." Concerning the weight and duties of his office, he frequently uttered philoſophical ſentiments; and when addreſſed by Hermodotus, a Greek poet, and one of his flatterers, with the title of a god, and the offſpring of the ſun, he remarked, that his chamberlain well knew the contrary. At another time, when he was complimented upon his recovery from ſickneſs, he ſaid, "This diſeaſe was ſent to appriſe me, that being a mortal, I ſhould not graſp at any thing above a mortal." As an apology for his extortion, to which he was urged by his exigence, and when he was reminded that Alexander acted differently, "True," ſaid he; "Alexander reaped Aſia, and I only glean it." With regard to his domeſtic conduct, and the harmony with which he lived with his wife and family, Antigonus was peculiarly diſtinguiſhed: and ſuch was his affectionate confidence in his ſon Demetrius, that, though he was a youth of ſplendid talents and conſiderable ambition, he admitted him as an aſſociate both in his title and government; and Demetrius approved himſelf not only the dutiful ſon, but the loyal ſubject and attached friend. Anc. Un. Hiſt. vol. vii. p. 443—479. vol. viii. p. 1.—7.

Antigonus Gonatas, ſo called from the place of his birth, was the ſon of Demetrius Poliorcetes, and grandſon of the preceeding Antigonus, and diſtinguiſhed by his prudence and mildneſs more than by his valour. His hereditary claims to the dominions of Demetrius, which comprehended ſeveral cities of Greece and the kingdom of Macedon, involved him in various conteſts, in which he alternately ſucceeded and was defeated. After the death of Soſthenes, and the evacuation of Macedon by the Gauls, he aſſerted his claim, which he had before done without effect againſt Ptolemy Ceraunus; but on this occaſion he was oppoſed by Antiochus Soter; the event of the conteſt was favonrable, and he was reſtored to his poſſeſſions. He afterwards eſtabliſhed himſelf by defeating the Gauls, who made an irruption into his kingdom; but was himſelf expelled by Pyrrhus, king of Epirus. He afterwards recovered a great part of Macedon; and followed Pyrrhus to the neighbourhood of Argos. But the inhabitants wiſhed neither of the contending princes to enter their city. Pyrrhus acquieſced, and at the ſame time challenged Antigonus to determine the conteſt by ſingle combat. To this challenge Antigonus replied, "That in making war, he uſed not only arms, but time; and that if Pyrrhus was weary of life, there were many ways to death, which lay directly before him." Pyrrhus, in a conflict that enſued, was ſlain: and when the ſon of Antigonus brought the head of the vanquiſhed prince to his father in triumph, Antigonus thruſt his ſon from him with diſdain; "Barbarous wretch!" ſays he, "doſt thou think, that he whoſe grandfather was thus ſlain, and whoſe father died a captive, ſhould rejoice at ſuch a ſight?" Then covering the head with his robe, he bedewed it with his tears, and ordered the body to be ſought, and burned with all the funeral

ral honours due to a king. When Helenus, the ſon of Pyrrhus, was brought to him by the ſame ſon, who had treated his captive kindly; "Well, my ſon," ſaid Antigonus, "this is better than you did before; however, you have done leſs than your duty ſtill, becauſe you have ſuffered a perſon of his quality to approach me in that thread-bare coat, which is not a diſgrace to him, but to our victory." Having entertained Helenus with reſpect, and comforted him for the loſs of his father, he ſet him at liberty. He alſo extended his favour to the principal officers in the army of Pyrrhus, and incorporated the troops they commanded in his own. In the cloſing years of his life and reign he governed his ſubjects in Macedonia, recovered to him from the Gauls by his ſon Demetrius, in peace; and enlarged his authority, and conciliated the attachment of the people both to himſelf and to his deſcendants. On occaſion of the ſiege of Thebes, in the earlier period of his life, he remonſtrated with his father on account of the loſs of ſo many lives for an object ſo inconſiderable. Nevertheleſs, he was eminently diſtinguiſhed by filial affection and reſpect to his father; for when he was made priſoner by Seleucus, he offered himſelf as hoſtage to procure his liberty; and not ſucceeding, wore deep mourning, and declined participating in any feſtivities, while his father remained in priſon; and on the news of his death, he prepared a fleet, with which he ſailed to meet his aſhes, which he received with the utmoſt ſenſibility and reſpect. One of the leaſt honourable tranſactions of his life, was his gaining poſſeſſion of the citadel of Corinth by means of a ſtratagem, the ſucceſs of which threw him into a phrenzy of joy; and of the power which he acquired by this event, he made uſe in augmenting his dominions in Greece, and ſupporting the petty tyrants againſt the free ſtates. The Achæans, under their illuſtrious chief Aratus, vigorouſly oppoſed him, and at length recovered Corinth; but Antigonus, indiſpoſed to war, purſued his courſe of artful and peaceable policy. After a reign of 34 years, and having attained the age of above 80 years, he died, ante Chriſt. 343, and was ſucceeded by his ſon Demetrius II. Anc. Un. Hiſt. vol. viii. p. 53—62.

Antigonus Doson, q. d. *will give*, ſo called becauſe he was more ready to promiſe than to perform, ſucceeded his brother Demetrius II., whoſe widow he married, in the throne of Macedon; and was diſtinguiſhed by his great talents in maintaining peace at home, and proſecuting war abroad; by his reputation for juſtice; by clemency towards his enemies; and by affability and kindneſs towards his friends. The Achæans invited him into Greece, to aid them in counteracting the power of Cleomenes, king of Sparta, who was himſelf aſſiſted by the Ætolians. The citadel of Corinth was put into his hands; and Aratus, who was now become a friend to the Macedonians, was diſtinguiſhed by his reſpectful attention. Whilſt the greater part of his army was abſent, he declined an engagement with Cleomenes; but as ſoon as his forces arrived, he totally defeated him at Seleſia; and by this victory, became maſter of the hitherto unconquered city of Sparta, which, however, he treated with great lenity, and left free. He then made a precipitate march back into Macedonia, in order to reſiſt the Illyrians, who had, during his abſence, invaded that kingdom. In his return, he reſtored the little republic of Tegea; and arriving at Argos, during the celebration of the Nemæan games, he received many teſtimonies of reſpect from the Grecian ſtates. The deliverance of his country coſt him his life; for in a battle with the Illyrians, though victory was deciſive and complete in favour of the Macedonians, the king fell a ſacrifice, not to the ſword of the enemy, but to the exertion he uſed in ſtraining his voice during the engagement, and to a ſpitting of blood that was the conſequence of this exertion. This ſoon terminated in his death, ante Chriſt. 221. Having, died, as he had lived, in the ſervice of his country, he appointed for his ſucceſſor Philip, his brother's ſon, to whom he had acted the part of a kind and faithful guardian. Anc. Un. Hiſt. vol. viii. p. 63—66.

Antigonus, king of the Jews, the ſon of Ariſtobulus II., was eſtabliſhed on the throne of Judæa by the aſſiſtance of the Parthians. Soon after his acceſſion, he cauſed the ears of his uncle Hyrcan, the high prieſt, to be cut off, that he might be incapacitated for the office; but Herod, who had betrothed, and afterwards married, Mariamne, the grand-daughter of Hyrcan, invaded Jeruſalem, and at length, after a ſiege of ſix months, took it by ſtorm. With this event, which happened ante Chriſt. 37, ended the reign of the Aſmoneans, which had continued 129 years, from Judas Maccabæus to Antigonus, the laſt male of that race who bore the regal title. Soſius, governor of Syria, who commanded the Roman forces, and who had aſſiſted Herod on this occaſion, having preſented a crown of gold to the temple, left Jeruſalem, and conveyed Antigonus in chains to Antony; by whom he was, at the earneſt ſolicitations of Herod, put to a ſhameful death in the third year of his reign. Anc. Un. Hiſt. vol. iii. p. 159.

Antigonus Carystius, a philoſopher and hiſtorian, flouriſhed under the Ptolemies Lagus and Philadelphus, about 300 years before Chriſt. He wrote ſeveral lives of philoſophers, an heroic poem, entitled, "Antipater," mentioned by Athenæus, and other works; but none are extant, except Ἱστοριων παραδοξων Συναγωγη, a collection of wonderful ſtories concerning animals and other natural bodies, compiled from various authors. This work was firſt publiſhed by Xylander, with a Latin verſion, at Baſil, in 568, 8vo.; and reprinted at Leyden, by Meurſius, in 619, 4to. Fabric. Bib. Græc. lib. iii. c. 27. § 8. tom. ii. 672.

Antigonus Sochæus, a Jew, was born at Socho, on the borders of Judæa, flouriſhed in the time of Eleazer the high prieſt, about 300 years before Chriſt, and was a diſciple of Simeon the Juſt. Offended at the innovations, which were introduced by the patrons of the traditionary inſtitutions, and particularly at the pretenſions which were made to meritorious works of ſupererogation, by which men hoped to eſtabliſh a title to extraordinary temporal rewards, he ſtrenuouſly maintained and taught, that men ought to ſerve God, not like ſlaves for hire, but from a pure and diſintereſted principle of virtue. This refined doctrine, oppoſed by Antigonus merely to the expectation of a temporal recompence for works of religion and charity, was miſinterpreted by his followers, and extended to the rewards of a future life; and particularly by Sadoc and Baithoſus, two of his diſciples, who taught that no future recompence was to be expected, and conſequently that there would be no reſurrection of the dead. This doctrine they taught to their followers; and hence aroſe, about 200 years before Chriſt, the ſect of the Baithoſæi, or Sadducees. Brucker, Hiſt. Philoſ. by Enfield, vol. ii. p. 172.

ANTIGRAPHE, from αντι, and γραφω, *I write*, in *Antiquity*, denotes a law ſuit about kindred, whereby a perſon claimed relation to ſuch or ſuch a family.

The *antigraphe* appears to have been the ſame with παραχαταβολη.

ANTIGRAPHUS, in *Antiquity*, an officer of Athens, who kept a counterpart of the *apodecti*, or chief treaſurer's accounts,

accounts, to prevent miſtakes, and keep them from being falſified. Potter Arch. lib. i. c. 14.

ANTIGRAPHUS is alſo uſed, in *Middle Age Writers*, for a ſecretary or chancellor. He is thus called, according to the old gloſſariſts, on account of his writing anſwers to the letters ſent to his maſter. The antigraphus is ſometimes alſo called *archigraphus*; and his dignity *antigraphia*, or *archigraphia*. Du-Cange.

ANTIGRAPHUS is alſo uſed in Iſidorus for one of the notes of ſentences, which is placed with a dot to denote a diverſity of ſenſe in tranſlations.

ANTIGRAPHUS is alſo applied, in *Eccleſiaſtical Writers*, to an ABBREVIATOR of the papal letters. In which ſenſe the word is uſed by pope Gregory the Great in his Regiſter.

Of late days, the office of *antigraphus* conſiſts in making minutes of bulls from the petitions agreed to by his holineſs, and renewing the BULLS after engroſſing.

ANTIGUA, called alſo ANTEGO, in *Geography*, one of the Antilles or Caribbee iſlands, belonging to Britain, and lying about 20 leagues eaſt from St. Chriſtopher's, and 10 north-eaſt from Montſerrat; and being about 50 miles in circumference, is reckoned the largeſt of all our Leeward iſlands. It contains 59,838 acres of land, of which about 34,000 are appropriated to the growth of ſugar, and paſturage annexed; its other principal ſtaples are cotton-wool and tobacco; and in favourable years it furniſhes great quantities of proviſions. Antigua was one of the Caribbee iſlands diſcovered by Colon, in his ſecond voyage, and is ſaid to have been planted by the Engliſh in 1632. The firſt regular grant of it was made by Charles II. about 1663, to William lord Willoughby of Parham. The French were maſters of this iſland for a few years, but in 1668 it was reſtored to the Engliſh by the treaty of Breda. It owes its chief proſperity to the attention of colonel Chriſtopher Codrington, who, in 1674, removed from Barbadoes to Antigua; and having been appointed captain-general and governor of all the Leeward Iſlands, made this the ſeat of his government. He applied his knowledge in ſugar-planting with ſuch good effect and ſucceſs, that others, animated by his example, and aſſiſted by his advice and encouragement, adventured in the ſame line of cultivation. The climate of Antigua is hotter than that of Barbadoes, and ſo ſubject to hurricanes, that if it were not for the convenience of its ſituation and harbours, it would probably be uncultivated and deſert. Its ſoil is of two different kinds; the one, a black mould on a ſubſtratum of clay, which is naturally rich, and in favourable ſeaſons, when unchecked by the droughts to which the iſland is ſubject, very productive. The other is a ſtiff clay on a ſubſtratum of marl; leſs fertile than the former, and abounding with a kind of graſs which is not capable of being eradicated, ſo that many eſtates once profitable, are now covered with it, and ſo impoveriſhed, as to become either paſture land or utterly abandoned. Excluſively of ſuch deſerted land, and ſuch part of the iſland that is altogether unimproveable, the whole of it may be ſaid to be under cultivation. It is not eaſy to aſcertain an average return of the crops; becauſe they vary to ſuch a degree, that the quantity of ſugar exported from this iſland in ſome years is five times greater than in others. In 1779, were ſhipped 3,382 hogſheads, and 579 tierces, and in 1782 the crop was 15,102 hogſheads, and 1,603 tierces. Mr. B. Edwards is of opinion, that the iſland has progreſſively decreaſed both in produce and in white population. It appears from the returns to government in 1774, that the white inhabitants of all ages and ſexes were 2,590, and the enſlaved negroes 37,808; and 17,000 hogſheads of ſugar of 16 cwt. are reckoned a good ſaving crop; which is about a hogſhead of ſugar per acre for each acre that is cut.

Antigua is dvided into ſix pariſhes and 11 diſtricts, and contains ſix towns and villages: *viz.* St. John's, the capital, Parham, Falmouth, Willoughby Bay, Old Road, and James Fort, of which the two firſt are legal ports of entry. No iſland in that part of the world can boaſt of ſo many excellent harbours; the principal of which are Engliſh harbour and St. John's, both well fortified; and at the former, the Britiſh government has eſtabliſhed a royal navy-yard and arſenal, and conveniencies for careening ſhips of war. The governor of the Leeward Iſlands is generally ſtationary at Antigua; in hearing and determining cauſes from the other iſlands, he preſides alone; but in cauſes ariſing in Antigua, he is aſſiſted by his council; and by an act of aſſembly of this iſland, confirmed by the crown, the preſident, and a certain number of the council may determine chancery cauſes, during the abſence of the governor-general. The other courts of this iſland are a court of king's bench, a court of common pleas, and a court of exchequer. The legiſlature of Antigua is compoſed of the commander in chief, a council of 12 members, and an aſſembly of 25. This legiſlature preſented the firſt example of the melioration of the criminal law, reſpecting negro ſlaves, by giving the accuſed party the benefit of a trial by jury; and allowing, in the caſe of capital conviction, four days between the time of ſentence and execution. The military eſtabliſhment generally conſiſts of two regiments of infantry, and two of foot militia, beſides the force raiſed in the iſland. The Moravians have been active in their endeavours to enlighten the minds of the negroes, and to lead them into the knowledge of religious truth; and the number of converted negro ſlaves under the care of the brethren, at the end of the year 1787, was 5,465. St. John's lies in N. lat. 17° 4′ 30″. W. long. 62° 9′. Edwards's Weſt Indies, vol. i. p. 437—455.

ANTIGUGLER, is a crooked tube of metal, ſo bent as eaſily to be introduced into the necks of bottles, and uſed in decanting liquors, without diſturbing them. For this purpoſe the bottle ſhould be a little inclined, and about half a ſpoonful of the liquor poured out, ſo as to admit an equal quantity of air; let one end of the bent tube be ſtopped with the finger, whilſt the other is thruſt into the body of the liquor near to the bubble of air already admitted. When the finger is taken off, the bottle will have vent, and the liquor will run out ſteadily and undiſturbed. See SIPHON.

ANTIHECTICS, in the *Materia Medica*, remedies againſt hectical diſorders.

ANTIHECTICUM *Poterii*, in *Pharmacy*, a celebrated chemical preparation, made of equal quantities of tin and chalybeated regulus of antimony, by melting them in a large crucible, and putting to them, by little and little, three times the quantity of nitre: the detonation being over, the whole is to be waſhed with warm water till no ſaltneſs remains.

This was formerly eſteemed a very penetrating medicine, making way into the minuteſt paſſages, and ſearching even the nervous cells; whence its uſe in hectic diſorders, from which it derives its name. It was accordingly recommended in heavineſs of the head, giddineſs, and dimneſs of ſight, from whence proceed apoplexies, and epilepſies; and in all affections and foulneſſes of the viſcera of the lower belly; and alſo in the jaundice, dropſies, and all kinds of cachexies. Quincy adds, that there is ſcarcely a preparation in the chemical pharmacy of greater efficacy in moſt obſtinate chronic diſtempers. But Neumann obſerves, that it has no claim to

antihectic virtues, nor indeed to any ſalutary operation; and it is now generally diſregarded. See Neumann's Chem. Works, p. 89, and 138.

It is alſo called *antimonium diaphoreticum joviale*. There are divers methods of preparing it, given by Wedelius, Etmuller, &c. A learned author ſpeaks of it as fatal to conſumptive perſons. Junker ſays of it, that in hectic fever, it is rather injurious than ſalutary. Gmelin's Apparatus Medic. vol. i. p. 235.

ANTILEGOMENA, in *Scripture Criticiſm*, an expreſſion denoting doubtful, but acknowledged by moſt to be genuine, one of the three claſſes into which Euſebius has diſtributed the books of the New Teſtament; the other two are homologoumena, *i. e.* of undoubted authority, and notha or ſpurious. To this claſs he refers the epiſtles aſcribed to James and Jude, the ſecond of Peter, with the ſecond and third of John, whether they were written by the evangeliſt, or by another perſon of the ſame name. He is of opinion that theſe books may be received as genuine productions of the Apoſtolic age, even if they were not written by the evangeliſts. Euſeb. Eccl. Hiſt. lib. iii. c. 2.

ANTILEXIS, from αντιλεγω, *I contradict*, in *Antiquity*, denotes a new trial granted in the Athenian judicatories, where judgment had before paſſed againſt a party for non-appearance.

ANTILIBANUS, in *Ancient Geography*, a chain of mountains in Cœlo-Syria, which ran parallel to the other chain denominated Libanus, and both extended from ſouth to north. Antilibanus was to the eaſt, and commenced nearly to the north of Upper Galilee, from which it was ſeparated by mount Hermon, and reached almoſt to Heliopolis, where it terminated; and thus a diſtinction is eſtabliſhed between Libanus and Antilibanus, though the ſcriptures call them both by the ſame common name, Lebanon. The long valley that was ſituated between theſe two chains of mountains was called Cœlo-Syria. Theſe mountains are now inhabited by thoſe ſemi-chriſtians called Druſes. The Jordan has its ſource in theſe mountains.

ANTILLARUM, in *Conchology*, a ſpecies of NERITA, very frequent on the ſhores of the Antilles iſlands. The ſhell is ſub-globoſe and black; within white, grooved, and ſtriated; vertex obtuſe; and both pillar and outer lip rugoſe and denticulated. Gmelin.

ANTILLARUM, in *Ornithology*, a ſpecies of FALCO, deſcribed in L'Hiſtoire des Antilles, tom. ii. p. 252, under the name of Manſfenny, after Buffon; and likewiſe called le faucon des Antilles by Briſſon, Orn. i. p. 361. This is the falco Antillarum of Gmelin, who ſays it is brown, crown black, and belly white; and Manſfenny of Latham, who characteriſes it ſpecifically as having the body totally brown. This bird has the ſhape and plumage of an eagle, but is ſmaller, being not much bigger than a falcon, and has legs and claws double the ſize in proportion to thoſe of the falcon tribe. It is found in the Antilles or Caribbee iſlands, and feeds on ſmall birds, ſnakes, lizards, &c.

ANTILLES, in *Geography*, a denomination differently applied by various geographers. The term is applied by Hoffman (Lexic. Univ.), to the Windward or Charibbæan iſlands only; and he ſays, "dicuntur Antilæ Americæ quaſi *ante* inſulas Americæ, nempe *ante* majores inſulas ſinûs Mexicani". Rochfort and Du Tertre explain the word nearly in the ſame manner; whilſt M. D'Anville applies the name to thoſe iſlands only which are *anti-inſulæ*, or more immediately *oppoſed to*, or ſituated againſt the continent. Thus he terms Cuba, Hiſpaniola, Jamaica, and Porto-Rico, the *Great Antiles*; and the ſmall iſlands of Aruba, Curaçoa, Bonair, and Margarita, and ſome others near the coaſt of Caraccas on the ſouthern peninſula, *the leſs*; altogether excluding the Charibbæan iſlands. The Spaniſh hiſtorians plainly prove, that the word *Antilia* was applied to Hiſpaniola and Cuba, before the diſcovery either of the Windward iſlands, or any part of the American continent. This appears from a paſſage in the firſt book of the firſt decad of Peter Martyr, bearing date from the court of Spain, Nov. 1493, eight months only after Columbus's return from his firſt expedition: "Ophiram inſulam ſeſe reperiſſe refert, ſed coſmographorum tractu diligenter conſiderato, *Antiliæ* inſulæ ſunt illæ et adjacentes aliæ; hanc Hiſpaniolam appellavit, &c." The cluſter of iſlands, denominated the Antilles, is uſually divided into Great and Small. They lie from 18 to 24 degrees of N. lat. and are by many geographers diſtinguiſhed into Windward and Leeward iſlands; and they lie in the form of a bow, ſtretching from the coaſt of Florida north to that of Brazil ſouth. The Greater Antilles have uſually been made to comprehend Cuba, Hiſpaniola, Jamaica, and Porto-Rico; and the Leſs to include Aruba, Curaçoa, Bonair, Margarita, and ſome others near the coaſt of Terra Firma. See each under its proper head. See alſo CARIBBEES.

If we examine, ſays M. Buffon, the poſition of the Antilles, beginning with the iſland of Trinidad, which is the ſouthernmoſt, it is impoſſible to doubt but that Trinidad, Tobago, the Grenades, St. Vincent, Martinico, Marigalante, Antiguæ, Barbadoes, and all the adjacent iſles, once formed a chain of mountains, which extended from ſouth to north, like Newfoundland, and the country of the Eſquimaux. The direction alſo of the Antilles from eaſt to weſt, if we begin with Barbadoes, and paſs on to St. Bartholomew, Porto-Rico, St. Domingo, and Cuba, is nearly the ſame with the coaſts of Cape Briton, Arcadia, and New England. All theſe iſlands lie ſo contiguous, that they may be regarded as a continued belt of land, and as the moſt elevated parts of a country now occupied by the ſea. Theſe iſlands, therefore, he conſiders as relics of ancient continents, that ſeemed to unite the old continent with America. Buffon's Works, by Smellie, vol. i. p. 316., vol. ix. p. 192.

ANTILLON, in *Geography*, a town of Spain, in Navarre, five leagues from Balbaſtro.

ANTILOCHUS, in *Entomology*, a ſpecies of PAPILIO that inhabits North America. The wings are tailed, and yellow both above and beneath, with black bands and margin; tail white, and as long as the wings. Linnæus, Fabricius, &c. This is papilio caudatis maximus ſtriis umbriſque nigris of Petiver muſ. p. 50. n. 505.

ANTILOGARITHM, the COMPLEMENT of the LOGARITHM of a ſine, tangent, or ſecant; and it is found by beginning at the left hand, and ſubtracting each figure from 9, and the laſt figure from 10.

ANTILOGY, αντιλογια, q. d. *contrary ſaying*, a contradiction between two expreſſions or paſſages in an author.

Tirinus has publiſhed a large index of the ſeeming *antilogies* in the BIBLE, i. e. texts which apparently contradict each other, but which are all explained and reconciled by him, in his comments on the Bible. Dom. Magri, a Malteſe of the Oratory in Italy, has attempted the like; but he has done little more than rehearſe what occurs of that kind in the principal commentators.

ANTILOIMICA, in the *Materia Medica*, medicines which preſerve againſt the plague.

ANTILOPE, in *Entomology*, a ſpecies of LUCANUS that inhabits Africa, and is deſcribed in the Stockh. Tranſ. 1787. The jaws are exſerted, and bimarginated on the interior ſide; upper margin two-toothed, lower margin five-toothed. Swederus, Gmelin: found in Sierra Leona; it is brown, and rather ſmooth.

ANTI-

ANTILOPE, in *Zoology*, See ANTELOPE.

ANTILUTHERANS, in *Eccleſiaſtical Hiſtory*, a ſect or party among the ancient reformers, who maintained opinions, chiefly in relation to the euchariſt, different from thoſe of Luther.

Such were Caroloſtadius and his followers, called alſo *Sacramentarians*; and thoſe of Zuinglius, denominated *Zuinglians*.

The ſect of Antilutherans, at firſt confined within narrow bounds, in a few years time ſubdivided into ſix or ſeven inferior ſects; and ere long into an infinite number, more variouſly denominated.

ANTILYSSUS *pulvis*, in *Medicine*, is compoſed of equal parts of the LICHEN *cinereus terreſtris*, & *piper niger*. It is reckoned uſeful in preventing the RABIES *canina*. Phil. Tranſ. N° 448.

The pulvis antilyſſus of Hill, compoſed of half a ſcruple of alum, half an ounce of chalk, three drams of bole-armoniac, one dram of the root of helenium, and ſix drops of oil of aniſeed, is commended by Heyſham for preventing hydrophobia. Med. and Philoſ. Com. Edinb. vol. i. p. i. Lond. 1777-8.

ANTIMACHUS, in *Biography*, a name applied to three Greek poets, of whom the moſt celebrated was the ſon of Hipparchus, a native either of Claros or the neighbouring Colophon, who flouriſhed in the 93d Olympiad, about 408 years before Chriſt. He was reckoned one of the ſix moſt famous Greek poets; and he is ranked by Quinctilian next to Homer, at a great diſtance, in heroic poetry. His great work was a "Thebaid," or an epic poem on the war of Thebes. It is ſaid that it conſiſted, before the ſeven chiefs were brought to the ſiege, of 24 books; and at a public recital of his piece, all his auditors, except one, deſerted him: but this one was Plato; and Antimachus declared, that he would read on, as Plato alone was equal to the whole audience. When his fame was almoſt forgotten, the emperor Adrian endeavoured to revive it, and to give him the priority to Homer; but a Roman emperor could not do this. Antimachus wrote a poem to Lyde, ſuppoſed to be either his wife or his miſtreſs, the celebrity of which may be inferred from the mention of it by Ovid:

"Nec tantum Clario Lyde dilecta poetæ."
"More lov'd than Lyde by the Clarian bard."

Nothing of this writer has reached modern times. Voſſius, Gen. Biog.

ANTIMACHUS, in *Entomology*, a ſpecies of PAPILIO that inhabits Africa. The wings are indented, long, and black; interior pair ſpotted with rufous; diſk of the poſterior pair rufous, radiated, and marked with black ſpots. Fabricius, &c.

ANTIMACO, MARK ANTONY, in *Biography*, a learned Italian, was born at Mantua about the year 1473. He ſpent five years at Greece in the ſtudy of the Greek language; and on his return opened a ſchool at Mantua for the ſtudy of this language and of polite literature, which became famous. He purſued the ſame employment at Ferrara, where he died in 1552. Antimaco tranſlated ſeveral pieces from the Greek, which were printed at Baſil in 1540, together with an oration in praiſe of Grecian literature. He alſo wrote Latin poems. Tiraboſchi, Gen. Biog.

ANTIMENSIUM, a kind of conſecrated table-cloth, occaſionally uſed in the Greek church, in places where there is no proper altar.

F. Goar obſerves, that in regard the Greeks had but few conſecrated churches, and that conſcrated altars are not things eaſy to be removed; that church has, for many ages, made uſe of certain conſecrated ſtuffs, or linens, called antimenſia, to ſerve the purpoſes thereof.

ANTIMENSIUM, in the *Greek Church*, anſwers to the *altare portabile*, or portable altar, in the Latin church. They are both only of late invention, though Habertus would have them as old as St. Baſil. But Durant and Bona do not pretend to find them in any author before the time of Gregory and Charlemagne.

ANTIMENSIA is alſo applied to other tables, uſed in offices of religion, beſides thoſe whereon the euchariſt is adminiſtered: ſuch, e. gr. are thoſe whereon the hoſt is expoſed, &c. The origin of the antimenſia is deſcribed by Meurſius: when the biſhop had conſecrated a church, the cloth which had been ſpread on the ground, and over the communion-table, was torn in pieces, and diſtributed among the prieſts, who carried each a fragment away, to ſerve to cover their tables in their churches and chapels. Not that it was neceſſary that ſuch cloths ſhould be laid on all tables, but only on thoſe which either were not conſecrated, or at leaſt whoſe conſecration was doubted of.

ANTIMENSIUS, an ancient officer in the Greek church, whoſe buſineſs it was to introduce and place the communicants at the euchariſt.

Some have imagined that he had the care of the *antimenſia*. But this rather belonged to the office of great *ſceuophylax*. He is otherwiſe called chief of the *antimenſii*.

ANTIMERIA, from αντι, and μερος, *a part*, in *Grammar*, a figure whereby one part of ſpeech is uſed for another: e. gr. *velle ſuum cuique eſt*; for *voluntas ſui cuique eſt*; alſo *populus late rex* for *populus late regnans*.

ANTIMERIA, in a more reſtrained ſenſe, is a figure whereby the noun is repeated inſtead of the pronoun.

The antimeria is frequent in the Hebrew, and is ſometimes retained in our verſion of the Old Teſtament; accordingly, e. gr. *Hear my voice, ye wives of Lamech*, for *my wives*. Gen. ch. iv. ver. 23.

ANTIMETABOLE, in *Rhetoric*, a figure which ſets two things in oppoſition to each other.

The word is compounded of αντι, *againſt*, and μεταβολη, from μεταβαλλω, *I ſhift*, or *transfer*; i. e. a ſhifting, or ſetting two things over againſt each other.

This figure is twice exemplified in an apophthegm of Muſonius; which, on account of its excellence, is called *aureum monitum*, the golden maxim or precept:

Ἀν τὶ πράξῃς καλὸν μετὰ πόνου, ὁ μὲν πόνος ὀίχεται, τὸ δὲ καλὸν μένει,
Ἀν τὶ ποιησῃς αισχρὸν μετὰ ἡδονῆς, τὸ μὲν ἡδὺ ὀίχεται, τὸ δὲ αἰσχρὸν μένει.

In Engliſh thus:

"Allowing the performance of an honourable action to be attended with labour; the labour is ſoon over, but the honour immortal: whereas, ſhould even pleaſure wait on the commiſſion of what is diſhonourable, the pleaſure is ſoon gone, and the diſhonour eternal."

ANTIMETATHESIS, from αντι, and μετατιθημι, *I transfer*, in *Rhetoric*, is the inverſion of the parts or members of an ANTITHESIS. Such is that of Cicero, in Verrem, lib. iv. cap. 52. "Compare this peace with that war; the arrival of this govenor with the victory of that general; his profligate troops with the invincible army of the other; the luxury of the former with the temperance of the latter: you will ſay, that Syracuſe was founded by him who took it; and taken by him, who held it when founded."

ANTIMILO, in *Geography*, a ſmall deſert iſland of the Archipelago, a few miles north-weſt of Milo, and like it appearing volcanic.

ANTIMISIUM, in *Antiquity*, a table placed before the Roman tribunal or judgment-ſeat.

What relation this has to the *antimenſia* in the Greek

church, does not appear. Some writers confound them together as the same thing.

ANTIMONARCHICAL, from αντι and μοναρχικος, μονος, *alone*, and αρχη, *dominion*, something that oppoſes or ſtands againſt monarchy or kingly government.

Antimonarchical is frequently uſed in the ſenſe of republican.

ANTIMONARCHIST, a perſon who maintains antimonarchichal principles.

Buchanan, Milton, Hottoman, Languet, Ludlow, Sidney, and others, are celebrated antimonarchiſts.

ANTIMONARCHOMACHI, from αντιμοναρχος, and μαχη, *conteſt*; *antimonarchomachiſts*, is uſed by ſome political writers to denote maintainers of monarchichal or abſolute power veſted by divine right in the perſons of princes. In which ſenſe, *antimonarchomachi* ſtand oppoſed to *monarchomachi*.

King James the Firſt, Salmaſius, Peter du Moulin, biſhop Bramhall, Albericus Gentilis, Ziegler, William and George Barclay, Bochart, &c. have diſtinguiſhed themſelves in the claſs of monarchomachiſts. Acker has treated profeſſedly of the monarchomachiſts and antimonarchomachiſts.

ANTIMONIALS, in *Medicine*, denote preparations of antimony, or remedies whereof antimony is the baſis or principal ingredient.

Antimonials are chiefly of an emetic tendency; though they may be ſo qualified as to become either cathartic or diaphoretic, or even only alterative. See WARD's *Pill*.

An antimonial cup, made either of glaſs of antimony, or of antimony prepared of ſalt-petre, though a ſubſtance indiſſoluble by the ſtomach, will give a ſtrong cathartic or emetic quality to any liquor poured into it, without any diminution of its own weight.

ANTIMONIATED, ſomething tinged with the qualities, or reſembling the appearances of antimony.

Dr. Woodward ſpeaks of a kind of ſtriated, or antimoniated lead ore.

ANTIMONY, Στιμμι, Στιμμις γυναικειον, Gr. *Stibium Jarbaſon*, Lat. *Spieſſglas*, *Spieſſglanz*, Germ. *Spitſglas*, Swed. *Spidſglas*, Dan. *Piſgotz*, Hung. *Antimoine*, Fr. *Antimonio*, Ital. *Antimonja*, Ruſſ. *Proteus*, *leo ruber*, *plumbum nigrum*, *balneum regis*, *lupus metallorum*, Alchem.

Antimony is a brittle metal, of a brilliant white colour; fuſible at a moderate red heat; and at a higher temperature, with acceſs of air, it exhales a white inodorous vapour. It is ſoluble in nitro-muriatic acid, and precipitable from its ſolution of a white colour by diſtilled water, and of a deep brick-red by ſulphuret of ammonia (volatile liver of ſulphur.)

§ I. *Ores of Antimony.*

The antimonial ores have not as yet been analyſed with ſufficient accuracy to clear up all doubts as to the nature of their contents; an arrangement of them muſt, therefore, as yet principally depend on their external characters. We ſhall follow the example of Weidenmann, Emmerling, &c. in dividing them into ſeveral ſpecies, though probably the whole may be reduced to the native, the ſulphurated, and the oxydated.

Sp. I. Native antimony. *Gediegen ſpieſſglas*, Germ. *Antimonium nativum*, Werner. *Antimoine natif*, & *A. blanche ou arſenicale*, Delille, Hauy, and Born.

Has a light tin-white colour, with an occaſional ſhade of yellow. Occurs maſſive, diſſeminated, or kidney-ſhaped. Is internally of a brilliant metallic luſtre. Its fracture is either ſtrait or curved foliated. The fragments are uſually large or ſmall grained; ſeldom conchoidal. It is ſoft, approaching to half hard, and of conſiderable ſpecific gravity.

It melts with eaſe on charcoal before the blowpipe, exhaling a white arſenical fume, and readily amalgamates with mercury.

By the analyſis of Mengez the younger, it appears to be a native alloy of antimony and arſenic, in the proportion of about 96 of the former to 4 of the latter.

Native antimony is a mineral of very rare occurrence; it was firſt found in 1748, by Schwab, in the ſilver mines of Sahla in Sweden, with a gangue of calcareous ſpar; and has ſince been detected by Sage imbedded in quartz in the mines of Allemont in Dauphiné.

Sp. II. Sulphurated A.—Grey antimonial ore. *Graues ſpieſſglaſerz*, Germ. *Mine d'Antimoine griſe ou ſulfureuſe*, Delille. *Antimoine ſulphuré*, Hauy.

Of this ore there are three varieties, the compact, foliated, and ſtriated.

Var. 1. Compact. *Dichtesgraues ſpieſſglaſerz*, Germ. *Antimonium mineralizatum griſeum denſum*, Werner.

The colour of this is lead grey, paſſing into ſteel-grey, and tarniſhes blue or purple on expoſure to the air. It occurs maſſive or diſſeminated. Is of a metallic luſtre, ſhining or little ſhining. Its fracture is ſmall-grained uneven. It flies, when broken, into irregular blunt-cornered fragments. Is ſoft, gives a bright metallic ſtreak, and is of conſiderable ſpecific gravity.

It melts with great eaſe before the blowpipe, and burns with a blue flame, exhaling a copious white ſulphureous vapour.

It is the ſcarceſt of the ſulphurated antimonial ores, and is found principally with quartz and ſpathoſe iron ore at Braunſdorf in Saxony, Goldkvonach in Bayreuth, Auvergne in France, and Majurka in Hungary.

Var. 2. Foliated. *Blättriges graues ſpieſſglaſerz*, Germ. *Antim. mineraliz. griſeum lamelloſum*, Werner.

This differs from the former variety in the following particulars. Colour, light ſteel-grey. Fracture fine grained foliated, ſp. gr. 4. 36. Occurs in quartz at Braunſdorf, and at Nagyag in Hungary.

Var. 3. Striated. *Strahliges graues ſpieſſglaſerz*, Germ. *Antim. mineraliz. griſ. radiatum*, Werner.

Its colour is light ſteel-grey, paſſing into a blackiſh grey, azure blue, golden yellow, and other ſplendid irideſcent tints. It occurs diſſeminated, or in glandular mamillated and ſtalactitic maſſes or cryſtallized. The primitive form of its cryſtals has not yet been aſcertained. Hauy has ſhewn that they are moſt eaſily and neatly diviſible in one direction only, parallel to their axes; other natural joints are, however, diſcernible by the varying reflection of light from theſe ſurfaces when held before a candle. The only cryſtalline form that has hitherto been determined, is a compreſſed hexahedral priſm, terminated by obtuſe tetrahedral pyramids with trapezoidal ſurfaces (*antimoine ſulfuré ſexoctonal* of Hauy). See cryſtallographical plates, *fig.* 206. Incidence of *n* on *s* 134°; of *l* on *l'* 106° 30'; of *l* on *s* 146°. Born alſo mentions ſpecimens from Hungary and Norway of truncated tetrahedral priſms. The ſurface of the cryſtals is generally marked longitudinally, with delicate ſtriæ, and poſſeſſes much luſtre. The internal luſtre both of the amorphous and cryſtallized kinds is metallic and bright, or little ſhining. Its fracture is ſtriated either broad or narrow, radiating, diverging, or implicated. When broken, it flies into irregular priſmatic, or long granular fragments. Is ſoft and brittle. Specific gravity from 4.13. to 4.51. Its component parts, according to Bergman, are,

74 antimony,
26 ſulphur.

100

The Hungarian antimony alſo contains a ſmall variable proportion of gold.

This is the commoneſt of all the antimonial ores: it is procured at Kremnitz and Telſobanya in Hungary, at Draviza in the Banat, Braunſdorf in Saxony, the Black Foreſt in Swabia, Pereta in Tuſcany, Lubillac in Auvergne, and Cornwall in England; alſo in Spain, Mexico, and Siberia. The ſplendid irideſcent ſpecimens come principally from Hungary.

Sulphurated antimony is ſometimes confounded with oxyd of manganeſe; it may, however, be eaſily diſtinguiſhed by the great eaſe with which it is fuſible even in the flame of a common candle: it differs alſo from native antimony in exhaling, when heated, a ſulphureous, and not an arſenical odour; in being of a darker colour, and leaving a dark grey trace when rubbed on paper.

It is found, for the moſt part, in primitive mountains, in micaceous ſchiſtus, and clay porphyry, mixed with pyrites and oxyds of iron: the gangue is ſulphated barytes in Hungary, but elſewhere, for the moſt part, quartz; alſo, though rarely, chalcedony fluor and calcareous ſpar.

Sp. III. Plumoſe antimony. *Federerz, ſilber federerz*, Germ. *Mine d'argent griſe antimoniale*, Deliſle. *Antimoine ſulphuré argentifere*, Hauy. *Antimonium plumoſum mineralizatum argentiferum*, Born. *Antimonium mineralizat. griſeum plumoſum*, Werner.

The colour of plumoſe antimony is ſteel-grey, paſſing into greyiſh black, lead, or ſmoak grey: by expoſure to the air, it tarniſhes to an irideſcent blue or yellow. It occurs in ſlender minute capillary cryſtals inveſting the ſurface of quartz and other minerals with a delicate brittle down or wool: the cryſtals are ſometimes ſcarcely viſible to the naked eye, and ſo implicated with each other, as to appear like an amorphous cruſt. According to Deliſle, the form of the cryſtals is that of a compreſſed hexahedral priſm, terminated by dihedral ſummits with pentagonal faces; the longitudinal ſtriæ, however, are generally ſo ſtrongly marked as to obſcure the ſides of the priſm. Its luſtre is ſemi-metallic, more or leſs glimmering. The fracture is confuſedly fibrous, and the fragments are indeterminate. It is brittle: ſp. grav. 3.57. Before the blowpipe it emits a ſmoke that depoſits a white and yellow powder on the charcoal, and the reſiduum then melts into a black ſlag. No accurate analyſis has yet been made of it; but, according to Bergman, it conſiſts of antimony, iron, arſenic, ſulphur, and ſometimes ſilver.

This ſubſtance is ranked by many mineralogiſts among the ſilver ores; but improperly, as the proportion of ſilver is caſual and variable, and never exceeds $3\frac{1}{2}$ or 4 per cent.

It is met with in the Saxon mines, eſpecially that of Himmelfurſt near Freyberg; alſo at Stollberg in the Hartz, and Schemnitz in Hungary.

Sp. IV. Red antimony. *Rothes ſpieſſglaſerz*, Germ. *Soufre doré natif ſtrié*, et *Kermes mineral natif*, Deliſle. *Antimoine hydroſulfuré*, Hauy. *Antimonium auripigmento mineralizatum*, Cronſtedt. *Antimonium mineralizatum rubrum*, Werner.

The colour of red antimony is a deep crimſon approaching to blood red, ſometimes, though ſeldom, clouded with irideſcent blue. It occurs generally in minute ſhort hair, or needle-form cryſtals, radiating or implicated: ſometimes alſo it is found maſſive or diſſeminated. Its luſtre is vitreous, little ſhining. Its fracture is fine, and irregularly diverging fibrous. It is opaque, brittle but ſomewhat elaſtic: ſp. grav. 4. to 4.7.

Before the blowpipe it melts eaſily and evaporates, exhaling a ſlight ſulphureous odour.

The only mineral with which it is liable to be confounded is the red ſilky oxyd of copper: this laſt, however, is of a brighter colour, and diſſolves with effervescence in nitrous acid, giving it a green tinge; the red antimony, on the contrary, is not diſſolved, but becomes covered with a whitiſh cruſt. No accurate analyſis has yet been made of this ore; from its colour it was formerly ſuppoſed to contain arſenic and ſulphurated antimony: according to Sage, however, it is a native mineral kermes. Thus much is certain, that it is met with in the crevices, and inveſting the ſurface of the common ſulphurated antimony, and appears to be this in an advanced ſtate of natural decompoſition: the amorphous or maſſive variety is frequently ſtudded with ſmall cryſtals of native ſulphur, in the form of rhomboidal octahedrons.

It is met with at Braunſdorf in Saxony, Malazka and Cremnitz in Hungary, and Allemont in Dauphiné.

Sp. V. White antimony. *Muriated antimony*, Kirwan. *Weiſs Spieſſglaſerz, ſpieſſglanzſpath*, Germ. *Muriate d'antimoine*, Born. *Antimoine oxydé*, Hauy. *Antimonium mineralizatum album*, Werner.

The colour of white antimony paſſes from ſnow-white through greyiſh and yellowiſh white into aſh grey. It is ſeldom found maſſive, often radiating like zeolite, but generally cryſtallized in ſmall and long quadrilateral priſms or rectangular tables, which are accumulated together in bundles or cells. The ſurface of the cryſtals is plain, or longitudinally ſtriated, and bright ſhining or ſpecular. Internally this mineral is much ſhining, or ſhining with a vitreous luſtre paſſing into pearly. Fracture ſtrait foliated. It flies when broken into irregular, not particularly ſharp-cornered fragments. Is tranſlucid, ſoft, brittle, and heavy.

In whole cryſtals it decrepitates before the blowpipe; but when powdered, it melts quietly and without difficulty, giving out a white ſmoak, and by degrees totally evaporates. Between two coals it is reducible to the metallic ſtate.

From the analyſis of Klaproth, it ſeems to conſiſt of antimony and muriatic acid; but the acicular variety from Dauphiné afforded Vauquelin,

86 oxyd of antimony,
3 oxyd of iron and oxyd of antimony,
8 ſilex,
3 loſs.

100

This beautiful, but uncommonly rare foſſil, was firſt diſcovered in 1782, by Mongez the younger, at Allemont in Dauphiné, mixed with native antimony: afterwards, in 1787, by Röſsler at Przibram on the ſurface of galena: it occurs alſo at Malazka in Hungary, with the red and ſulphurated antimony.

Sp. VI. Yellow antimony. *Suppoſed phoſphorated antimony*, Kirwan. *Phoſphate d'Antimoine*, Fr. *Gelb Spieſſglaſerz*, Germ. *Antimonium mineralizatum flavum*, Werner.

The colour of this is orange or wax yellow, or yellowiſh white, paſſing into black when tarniſhed. It occurs in long ſtriated needle-form cryſtals, or quadrilateral tables. It is ſhining, and when black has a metallic luſtre. Is ſoft, flexible, and heavy.

Before the blowpipe it neither flames nor ſmokes, but melts eaſily into a brittle ſlag, containing a ſmall tin-white bead

head of metal. It has not been analyſed. This mineral was firſt diſcovered by Count Raſumawſky, in a vein of ſulphurated antimony at Freigny in Savoy, and has ſince been found at Malazka in Hungary.

Sp. VII. Antimonial ochre. *Spiesglas kalk*, Germ. *Antimonium ochraceum*, Werner.

Its colour is straw or lemon yellow, and yellowiſh grey. Occurs mealive, diſſeminated or investing. Is dull; of a fine earthy fracture; ſoft, brittle, and heavy.

Before the blowpipe it becomes white, volatilizes, but does not melt. It effervesces ſtrongly with borax, and is partially reduced. It has not yet been analyſed, but is ſuppoſed by Karſten to be an oxyd of antimony.

It is found at Brandtorf near Freyberg, and in Hungary, mixed with ſulphurated and red antimony.

Emmerling, vol ii. Wiedenman, Handbuch, &c. Lenz, Verſuch. &c vol. ii. Haüy, Traité de Mineralogie, vol. iv. Delaſſe, Cryſtallographie, vol. iii. Kirwan's Mineralogy, vol. ii.

§ 2. *Aſſay and Analyſis of Antimonial Ores.*

All the antimonial ores are eaſily reducible before the blowpipe on charcoal; and by a continuation of the heat, they exhale a denſe ſmoak of a white or yellowiſh colour, with little or no arſenical odour, and depoſit yellowiſh flowers, or white needleform cryſtals, on the ſurface of the charcoal: theſe appearances are, however, liable to conſiderable modification on account of the variable proportion or lead, arſenic, ſulphur, &c. that are uſually mixed with the antimony. A more certain, therefore, though not ſo expeditious a method of aſcertaining the preſence of this metal, is to reduce 200 grains of the ore to fine powder, and digeſt it in a moderately diluted nitro-muriatic acid, in which the nitrous is not more than one-third of the muriatic part. The clear liquor, after ſlow digeſtion for an hour, is to be decanted and reduced by evaporation to about half its bulk, and then poured into a large quantity of diſtilled water: a copious white precipitate immediately takes place of antimonial oxyd, which when edulcorated and mixed with an equal weight of crude tartar, is to be put into a ſmall lined crucible fitted with a cover, and by a moderate red heat the oxyd will be reduced into a metallic button.

The analyſis of antimonial ores preſents no particular difficulties, except ſuch as are common to all minerals in which arſenic enters. The following are the ſubſtances which have been found mixed with antimony, *viz.* iron, ſilver, lead, copper, arſenic, and ſulphur; to which muſt be added, ſilex and alumine, as compoſing the ſtony gangue, which cannot always be entirely ſeparated previous to analyſis.

(*a*) Let 500 grains of the ore be reduced in an agate mortar to an impalpable powder, and afterwards mixed in a flaſk with 1500 grs. of pure nitrous acid of ſp. gr. 1.25, and 1000 grs. of diſtilled water; digeſt the mixture at a temperature conſiderably leſs than boiling, for an hour, then pour off the clear liquor, and add nitrous acid equal to half the quantity firſt uſed; digeſt this for a few minutes, and add by degrees, during the remainder of the digeſtion, half as much diſtilled water as acid; then pour off the clear liquor, and waſh the reſidue with diſtilled water.

(*b*) Add together the two nitrous ſolutions and the waſhings, and drop in a ſaturated ſolution of muriated ſoda as long as any precipitate takes place, and allow it to ſtand for a few hours; pour off the liquor, and boil the precipitate in a little diſtilled water; filter and edulcorate. Add the waſhings to the liquor.

(*c*) The precipitate (*b*), conſiſting of muriated ſilver, and probably a little arſenic, being dried in a heat juſt inferior to its fuſion, is to be weighed, and reduced in a ſmall crucible by twice its weight of pearlaſh: 75 parts of ſilver denote 100 of muriated ſilver, and if the produce of metal is leſs than that obtained by calculation, the deficiency may be ſet down as arſenic.

(*d*) The nitrous ſolution (*b*), containing a great exceſs of acid, is to be reduced to only a ſlight exceſs by the addition of potaſh or ſoda; and is then to be treated with nitrated barytes for ſulphuric acid: the ſulphat of barytes thus produced, contains the ſulphur of the ore oxygenated by the nitrous acid. This being ſeparated, add a ſaturated ſolution of ſulphated ſoda, as long as any precipitation takes place. This is ſulphated lead.

(*e*) The reſidue of ſolution (*d*), being evaporated to dryneſs, is to be mixed with ſoap, and heated in a ſubliming flaſk, the arſenic will thus be obtained in a metallic ſtate.

(*f*) Upon the inſoluble reſidue (*a*) digeſt two or three ounces of nitro-muriatic acid, compoſed of nitrous acid 1, muriatic acid 5, water 3. By this the antimony, iron, and copper will be diſſolved, together with a little alumine and ſilex. Separate this from the undiſſolved reſidue, and pour the liquor into three or four times its quantity of diſtilled water, and the oxyd of antimony will be precipitated. Separate this by filtration, waſh, and add the waſhings to the other liquor: 130 parts of oxyd of antimony well dried denote 100 of metal.

(*g*) Evaporate the fluid (*f*) to a ſmall bulk, and ſuperſaturate it with cauſtic ammoniac, the iron and earths will be precipitated, and the copper will be held in ſolution, giving it a blue colour. Separate the precipitate by a filter; and add ſulphuric acid to the ammoniacal liquor till it becomes acidulous, then precipitate the copper by a bar of clean iron.

(*h*) The precipitate (*g*) being digeſted with a little cauſtic potaſh, the ſilex and alumine will diſſolve, leaving the oxyd of iron behind.

(*i*) The undiſſolved reſidue of (*f*) being dried and weighed, is to be ignited to drive off the ſulphur, the quantity of which is denoted by the loſs of weight after ignition. What remains is earth and a few atoms of metallic oxyd, which being fuſed with black flux, will reduce the oxyd, and render the earths ſoluble in water.

(*k*) The ſulphated lead (*d*) is to be reduced by fuſion with tartar, and the oxyd of antimony alſo by the ſame method: being then weighed ſeparately, as much pure lead is to be added as will make the lead twice the weight of the antimony. The metals being melted together are to be divided into two equal parts, and ſubjected to cupellation; if any ſilver remains, its amount is to be added to that of (*c*). Bergman's Eſſ. Klaproth's Analytical Eſſays. Kirwan's Mineralog. vol. ii.

§ 3. *Reduction of Antimonial Ores.*

The grey or ſulphurated antimony is the only one of this metal that is found in ſufficient abundance for the purpoſes of manufacture, and the treatment that it undergoes is extremely ſimple. The larger pieces of the earthy or ſtony matter of the gangue being firſt picked out, the remainder is coarſely bruiſed, and ſubjected to a low red heat in cloſe veſſels: the ſulphurated metal then melts on account of its very eaſy fuſibility, leaving the impurities behind. This proceſs is uſually performed in a crucible, whoſe bottom, perforated with a number of ſmall holes, is inſerted into another

other crucible. (See Chemiſtry, Plate iv.) A. B. *fig.* 15, or connected with the lower crucible by means of a pipe, *fig.* 16. In each apparatus the ore is put into the upper crucible, which ſerves the purpoſe of a filter, by detaining the ſtony impurities, while the melted metal flows into the lower receptacle. *Fig.* 17, 18, 19, 20, 21, 22, are plans and ſections of the furnaces generally made uſe of. This method, however, of extracting the ore is far from being the moſt economical poſſible, on account of the length of time neceſſary to charge a multitude of crucibles, the expence of replacing thoſe that are broken, and the extra quantity of fuel required when the ore is not in immediate contact with the flame. On this account ſome of the founderies in Hungary and France have altogether diſcarded the crucibles, and melt the antimony in maſs by a reverberatory furnace, taking care to keep the ſurface of the metal covered with charcoal to prevent oxydation. *Fig.* 23 and 24 are a plan and ſection of ſuch a furnace. The rough ore being placed in the bed A, and covered with charcoal, is gradually brought to a ſtate of fuſion; and the plug at B being then withdrawn, the melted metal flows into the receptacle C. *Fig.* 25, 26, repreſent another kind of furnace for the ſame purpoſe made uſe of at Ramée in La Vendée. The ſulphurated antimony thus obtained is remelted, and caſt into loaves or cakes, forming the common or crude antimony of the ſhops.

§ 4. *Regulus of Antimony.*

The ſulphurated ore of the preceding ſection having been long known by the name antimony, the term regulus of antimony was employed to deſignate the pure metal: in the reformed nomenclature, on the other hand, the former of theſe ſubſtances is called ſulphuret of antimony, and the latter ſimply antimony. This ambiguity it is of conſequence to be aware of, and we ſhall endeavour to avoid it as much as poſſible by uſing the term regulus of antimony wherever by ſo doing the ſenſe may be made clearer.

The ſubſtance from which the regulus is prepared, whether in the large way for the purpoſes of commerce, or in the laboratory, is univerſally the native ſulphuret. This conſiſts of antimony and ſulphur in the proportion, according to Bergman, of 74 of the former to 26 of the latter. Numerous methods have been propoſed by different chemiſts for the ſeparation of the metal, all of which may be conveniently arranged under the three following general heads. I. Reduction by roaſting. II. Reduction by ſcorification. III. Reduction by dry parting or precipitation.

I. Reduction by roaſting.

The native ſulphuret of antimony being previouſly ſeparated by fuſion from all earthy impurities, as deſcribed in § 3, is to be pulverized and ſpread thinly on the floor of a reverberatory furnace or muffle, to be freed from its ſulphur by roaſting. At the commencement of the proceſs the fire muſt be managed with particular care, and the temperature ought ſcarcely to be greater than what is neceſſary for the fuſion of tin, otherwiſe the antimony will clog, and even melt, ſo as to require being removed from the fire, and again pulveriſed: as ſoon as the fumes of ſulphur become viſible to the eye, in the form of a light lambent blue flame, it is a proof that the heat is ſufficient; and the ore ſhould now be continually ſtirred with a tobacco-pipe, or any other earthen rod. In a ſhort time the antimony will begin to oxydate, and aſſume a greyiſh earthy appearance; the fire may then be raiſed a little, to haſten the evaporation of the ſulphur; and thus the operator may go on gradually increaſing the heat as the ore will bear it; and continually ſtirring it, ſo as to expoſe freſh ſurfaces to the air. When the ore is moderately red-hot, and ceaſes to give out a ſulphureous vapour (which will not be till after ſome hours), the roaſting is finiſhed. By this means an aſh grey oxyd is obtained; ſtill, however, not entirely free from ſulphur, weighing from 30 to 36 per cent. leſs than the original ſulphuret.

In order to obtain the regulus from this grey oxyd, the common way is to mix it with half its weight of crude tartar, and expoſe it in a covered crucible to a full red-heat; the tartar will thus be decompoſed, its carbonaceous part ſerving to deoxygenate the antimonial oxyd; and its alkaline baſe combining with the ſulphur ſtill contained in the ore, forms ſulphuret of potaſh, by which a portion of antimony is held in ſolution, while the reſt of the regulus, by its ſuperior ſpecific gravity, unites into a maſs at the bottom of the crucible. The quantity of regulus obtained by this means in the large way, is from 66 to 70 per cent. on the oxyd; but the produce depends eſſentially on the accuracy with which the roaſting has been performed: if much ſulphur ſtill remains in the oxyd, a large proportion of the metal will be diſſolved in the ſulphurated alkaline ſcoria. Kunkel's method appears to be more economical, and better in every reſpect: he mixes the roaſted oxyd with oil or fat and a little powdered charcoal, puts the mixture into a crucible to melt, and as ſoon as the regulus begins to ſhew itſelf, injects by degrees ſome powdered nitre, in the proportion of an ounce to a pound of antimony: the matter in thin fuſion being poured out, a pure regulus is obtained in much greater quantity than by the common way. Moſt of the ſulphurated ores, as thoſe of lead and copper, are reduced to the metallic ſtate after roaſting by a ſimple carbonaceous addition, by which means the product of metal is greater than if an alkaline flux was made uſe of, and the whole expence of the flux is ſaved. Induced, therefore, by theſe motives and analogies, a ſeries of experiments was undertaken by Haſſenfratz, Vauquelin, and Buillon la Grange, to obtain the regulus of antimony by cheaper means than the uſe of tartar or nitre. For this purpoſe different parcels of the roaſted grey oxyd were mixed with charcoal powder, with tallow and with pitch, and expoſed in covered crucibles to a reducing heat; being then withdrawn, and the contents of each examined, nothing was found in the crucibles but a little carbonaceous matter, and a few minute globules of antimony, the reſt being evaporated. Some grey oxyd was then mixed with, 1. equal parts of lime, alumine, and ſilex; 2. equal parts of ſulphat of barytes, chalk and clay; 3. with common ſalt; 4. with ſulphat or ſoda; and the materials being ſtrongly heated, they were all found converted into yellow glaſſes, but not a particle of regulus could be perceived. The above four mixtures, with ſome charcoal rubbed up into them, were next treated as before: vitreous ſcoriæ were obtained, but no greater quantity of regulus than when charcoal alone was made uſe of. Laſtly, ſome of the ſame grey oxyd being fluxed with half its weight of tartar, yielded a perfect button of pure antimony. Hence it appears, that potaſh, and probably alkalies in general, exert ſome ſpecific action on antimonial oxyd, which induces it to become much more fixed while converting into regulus, than when mere carbonaceous matter is employed.

II. Reduction by ſcorification.

This, although the moſt expenſive and inaccurate method of procuring the regulus of antimony, is generally preferred in the laboratory to every other on account of its expedition. For this purpoſe the antimonial ſulphuret is reduced to a fine powder,

powder, and mixed with nitre and tartar; a crucible being then made red hot, ſucceſſive ſpoonfuls of the mixture are gradually projected into it till the veſſel is nearly filled; being then covered, and a full red heat applied for half an hour, the contents are either poured out into a greaſed iron cone, or ſuffered to cool in the crucible; a pure regulus is thus obtained, covered with a maſs of ſaline ſcoriæ. In this proceſs the acid of the nitre is decompoſed, and is employed in acidifying the ſulphur and partly oxydating the antimony, while the carbonaceous matter of the tartar ſerves to deoxydate the metal, and in ſome degree alſo to decompoſe the ſulphuric acid; hence the ſcoriæ conſiſt of the potaſh of the nitre and tartar, partly united with ſulphuric acid, forming ſulphat of potaſh, and partly with ſulphur, forming ſulphuret of potaſh, which laſt alſo holds in ſolution a conſiderable proportion of the antimony.

If the quantities of nitre and tartar are large compared with that of the crude antimony, nearly the whole of the metal will be taken up by the ſcoriæ. According to Lemery, ſixteen ounces of ſulphurated antimony, mixed with the ſame weight of nitre and alſo of tartar, yielded no more than five ounces and a half of regulus. Whereas ſixteen ounces of crude antimony, twelve ounces of tartar, and ſix ounces of nitre, afforded ſix ounces and one dram of regulus. The uſual proportions are four parts of crude antimony, with three parts of tartar, and one and a half of nitre. Some adviſe to detonate the nitre and tartar together, before the antimony is added, but this is decidedly a bad way, as the uſe of the nitre is not to alkalize the tartar, but to oxygenate the ſulphur. A greater proportion of regulus than uſual would probably be obtained by mixing the antimony and nitre alone, and not adding the tartar till after the detonation had taken place.

III. Reduction by precipitation.

This is effected by fuſing the antimonial ſulphuret with any other metal whoſe affinity for ſulphur is greater than that of antimony, in which caſe the ſulphur combines with the added metal, while the regulus of antimony collects in a button at the bottom of the crucible. The metals capable of thus decompoſing the ſulphurated antimony are iron, copper, lead, ſilver, and tin, whence originated five varieties of antimonial regulus, known among the alchemiſts by the names of martial, venereal, ſaturnine, lunar, and jovial. As equal parts of theſe metals require different quantities of ſulphur for their ſaturation, a greater or leſs proportion of them is neceſſary for a given weight of crude antimony: thus two parts of this laſt ſubſtance are decompoſed by one part of iron, by two parts of copper, or by four parts of lead.

In order to prepare the martial regulus (for all the others are now became obſolete), a number of formulæ are given by Lemery, Beaumé, and other practical writers, the relative merits of which can only be duly appreciated by a compariſon of the quantity and purity of the regulus with the expence of time, of fuel, and of nitre, required in its preparation. The following are thoſe which ſeem beſt worth notice:

1. Take eight ounces of horſeſhoe nails, and heat them nearly to whiteneſs in a crucible, then add, by degrees, ſixteen ounces of coarſely pulverized antimonial ſulphuret; cover the crucible and keep up the fire; in a few minutes the mixture will be in perfect fuſion, at which time, add little by little, three ounces of nitre, a ſlight detonation will take place, and the whole will be brought to a ſtate of perfect fuſion; then pour it into an iron cone, heated and greaſed, and ſtrike the ſides of it gently as the maſs becomes ſolid to favour the precipitation of the regulus. When cold it will be found to conſiſt of a button of antimony, weighing about ten ounces, covered with an alkaline ferruginous ſcoriæ, from which it is readily ſeparated by a blow with a hammer. This regulus, however, is far from pure, containing both iron and a little ſulphur; it is therefore to be remelted, and mixed while in fuſion with two ounces of crude antimony and three ounces of nitre; after all detonation has ceaſed, pour it into an iron cone as before, and ſeparate the regulus from the ſcoriæ. Remelt the regulus and project upon it by degrees three ounces of nitre. Separate this regulus from the ſcoriæ, and melt it again once more with three ounces of nitre; heat it ſtrongly and rapidly, and pour the whole into a cone; there will be obtained about eight ounces of a beautiful ſtellated regulus, covered with yelloviſh white ſcoriæ. In this proceſs the whole of the materials employed are eighteen ounces of crude antimony, eight ounces of nails, and twelve ounces of nitre; four ſeparate fuſions are required, and the product is eight ounces of regulus.

2. Pulverize and mix together 16 ounces of crude antimony, 12 ounces of tartar, 10 ounces of nitre, and eight ounces of iron filings; project it by degrees into a red hot crucible, a ſtrong detonation will take place, and the maſs will enter into fuſion; keep it at a full heat for a few minutes, and then pour the whole into an iron cone; when cold, there will be found beneath the ſcoriæ a pure ſtellated martial regulus, weighing about ſix ounces.

3. Heat in a crucible till they are white hot, five ounces of horſeſhoe nails, and then add 16 ounces of crude antimony, coarſely pounded; the two will preſently melt down together, and as ſoon as the maſs is in very liquid fuſion, project at ſeveral times one ounce of pulverized nitre; during each projection there will be a detonation, and when the laſt has ceaſed, increaſe the heat for a few minutes, and then take out the crucible and allow it to cool gradually; there will be found at the bottom of the veſſel a perfectly pure martial regulus.

In the reduction of antimonial ſulphuret by iron, the ſucceſs of the experiment depends much upon the temperature; a high heat briſkly applied, and of ſhort continuance, ſo as to bring the whole into very liquid fuſion, is far preferable to an inferior heat of longer continuance: ſince the regulus ſeparates more completely from the ſcoriæ, and the proportion of metal, loſt by evaporation, is not nearly ſo conſiderable.

The antimony obtained by roaſting or ſcorification, by proper care, may be rendered abſolutely pure; but the martial regulus, though purified ſo as to exhibit the ſtellated appearance on its ſurface, which is uſually reckoned characteriſtic of purity, is, in fact, an alloy of antimony and iron; hence it is harder and more difficultly amalgamable than the former; and when reduced to fine powder, is, according to Lemery, attracted by the magnet.

§ 5. *External Characters and Phyſical Properties of Reguline Antimony.*

This metal, when perfectly pure, is of a duſky white colour, between that of tin and iron; it appears to be abſolutely deſtitute of ductility, and may eaſily be reduced in a mortar to a fine powder; it is moderately hard, and may be cut without much difficulty by a common knife. Its fuſibility is not quite ſo great as that of zinc, ſince it requires to be made red hot before it flows. Its ſpecific gravity, according to Bergman, is 6.86; but by the later experiments of Briſſon, amounts to 6.7021. Its fracture is uſually broad foliated, but ſometimes the facets are ſo minute as to give it almoſt a granular appearance; in general the ſlower it is cooled, the broader will be the plates of which it

is compoſed, but this rule is not without its exceptions. Antimony is one of the moſt eaſily cryſtallizable of all metals, and this tendency is ſhewn in a ſtriking manner by the appearance of a radiated ſtar, or of pinnated leaves, like thoſe of fern, with which the convex ſurface of a maſs of antimony that has been allowed to cool ſlowly is generally covered. It was this circumſtance that induced the alchemiſts to pay ſo much attention to antimony; by their heated imaginations every thing ſingular was conſidered as a type or myſterious hint, and thus confounding ſacred with profane, they denominated this appearance, which in truth is only the reſult of a confuſed cryſtallization, the eaſtern ſtar that was to conduct the ſages (themſelves) to the cradle of their king, i. e. to the method of making gold, the king of metals. Theſe rays or branches are merely ſuperficial as Lemery demonſtrated, by making tranſverſe ſections of various maſſes of ſtellated regulus. If a crucible, furniſhed with a plug at the bottom is filled with melted antimony, and the fluid part allowed to run out by withdrawing the plug as ſoon as a cruſt is formed on the ſurface of the metal, there will be found under the cruſt various cryſtalline groups, conſiſting of cubes, of lengthened rectangular parallelepipeds, or ramifications, made up of ſmall octohedrons implanted in each other, and frequently aggregated into a trihedral pyramid, with furrowed ſides. The primitive cryſtalline form of antimony has hitherto eluded the ſagacity of Hauy: it is diviſible at the ſame time parallel to the faces of a regular octohedron, and of a rhomboidal dodecahedron.

§ 6. *Oxyds of Antimony.*

The action of air and moiſture at the uſual temperature upon reguline antimony is ſcarcely perceptible, as it remains a long time without even tarniſhing, and the oxydation is never more than merely ſuperficial. By a low red heat, however, and the contact of air, this metal is gradually converted into a greyiſh white oxyd, volatile at a higher heat, and capable of being more completely oxygenated. When antimony is brought quickly to a bright red heat, and then expoſed to the air, it is rapidly converted into a white oxyd, which being volatile, exhales in the form of a denſe ſmoak from the ſurface of the melted metal, and condenſes in the upper and cooler part of the crucible into beautiful cryſtalline needles of a ſnowy or ſilvery white; which have obtained the name of argentine flowers of antimony, or ſnow of reguline antimony. As this cryſtallized oxyd is not eaſily obtained in a common crucible, we ſhall mention the method of preparing it as given by Beaumé. "Place a wide cylindrical earthenware tube cloſed at one end in a wind furnace, ſo that it ſhall remain in a ſlanting direction, with the open end protruding a little way through a hole or door in the ſide of the furnace; and to prevent the inſide of the tube from being too much cooled, an earthenware ſtopper muſt be prepared to fit looſely into the open mouth of the tube.—The apparatus being properly put together, light the fire, and when the bottom of the tube is red hot, introduce the antimony in ſmall pieces, and cloſe the mouth of the tube with the ſtopper. The metal being melted, will begin in a ſhort time to ſmoak, and the cryſtalline oxyd will be depoſited in the upper part of the tube, from which it may be ſcraped from time to time with a clean iron ſpoon. The firſt portions are generally yellowiſh on account of a ſmall quantity of ſulphur contained in the metal; this, however, is ſoon burnt off, and the ſucceeding flowers are of a pure brilliant argentine white colour." Although antimony is not combuſtible at ſo low a temperature as zinc, yet, at a white heat, with acceſs of air, it burns with a white flame, throwing out copious vapours of white oxyd. Another pretty experiment on the inflammation of antimony, was diſcovered accidentally by Cit. Gillet. Place a ſmall piece of antimony on a bit of charcoal, and fuſe it by the blowpipe; when it is boiling hot, ſhake it gently out ſo that it may fall three or four feet through the air; it preſently divides into a few globules, which immediately take fire, and explode when they reach the ground like fireworks.

The cryſtalline oxyd, like the other white oxyds that we ſhall have occaſion to notice in the next ſection but one, appears to be a ſaturated combination of antimony and oxygen in the proportion, according to Thenard, of 80 of the former to 20 of the latter; in many of its properties it reſembles the metallic acids; it is ſoluble, though but ſparingly, in water, has a decided taſte, forms a cryſtallizable ſalt with potaſh, from which it may be ſeparated by the action of any of the ſtronger mineral acids. When heated by itſelf in a porcelain tube, it may be reduced nearly to the metallic ſtate; the firſt impreſſion of the fire converts it into a yellow oxyd, very eaſily fuſible into glaſs, and containing 0.19 of oxygen; afterwards, as the heat increaſes, it aſſumes a reddiſh brown tint, and holds only 0.16 of oxygen; at length it arrives at the ſtate of black oxyd, wanting only to be deprived of 0.02 of oxygen, to return to the metallic form. Oxyd of antimony, by haſty fuſion in a crucible, is converted into a vitreous maſs, which, when tranſparent, is of a yellowiſh orange colour, and is called *glaſs of antimony*; and when opaque, is of a brown colour, and has hence obtained the name of *liver of antimony*. Theſe preparations, however, muſt not be confounded with the glaſs and liver of antimony, as procured from the ſulphuret of this metal.

§ 7. *Action of Acids on Antimony.*

1. The *ſulphuric acid*, when cold, appears to exert no action on antimony; but when boiling hot, it is decompoſed by this metal, a copious extrication of ſulphureous acid gas takes place, accompanied by violent effervescence; and if the mixture is diſtilled to dryneſs in a retort, a ſmall quantity of ſulphur ſublimes, and a maſs of white antimonial oxyd is at the bottom of the veſſel. When the proceſs is ſtopped ſhort of deſiccation, there remains in the retort a white bulky, ſoft, and moiſt maſs, and this, when waſhed with a little water, occaſions a copious depoſit of white oxyd, while the clear liquor becomes diluted ſulphuric acid, holding in ſolution a ſmall portion of antimony; a larger quantity of water added to this liquor, precipitates what remains of antimonial oxyd. The action of heat alſo has the ſame effect, for while evaporating it becomes turbid without forming cryſtals; the ſame takes place on the mixture of any alkaline ſolution. If the unwaſhed ſulphated oxyd of antimony is mixed with common ſalt and diſtilled, the reſult is oxymuriat, or butter of antimony.

2. *Sulphureous acid*, whether hot or cold, has no effect whatever on reguline antimony; it will, however, decompoſe moſt of the acid ſalts of this metal, eſpecially that formed by muriatic acid. If ſulphureous acid is added to a ſolution of muriated antimony, a white powder is thrown down of an acrid and harſh taſte, which appears to be a true inſoluble ſulphite of antimony, decompoſable with extrication of the ſulphureous acid by the ſulphuric, or by mere heat in cloſe veſſels; the reſidue of this laſt operation is a reddiſh brown matter, ſoluble in fixed alkali, and again precipitable by the muriatic acid in form of kermes or hydroſulphurated oxyd of antimony.

3. *Nitric acid*, eſpecially the yellow, is ſpeedily decompoſed on antimony, even in the cold. During the mutual action of theſe two bodies, a large diſengagement of nitrous gas takes place, and the metal is converted into a white oxyd ſo rapidly, as ſometimes to cauſe actual inflamma-

tion. In its eager abſorption of oxygen, a great analogy ſubſiſts between antimony and tin; for not only the nitric acid, but even the water that is mixed with it, are decompoſed by the antimony; the azot of the former, and the hydrogen of the latter of theſe fluids, combine together during their naſcent ſtate, and produce ammonia, which with the undecompoſed acid, forms nitrated ammonia, the cryſtals of which ſalt, thus unexpectedly occurring, have ſometimes been miſtaken for nitrat of antimony. If the white oxyd, reſulting from this chemical action, is mingled, before it has been waſhed, with lime or cauſtic alkali, ammoniacal gas will be diſengaged. The greateſt part of the antimonial oxyd remains uncombined at the bottom of the veſſel; a very ſmall quantity, however, is taken up by the ſupernatant acid; but even this little is precipitated by water, by evaporation, and by mere ſtanding for a few days. The white nitrous oxyd is fully ſaturated with oxygen, of which it contains, according to Thenard, about 30 per cent. It is conſidered as one of the moſt refractory and irreducible of the metallic oxyds, which it certainly is when treated with the common fluxes; but when rubbed with a little regulus of antimony, and heated in a cloſe veſſel, it becomes in ſucceſſion yellow, orange, brown, and then black; containing only about two per cent. of oxygen, as is related of the argentine flowers in the former ſection.

4. *Muriatic acid*, when aſſiſted by heat, is capable of diſſolving a ſmall proportion of antimony; part of this, however, is again depoſited in the form of a white oxyd as the liquor cools: by evaporation it may be brought to cryſtallize in ſmall acicular deliqueſcent needles. The oxyd of antimony is more eaſily ſoluble in muriatic acid than the metal itſelf, and alſo in greater proportion: it cryſtallizes, according to Monnet, in brilliant plates, like the boracic acid, and is decompoſable by water.

5. The *oxygenated muriatic acid*, when in the form of gas, exerts a very ſtriking action on reguline antimony: if this metal, previouſly reduced to a fine powder, is thrown by ſmall quantities at a time into a vial filled with the acid gas, each parcel will be found to take fire, and burn with a white flame, throwing out, at the ſame time, a number of bright ſparks, and thus forming a moſt beautiful ſhower of fire. The antimony is converted into a white muriated oxyd. The liquid oxymuriatic acid changes the metal into a powdery oxyd, but holds a very ſmall quantity of it in ſolution; no doubt on account of the great proportion of water, which even the moſt concentrated liquid oxymuriatic acid neceſſarily contains. If a ſolution of either the muriat or oxymuriat of antimony be gently evaporated nearly to dryneſs, and afterwards expoſed in a retort to a low ſand heat, a thick oleaginous liquid will come over, that by cooling concretes into a ſoft maſs, called, from its conſiſtence, by the ancient chemiſts, *butter of antimony*; the above, however, is not the actual method of preparing this ſalt in the laboratories; it is more expeditiouſly made by taking advantage of the ſuperior affinity which antimony has over mercury: for this purpoſe ſome reguline antimony is well mixed in a mortar with twice or two and a half times its weight of oxymuriated mercury (corroſive ſublimate); during trituration, much heat is extricated, the evidence of a chemical action between the two ſubſtances: the mixture being put into a wide necked retort, with a ſuitable receiver adapted, is expoſed in a ſand bath to a gentle heat. During the firſt half hour, a ſmall quantity of a clear liquid paſſes into the receiver, which is afterwards followed by a thick liquor that concretes by cooling in the receiver, and often in the neck of the retort into a white maſs; this is the *butter of antimony*. A moderate fire is kept up till nothing more comes over, at which time the receiver is unluted, and emptied of its contents; there remains in the retort fluid mercury with ſome muriated oxyd of antimony. By continuing the diſtillation at a greater heat, the mercury is volatilized, and collected in a liquid ſtate in the receiver. It is to be remarked, however, that there are two objections to this proceſs; the one, that if the mercurial ſalt is in too great proportion, a little of it will riſe with the butter of antimony, and be diſſolved in it; the other objection is, that if too little oxymuriat is uſed, the produce will be much diminiſhed, as a conſiderable proportion of the antimony will be merely in the ſtate of muriated oxyd. The beſt way, therefore, of preparing this ſalt, is to mix the unwaſhed ſulphat of antimony (1. § 7.) with common ſalt and black manganeſe, and diſtil the whole to dryneſs.

The London Pharmacopœia orders the ſublimed muriat to be made thus. Mix together one part of crocus of antimony with two parts of decrepitated ſalt; put the maſs into a glaſs retort, and add one part of ſulphuric acid; then diſtil, and what comes over is butter of antimony.

Butter of antimony, though ſolid at the uſual temperature of the atmoſphere, liqueſies at a very gentle heat, and by ſlow cooling cryſtallizes in large parallelepipeds. It is intenſely cauſtic, deſtroying the organization both of animal and vegetable ſubſtances; by expoſure to the air and light it becomes coloured, and deliquiates into a thick oleaginous fluid. When dropped into diſtilled water, it is for the moſt part decompoſed, and a copious white precipitate is thrown down, which is little elſe than a perfect oxyd of antimony. This, after being waſhed and dried, forms the *powder of* ALGAROTH, or *mercurius vitæ*. The clear liquor ſeparated from the precipitate ſtill holds a little antimonial oxyd in ſolution, as is obvious from a further precipitation taking place on the addition of an alkali.

Scheele has given the following method of preparing powder of algaroth, in an eſſay of his on this very ſubject. To two parts of ſulphurated antimony add three of nitre, and detonate the mixture in a hot crucible; pulveriſe the maſs, and ſtir in one part of this to three of water, with one of ſulphuric acid, and one of common ſalt. Let the whole digeſt together for twelve hours in a ſand bath, and ſtrain it through a cloth; ſeparate the clear liquor, and add to the reſidue more ſalt and diluted ſulphuric acid, which digeſt and filter as before. Mix the two liquors together, and pour them into a large quantity of boiling water; a white precipitate immediately takes place, and this, when waſhed and dried, is the powder of algaroth.

If to any quantity of ſublimed muriat of antimony an equal weight of nitric acid is added, the liquor becomes highly coloured, copious orange-coloured fumes are diſengaged, and a conſiderable degree of heat is excited; after a while, a white magma of oxyd is depoſited. If before the latter effect takes place, the liquor is evaporated to dryneſs, a pure white oxyd remains behind; and this being three times more abſtracted with freſh nitric acid, and afterwards heated moderately red in a crucible, aſſumes the appearance of a pulverulent maſs, white at the ſurface, and roſe-coloured beneath; this being ground in a mortar, ſo that the white and coloured parts may be thoroughly mixed, is known in the ſhops and old pharmacopœias by the name of *bezoar mineral;* and, in fact, is nothing more than a perfect oxyd of antimony, holding, perhaps, a very ſmall portion of the acid.

6. *Nitro-muriatic acid* is the beſt ſolvent of reguline antimony; if the acid is made moderately warm, and the metal put in by ſmall pieces at a time, taking care not to add

add a ſecond till the firſt is completely diſſolved, it may be thus charged with a conſiderable proportion of antimony, only a ſmall part of which is depoſited by cooling. This, however, like all the preceding antimonial ſolutions, is almoſt wholly decompoſed by the addition of diſtilled water. A piece of iron or zinc alſo cauſes a precipitation of a black oxyd (§ 6.), almoſt in the metallic ſtate, which, according to Theuars, when dried at a low temperature, acquires the properties of a pyrophorus, inflaming ſpontaneouſly by contact with the air.

7. The *fluoric*, *boracic*, and *carbonic* acids, have no action on reguline antimony; they are capable, however, of combining with its oxyds, forming ſalts, the particular properties of which have not been examined.

8. The action of all the *metallic acids* on antimony, except the arſenic acid, is wholly unknown: and for this ſee Arseniat *of Antimony*.

9. The *vegetable acids* produce no other effect on metallic antimony, except blackening its ſurface; they diſſolve, however, its oxyds without much difficulty, forming ſalts, a few only of which have been properly examined: theſe we ſhall proceed to particulariſe.

10. The *antimoniated tartar*, or *emetic tartar*, is the moſt important of the combinations of antimony with the vegetable acids. It was firſt prepared by Adrian Mynſicht, in 1631; and from that time to the preſent, has attracted the notice of chemiſts and phyſicians. Bergman, in his admirable eſſay on Emetic Tartar, was the firſt who gave any thing like a conſiſtent account of the rationale, and the various chemical affinities concerned in its preparation; and the ſubject has of late been finally elucidated by the able and ſagacious experiments of Theuars.

The tartareous acid, the acidulous tartrite of potaſh (or cream of tartar), and the tartrite of potaſh (ſoluble tartar, or tartarized tartar), are each capable of diſſolving and combining with oxyd of antimony; an inquiry, therefore, into the chemical properties of emetic tartar, neceſſarily includes the conſideration of the above different menſtrua, and thus renders it a very complicated affair.

Pure tartareous acid and boiling water, digeſted on any of the oxyds of antimony, except that which is ſaturated with oxygen, as the diaphoretic antimony, may be made to take up one-third or one-fourth part of its own weight; and the ſolution, when concentrated by evaporation, and allowed to cool gradually, uſually depoſits a few cryſtalline grains, but is for the moſt part converted into a browniſh gelatinous maſs, which, at a red heat, is charred, and the antimony contained in it is partly extricated in the form of a white ſmoke, and partly reduced to metallic grains.

A ſolution of tartrite of potaſh, at a boiling temperature, takes up at leaſt as much oxyd of antimony as tartareous acid is capable of diſſolving; the liquor becomes ſlightly alkaline, and upon evaporation, yields a number of cryſtalline grains.

A ſolution of tartareous acidulum, or cream of tartar, being boiled with any of the ſimple oxyds, or ſulphurated oxyds of antimony, diſſolves a conſiderable quantity; and by evaporation and cooling, depoſits elongated octahedral cryſtals of emetic tartar.

The taſte of this triple ſalt is ſlightly harſh and metallic; it reddens vegetable blues; it effloreſces in the air, loſes its tranſparency, becomes of a dead white, and is then pulverulent: it requires for its ſolution about 40 times its weight of boiling water, and nearly twice as much at the common temperature. Sulphuric acid precipitates from it a ſulphated oxyd of antimony, leaving the cream of tartar pure; the alkalies, both pure, and carbonated, decompoſe it in part only, a looſe white oxyd being precipitated by the firſt, and by the ſecond, a carbonated oxyd, which, in a ſhort time, cryſtallizes in the form of divergent rays. If either tartareous acid, or tartrite of potaſh, is added to the ſolution of emetic tartar previouſly to pouring in the alkali, there will be no precipitate; for the tartrite of potaſh produced by the alkaline addition, or already exiſting in the fluid, immediately diſſolves the antimonial oxyd; and for the ſame reaſon, a ſimple ſolution of emetic tartar cannot be wholly decompoſed by any quantity of alkali; and hence probably have ariſen the great ſeeming differences in the proportion of its conſtituent parts, as the ſalt has been analyſed by means of a pure alkali, a carbonated alkali, or other re-agents. According to Theuars, the cryſtals of emetic tartar, from whatever antimonial oxyd they are prepared, and whatever has been the proportion of ingredients employed, contain in a given weight preciſely the ſame quantity of antimony, of tartareous acid, of potaſh, and water; and even the degree of oxydation of the metal is alſo invariable. His method of analyſing this ſalt, is firſt to aſcertain its water of cryſtallization, by drying in a heat juſt not ſufficient to decompoſe it; ſecondly, to diſſolve the emetic tartar, and precipitate the antimony by ſulphurated hydrogen; thirdly, to aſcertain the tartareous acid by dropping in acetite of lead; fourthly, to determine the quantity of potaſh by igniting the reſidue, and extracting the alkali by dilute nitrous acid. By a very careful analyſis, conducted in the above manner, he found 100 parts of emetic tartar to contain 38 oxyd of antimony, 34 tartareous acid, 16 potaſh, and 8 water, beſides 4 loſs. But the tartareous acidulum, which ſupplies both the acid and alkali to the emetic tartar, contains 57 tartareous acid, 33 potaſh, and about 10 water and loſs; or 70 tartrite of potaſh, and 20 tartareous acid in exceſs. Hence it follows, that there is a greater exceſs of tartrite of potaſh in cream of tartar over the acid, than exiſts in the emetic tartar; and this exceſs of tartrite of potaſh is found in the mother water, in which the cryſtals of the emetic are decompoſed; when, therefore, the whole is evaporated to dryneſs, as is often the caſe in the preparation of emetic tartar, there is a portion of antimoniated tartrite of potaſh ſuperadded, which, no doubt, modifies its effect, and produces variations, which are unjuſtly charged to the emetic tartar. Another objection to evaporating the whole maſs to dryneſs without ſeparating the cryſtals, is, that the tartrite of lime which exiſts in a variable proportion in all cream of tartar, according to Vauquelin, is alſo mingled with the antimonial ſalt, and weakens its operation. To make, therefore, emetic tartar uniformly of the ſame ſtrength, ſelect an antimonial oxyd ſomewhat below the maximum of oxydation, and digeſt it in a hot ſaturated ſolution of cream of tartar, taking care that the oxyd ſhall be rather more than enough to ſaturate the ſalt (if the grey oxyd from the ſulphuret of antimony is made uſe of, or even the common glaſs of antimony, as theſe are not already ſufficiently oxydated, there will be a decompoſition of water, and a ſmall quantity of kermes will be formed); when the liquor refuſes to take up any more antimony, filter and evaporate till a pellicle begins to be formed; allow the ſolution to cool, and ſelect all the octahedral and tetrahedral cryſtals that are depoſited; waſh them in cold water, and again diſſolve in hot water, and cryſtallize. For the particular formulæ of the different pharmacopœias, ſee § 12.

11. The only remaining antimonial ſalts of any conſequence, are the oxalat and acetite of antimony; and we are as yet acquainted with very few particulars even concerning theſe. The oxalat of antimony is eaſily formed, and concretes into ſmall cryſtalline grains; theſe are ſoluble in wine, giving it an emetic quality; and this preparation has

been uſed by ſome medical men inſtead of the common antimonial wine. The acetite of antimony being known before the diſcovery of emetic tartar, was recommended for the ſame uſes to which the former is now applied, by Angelo Sala. Neither the oxalat, nor the acetite, however, of this metal appear to be poſſeſſed of any ſuperiority over the emetic tartar, and are now, we believe, wholly diſuſed.

§ 8. *Action of Neutral Salts on Antimony.*

Muriat of ſoda is ſaid to be in part, at leaſt, decompoſable by antimony at a red heat; but the experiments on this ſubject are contradictory, and require to be performed afreſh with care and exactneſs.

Sulphat of potaſh (and propably all the alkaline ſulphats), is decompoſed without any difficulty. This was firſt ſhewn by Monnet; he fuſed together in a crucible two parts of ſulphated potaſh, and one of antimony; the metal diſappeared, and he obtained a yellow, ſemi-vitrified maſs, intenſely cauſtic, of antimoniated ſulphuret of potaſh; which, when waſhed with warm water, depoſited, by cooling, a hydroſulphurated oxyd of antimony. The metal, therefore, in this caſe, became oxydated at the expence of the ſulphuric acid; and the ſulphuret of potaſh reſulting from this combined with the metallic oxyd, rendering it partly ſoluble in hot water.

Oxymuriat of potaſh has a very powerful action on antimony, as it has indeed upon all the eaſily combuſtible metals: if equal parts of this ſalt, and antimony previouſly reduced to a fine powder, are mixed together, and ſtruck briſkly on an anvil, or any ſuitable hard body, a remarkably loud and vehement detonation takes place: if the mixture, inſtead of being ſtruck, is poured into ſulphuric acid, or rather if the acid is poured upon the powder, a hiſſing noiſe is produced, red ſparks are emitted, and the metal is converted into an oxyd.

Nitre and *antimony*, in equal parts, or two parts of the former to one of the latter, being thrown into a red-hot crucible, detonate with a vivid flame, the acid of the nitre is decompoſed, and the metal is completely oxygenated. The white maſs remaining in the crucible being pulveriſed and digeſted in hot water, is ſeparated into two parts, one ſoluble, and the other inſoluble: the latter of theſe was formerly conſidered as a pure oxyd of antimony, but Theuars has ſhewn, that it contains about one-fifth of potaſh, intimately united with the oxyd, which appears to act the part of an acid: it was formerly known by the name of *reguline diaphoretic antimony*, but appears, in fact, to be a kind of *antimonite of potaſh*, rendered inſoluble by an exceſs of oxyd; the ſoluble part differs from the other merely in the proportion of its ingredients, being an *antimoniated potaſh*, cryſtallizable and decompoſable, with precipitation of its oxyd, by any of the mineral acids. As, however, this is generally prepared from the ſulphuret of antimony, we ſhall refer the reader for further particulars to the next ſection.

§ 9. *Sulphuret of Antimony—Glaſs of Antimony—Kermes, &c.*

1. Sulphuret of antimony may be prepared artificially, by pulverizing a pound of reguline antimony, and mixing with it eighteen ounces of flowers of ſulphur; this being put into a crucible, and brought to a low red heat, melts into an uniform maſs, of the weight of about two pounds, which, when cold, exhibits a ſtriated appearance, exactly ſimilar to the native grey ſulphuret (§ 3.), and is poſſeſſed of all the ſame phyſical and chemical properties; hence, for cheapneſs ſake, all the preparations from the antimonial ſulphuret are made with the native ore, juſt ſeparated by fuſion from the ſtony and earthy matters that it is mixed with, which is known in commerce by the name of *crude antimony*, or antimony of the ſhops.

2. If the ſulphuret of antimony is expoſed to a red heat, with acceſs of air, moſt of the ſulphur is volatilized, and a ſmall but variable proportion of the metal is carried up at the ſame time: this operation being performed in a melting-pot, ſurmounted by a ſeries of aludels, the vapour as it riſes, is condenſed in the form of a light pulverulent ſubſtance, called *flowers of antimony*. The flowers, at the beginning of the proceſs, are of a greyiſh yellow colour, and conſiſt of ſulphur, with antimony, either in the metallic ſtate, or at leaſt very little oxydated; the next portions are orange-coloured, and thoſe which riſe towards the end of the operation, are almoſt yellow, and conſiſt of little elſe than pure ſulphur. What remains behind at the bottom of the melting-pot is a greyiſh aſh-coloured oxyd, ſtill holding a little ſulphur: among the old chemiſts it was known by the name of *grey calx of antimony*; by the moderns it is called the *grey ſulphurated oxyd* of antimony. It is moſt commonly prepared by ſlow roaſting of the crude antimony in a flat diſh or reverberatory furnace, and the ſulphur and metal that are volatilized with it are allowed to eſcape. See § 4.

3. The grey ſulphurated oxyd, when urged by a ſufficient degree of heat, forms a tranſparent glaſs, poſſeſſing, according to circumſtances, every ſhade of colour from light yellow to the deepeſt hyacinthine red; this is the *glaſs of antimony*, or, according to the modern nomenclature, the *vitreous ſulphurated oxyd* of antimony. In order to prepare this, any quantity of the grey oxyd is put into a crucible, and kept at a full red or low white heat till it enters into perfect fuſion; ſoon after this has taken place, the end of a clean tobacco pipe ſhould be dipped in it; and if the matter that adheres to the pipe is tranſparent, and may be drawn into a thread like common glaſs, it has been heated ſufficiently: the crucible is then to be removed from the fire, and its contents are to be poured on a compact flat ſtone or plate of copper. When the glaſs has become ſolid, it ſhould be removed into a covered veſſel, as it cracks and flies while cooling.

It ſometimes happens in making the glaſs of antimony, that the grey oxyd begins to melt as ſoon as it is red hot, and continues limpid like water, without acquiring the property of drawing into threads like glaſs: at other times, on the contrary, even the long continuance of a white heat will do no more than bring it to a paſty conſiſtence. In the former caſe, the glaſs is of an unuſually deep colour; in the latter of a very light colour. This inequality ariſes from a difference in the grey oxyd; if it has been too little roaſted, it flows with the firſt impreſſion of the heat, but when more completely oxydated and deſulphurated, it proves very refractory: this laſt, however, may be remedied by throwing in a little crude antimony in powder, which will immediately determine its fuſion and vitrification; and in this caſe there are always found at the bottom of the crucible a few grains of very pure regulus of antimony.

If the previous deſulphuration has been very ſlight, the oxydation alſo will have proceeded but a little way; and the glaſs produced, though poſſeſſed of a vitreous fracture, is perfectly opaque, and of a dark liver colour, hence it has obtained the name of *liver of antimony*: the ſame name, however, has been given to a preparation of crude antimony and nitre, which will be mentioned preſently.

4. The action of acids upon the ſulphuret of antimony is upon the whole ſo ſimilar to their action on the regulus, as deſcribed, § 7, that it will only be neceſſary to point out the circumſtances in which they differ. In general, the metallic part of the ſulphuret is more eaſily diſſolved and retained

tained by acids than the mere regulus is, and the ſulphur of the compound is not at all or very little acted upon. The ſulphuric and nitric acids are decompoſed with conſiderable energy, on pulverized ſulphuret of antimony; ſulphureous acid in one caſe, and nitrous gas in the other, being copiouſly diſengaged, the metal is oxydated, and remains intimately mixed, though no longer combined with the ſulphur, very little of it being actually diſſolved by theſe acids. The muriatic acid, even when cold, will decompoſe a large quantity of ſulphuret, during which proceſs there is a conſiderable extrication of ſulphurated hydrogen; if the mixture is heated, the whole of the metal enters into ſolution, leaving the ſulphur at the bottom unaltered; a ſmall portion, however, both of the ſulphur and metallic oxyd is diſſolved in the hydrogen, and eſcapes in a gaſſeous form; for Bergman obſerved, by performing this experiment in a veſſel with a long narrow neck, that the ſulphurated hydrogen, in its paſſage through, depoſited a little kermes, or hydroſulphurated oxyd of antimony. The beſt menſtruum, however, for crude antimony, is a nitro-muriatic acid, compoſed of one part nitric, and three parts muriatic acid; the metallic oxyd is entirely taken up, part of the ſulphur is carried off by the hydrogen gas, another part is acidified and mixes with the other acids, and the remainder, about 26 per cent. is left at the bottom of the veſſel in form of a white powder. In § 7, we have given an account of the original method of preparing the butter of antimony by ſublimation of the regulus with corroſive mercurial muriat: the ſame antimonial ſalt may be obtained by uſing ſulphuret of antimony, but inſtead of obtaining the mercury in a metallic ſtate, it is combined with the ſulphur of the antimony into a violet-coloured maſs, which, at a full red heat ſublimes, and is depoſited in the upper and cooler part of the veſſel, in needle-form cryſtals of cinnabar, hence called *cinnabar of antimony*.

5. The fixed alkalies are capable by the dry way of combining with ſulphurated antimony, forming ſeveral important preparations. If 15 ounces of pulverized crude antimony, 12 ounces of decrepitated ſea ſalt, and 3 ounces of tartar, are mixed together, and fuſed in an earthen crucible, there will be found, on breaking the veſſel when cool, that it contains two ſubſtances; the upper is of a lighter colour than the other, and conſiſts of the ſalt with a little ſulphur; the inferior ſubſtance is very heavy, opaque, of a black colour, and on being broken, exhibits a ſhining vitreous fracture: it has obtained the name of *medicinal regulus*, though improperly, being a ſimple alkalized ſulphuret of antimony, in which the metal is probably uncombined with oxygen, and nearly ſaturated with ſulphur. A ſimilar preparation to this is the *ruby of antimony*, or *magneſia opalina*, differing, however, in containing leſs ſulphur, and in the metal being perhaps more oxydated. It is prepared by mixing equal parts of muriated ſoda (ſea ſalt), nitre, and crude antimony, and fuſing the whole in a crucible; there is a large quantity of ſcoriæ in this as in the former proceſs, and underneath them is a compact vitreous maſs tranſparent in thin ſhivers, and, if well made, of a deep, ſomewhat ſmoak-red colour, and brilliant ſemimetallic luſtre. Neither of theſe preparations is deliqueſcent or ſoluble in water, on account of the ſmall proportion of alkaline ſalt that they contain. By increaſing, however, the doſe of alkali, the maſs becomes ſoluble; thus, if to one part of ſulphurated antimony we add two parts of pure dry pearlaſh, we obtain by fuſion a compact reddiſh-brown maſs of alkaline ſulphuret of antimony, and a little of the metal in its pure reguline ſtate is found at the bottom of the crucible. If the whole of the antimony is required to be diſſolved in the ſulphurated alkali, as is the caſe in the preparation of kermes, it is requiſite to add to the above ingredients about one-twentieth of their weight of ſulphur. Hence it appears, that the ſulphur of the crude antimony is divided between the metal and the antimony, in the compound ratio of their weights and their reſpective affinities for ſulphur, in conſequence of which ſome of the antimony is entirely deſulphurated, and remains in an uncombined ſtate, while the remainder being only partially deſulphurated, unites into one maſs with the ſulphurated alkali. If this alkaline ſulphuret of antimony, coarſely powdered, is boiled in pure water, nearly the whole is held in ſolution as long as the liquor continues hot, ſo that it may be paſſed haſtily through a filter; but in proportion as the liquor cools, a copious precipitation takes place of a bulky, flocculent ſubſtance, whoſe colour is a deep brick-red approaching to that of the kermes inſect, whence it has been called *kermes mineral*: after the depoſition of kermes has ceaſed, the liquor being ſeparated from it by a filter, is of a wine-yellow colour; and upon the addition of any acid, a ſtill further precipitation is brought about, of an orange yellow powder, which is called the *golden ſulphur* of antimony. Kermes may alſo be prepared in the humid way, as was firſt ſhewn by Lemery in the year 1707. Since that period a multitude of proceſſes have been publiſhed by the French chemiſts for the preparation of this ſubſtance; none of them, however, appear to be eſſential improvements of Lemery's original method; and as this has received the high ſanction of the obſervant and accurate Beaumé, we ſhall ſelect it for the uſe of our readers. Put into a clean iron pan five or ſix parts of pure liquid fixed alkali, with fifteen or twenty parts of water; ſet it over the fire to heat, and as ſoon as it has begun to boil, ſtir in ſome well levigated ſulphuret of antimony, equal in weight to one-ſixteenth of the alkali; ſtir the mixture well, and when it has boiled for a minute or two, throw the whole on a filter, ſo that the clear liquor may paſs through while hot; a large quantity of kermes will be depoſited while it cools, which, after being ſeparated from the alkaline ſolution, is to be waſhed firſt in cold, and then in hot water, till the water comes off quite inſipid; the powder being then dried in the ſhade by a gentle heat, and levigated and paſſed through a fine ſieve, is to be kept in a well-cloſed phial for uſe. The alkaline liquor, when it has ceaſed to depoſit kermes, may be made to yield the golden ſulphur, by ſaturating it with dilute ſulphuric acid. In this proceſs by the humid way, as in the other by the dry way, a partition of the ſulphur takes place between the alkali and the metal, by which a portion of this laſt is left undiſſolved in the form of a grey powder; and this, by ſimple fuſion in a crucible, is reduced to a maſs of regulus. According to the French chemiſts, both the kermes and golden ſulphur are *hydroſulphurated oxyds of ſulphuret of antimony*: and Theuars, in his experiments on the antimonial oxyds, has given the following as the reſult of his analyſes of theſe two ſubſtances, *viz.* Kermes mineral contains,

72.760	brown oxyd of antimony,
20.298	ſulphurated hydrogen,
4.156	ſulphur,
97.214	
2.786	loſs.
100.000	

Golden ſulphur contains,

68.3	orange oxyd of antimony,
17.877	ſulphurated hydrogen,
11 to 12	ſulphur.
98.177	

The

The theory concerning their formation is, that the alkaline antimonial fulphuret coming into contact with water, decompofes it; that the oxygen of the water combines with the fulphurated metal, while its hydrogen diffolves fome of the fulphur with which it is in contact, and unites to the fulphurated metallic oxyd in different proportions, according to the different degrees of oxydation of thefe oxyds: that when the antimony is the leaft oxydated, it unites with the greateft quantity of fulphurated hydrogen, and becomes infoluble in alkali, forming the kermes; and, on the other hand, when more oxydated, it unites with lefs fulphurated hydrogen, and remains diffolved in the alkali till precipitated thence by an acid, forming the golden fulphur. Kermes may alfo be made by paffing fulphurated hydrogen through a folution of muriat of antimony; and this among others is adduced as a proof of the kermes containing the metal in an oxydated ftate. Notwithftanding, however, the excellent experiments of Berthollet and Thenars on this fubject, many very ftrong objections may, in our opinion, be urged againft their theory: to enter into them at full length would be inconfiftent with the plan of this work, but we fhall refume the fubject when treating of the *Metallic* Hydrosulphurets.

6. The nature of the preparations refulting from the mutual action of nitre and fulphurated antimony, depends very much on the proportion which the nitre bears to the other ingredient. The nitrous acid is confumed in acidifying the fulphur and oxydating the antimony; and the alkaline bafe of the nitre unites with the fulphur, if any remains, with the fulphuric acid forming fulphat of potafh, and with the metallic oxyd. When the nitre conſiderably exceeds the antimonial fulphuret, as in the preparation of diaphoretic antimony, the fulphur is entirely oxygenated, and partly efcapes in the form of fulphureous acid gas, while the remainder, with part of the alkali, forms fulphat and fulphite of potafh; the metal alfo is completely oxygenated at the expence of the nitre; and the oxyd hence refulting, combines with the potafh in two proportions; that portion which is united to a large quantity of alkali is rendered foluble, and the other remains infoluble. Hence when the refult of the above procefs is lixiviated with hot water, we find diffolved in the liquor, and may obtain, in a cryftalline form, fulphat and fulphite of potafh, fome undecompofed nitre, and antimonite of potafh; the undiffolved refidue, or diaphoretic antimony, conſifts of the perfect oxyd of antimony combined with about a fifth of potafh.

When the nitre and crude antimony are in equal proportions, only part of the fulphur is acidified, and the metal is at a low ftate of oxydation; by the action of warm water the mafs is divided into an infoluble and foluble portion; the firft, called *crocus metallorum*, feems, like the glafs of antimony, to be merely a fulphurated oxyd; the latter conſifts of kermes, of golden fulphur, and fulphat of potafh. For further particulars fee § 12.

§ 10. *Phofphuret of Antimony.*

Pelletier, in his Eſſays on Phofphorus, has given the three following procefſes for combining antimony with that highly inflammable fubftance. 1. To one ounce of regulus of antimony add an equal weight of glafs of phofphorus, and one dram of charcoal; pulverize the whole well together, and fufe the mixture in a covered crucible; the refult is a white metallic mafs of phofphorated antimony, very brittle, with a lamellar fracture, and nearly cubical fragments. When a little piece of it is put upon lighted charcoal, and expofed to the action of the blowpipe, it emits, at the moment of fufion, a faint green flame, and then volatilizes like pure antimony, in the form of white flowers. 2. Equal parts of regulus and glafs of phofphorus furnifh by fufion a metallic mafs, whofe fracture difplays minute facets, and in every other refpect is fimilar to No. 1. 3. A phofphuret of antimony, with the fame properties as the former, may alfo be prepared by projecting on the melted regulus fmall pieces of phofphorus. In this cafe, however, the crucible muft be removed from the fire immediately after the laft portions are thrown in, otherwife by a continuance of the heat it would be all volatilized.

The phofphurets of antimony are not applied to any ufe, and the above are all the facts which we are poffeffed of concerning them.

§ 11. *Alloys of Antimony.*

1. *Antimony with gold.* See Gold.

2. *Antimony with platina.* See Platina.

3. *Antimony with filver.*

According to Lemery, one ounce of reguline antimony and three drams of cupelled filver, being fufed together in a ftrong heat, yielded an alloy of the fame weight as the original materials, and fimilar to common regulus of antimony, but more compact, and not fo brittle. Gellert (Chymie. Metallurg., relates, that 181 grains of filver being fufed with 255 grains of reguline antimony, the alloy was found to have loft during the procefs 115½ grains; the remainder was very brittle, and in colour fimilar to regulus of antimony: its fpecific gravity was = 8.44. But the fp. gr. of the filver being = 9.1, and that of the antimony being = 6.7, the fp. gr. of the alloy, fuppofing the whole lofs of weight to have been antimony, ought to be = 7.96. Therefore the fp. gr. of this alloy is greater than the mean of its conſtituent parts. It is made no ufe of.

4. *Antimony with copper.*

Thefe two metals mixed together in nearly equal proportions, form a hard brittle alloy, of a violet colour internally, which is not very foon affected by expofure to the air. Gellert, having mixed together 314 grains of copper, fp. gr. = 8.7, with 464 grains of reguline antimony, fp. gr. = 6.7, obtained an alloy whofe fp. gr. was = 8.02. During the fufion there was a lofs of 43½ grains; and putting the whole of this to the account of the antimony, the fp. gr. of the alloy ought, by calculation, to have been = 7.49. The fp. gr. therefore of this alloy is greater than the mean of its conſtituent parts. It is made no ufe of.

5. *Antimony with iron.*

The general properties of antimony with a very fmall proportion of iron, or *martial regulus*, may be found above in § 4. Gellert having mixed by fufion 115½ grains of iron, fp. gr. = 8.0 with 173 grains of reguline antimony, obtained an alloy of 63 grains lefs by weight than the materials. It was brittle, of an afh colour, and contained fpecks like ruft of iron. Its fp. gr. was = 6.92. Now fuppofing the lofs of weight to be placed to the account of the iron, the denfity of the alloy ought to be = 7.05; its fp. gr. therefore is lefs than the mean of its ingredients. This alloy was wholly unaffected by a powerful magnet, except one or two particles which appeared to be iron. It is not made any ufe of.

6. *Antimony with mercury.* See Mercury.

7. *Antimony with tin.*

Thefe two metals being mixed together in nearly equal proportions, form a moderately hard, very brilliant, and brittle alloy, capable of receiving an exquifite polifh, and not eafily tarnifhed; it has therefore been occafionally manufactured into fpeculums for telefcopes. Gellert mixed together by fufion 231¾ grains of tin, fp. gr. = 7.36, with 231¼ grains of antimony; 77 grains were loft in the procefs, and the alloy was = 6.94 fp. gr. Suppofing the whole lofs to be

be attributed to the tin, the denſity of the compound ought to be = 7.0; its ſp. gr. is therefore leſs than the mean of its ingredients.

8. *Antimony with lead.*

This is the moſt important of all the alloys of antimony, it being the material of which the common types for printing are made. In proportion as the lead exceeds the other ingredient, will be the ductility of the maſs; and the lead may be hardened, and its fuſibility unimpaired by ſo ſmall a proportion of antimony as not to injure its ductility. Gmelin found that equal parts of the two metals produced a porous brittle alloy; one part antimony, and two lead, afforded a more compact metal, but ſtill brittle; one part antimony and three lead, gave a homogeneous metal ductile under the hammer, and much harder than lead: one part of antimony gave to eight of lead an increaſe of fuſibility, hardneſs and colour, without materially injuring its malleability. According to Gellert, 386½ grains of lead, ſp. gr. 11.7, being fuſed with 333 grains of antimony, experienced a loſs of 101 grains. The alloy was brittle, and preſented a granular ſomewhat ſhining fracture; its ſp. gr. was = 9.17; and even if the whole loſs of weight is attributed to the antimony, the denſity by calculation ought to be = 9.12. The maſs is therefore of a greater ſp. gr. than the mean of its ingredients.

9. *Antimony with zinc.*

Equal parts of the two metals being fuſed together, formed a homogeneous brittle maſs of a light aſh colour; the loſs of weight was about one-ſixth of the whole; as however both theſe metals are very volatile, it is impoſſible to ſay with any certainty what proportion of the loſs is to be attributed to each; the ſp. gr. of the maſs was rather leſs than that of the antimony, which is the lighter of the two. It is not uſed.

10. *Antimony with biſmuth.*

According to Gellert, equal parts of the two metals being fuſed together, loſt $\frac{1}{20}$ of their weight, and produced an alloy of a lighter colour than biſmuth, and very brittle, diſplaying in its fracture a cubical ſtructure like that metal; the ſp. gr. of the maſs was = 8.96; whereas, ſuppoſing the $\frac{1}{20}$ of loſs to have been ſuſtained by the biſmuth, the heavier of the two, its denſity by calculation ought to have been only = 7.94. Not uſed.

Concerning the combination of the other metals with antimony nothing is as yet known, except merely that cobalt unites eaſily with antimony, and manganeſe with great difficulty, and very imperfectly.

§. 12. *The medicinal Virtues, and pharmaceutical Preparations of Antimony.*

This metal affords ſeveral of the moſt valuable articles of the pharmacopœia; and as it has for ſo many years engaged the attention of chemiſts and alchemiſts (of whom a large number have ever been zealous to add to the reſources of the healing art), we poſſeſs an almoſt infinite variety of antimonial preparations, all of them valuable as medicines, all enjoying many virtues in common, but a few out of the number recommending themſelves peculiarly to the medical practitioner from the uniformity of their compoſition, or from a greater tendency to one mode of operation rather than another, whereby particular indications in the cure of diſeaſes may be fulfilled.

The firſt and moſt unqueſtionable operation of antimony on the human body is that of an emetic. This operation appears to be always in direct proportion to the activity of the antimonial in every other reſpect; and it exiſts in the higheſt degree in thoſe preparations that are almoſt too virulent to be given internally with ſafety in common caſes. Antimonials excite to vomit very ſpeedily, and their action is continued on the ſtomach for a conſiderable time; hence they are of a peculiar ſervice, either where any acrid or poiſonous matter has been taken which requires to be ſpeedily and effectually removed; or in ſuch caſes as incipient fever, where, along with the clearing of the firſt paſſages, the phyſician wiſhes to prolong the mechanical action of vomiting, ſo as to induce a relaxation on the ſkin, and complete perſpiration.

The operation of antimony is alſo extended to the inteſtinal canal, and hence it proves conſiderably *purgative*; and this effect takes place, either when the doſe has been greater than neceſſary merely to produce vomiting; or when the ſtomach has eſcaped the action of this powerful mineral. In order to ſecure the purgative, and prevent the emetic operation of antimony, it is adviſable to unite it with ſome of the uſual aperient medicines, whoſe operation it will thus aſſiſt in a conſiderable degree.

Antimony appears to promote almoſt all the excretions, and to quicken and ſtimulate the action of the abſorbent veſſels. It is therefore eminently *diaphoretic* (or promoting perſpiration); *expectorant*, and often *diuretic*. It frequently happens that a ſingle one of the antimonial preparations may be made to produce each of theſe effects by varying the doſe, increaſing it to render it a vigorous emetic or cathartic; and diminiſhing it when the gentle and more gradual operation of a diaphoretic or expectorant is to be ſecured.

A long continued courſe of antimonials, in the mildeſt form, wherein the direct operation of this metal is ſcarcely at any one time to be detected, has been found of eſſential ſervice, both in various obſtinate cutaneous complaints, and to produce that change of conſtitution and ſuppoſed reſolution of internal obſtruction, which entitle a medicine to the (ſomewhat ambiguous) character of *alterative* and *deobſtruent*.

We ſhall now proceed to take notice of thoſe preparations of antimony which are actually in uſe, or which have acquired a certain reputation in medicine.

Antimonium preparatum (Pharm. Lond. & Edin.). This is nothing but the crude antimony or native black ſulphuret, prepared for medicinal uſe ſimply by triture to an impalpable powder, edulcoration with water, and ſubſequent drying. In this native mineral the proportion of the ſulphur to the metallic part is ſo large, as to render it almoſt entirely inert, at leaſt with regard to any ſenſible operation. It is ſometimes, however, though rarely, employed in cutaneous complaints; and formerly it was uſed in the preparation of decoctions of ſarſaparilla, guaiacum, and the other ſudorific woods; a quantity of the mineral being tied up in a looſe cloth, and ſuſpended in the veſſel in which the decoction was preparing; but as ſcarcely the minuteſt portion of the antimony could be diſſolved by this proceſs, it has properly been omitted.

The crude antimony ſtill, however, is retained in veterinary practice; and it may be given to many animals in doſes of ſeveral ounces without any apparent operation.

It is likewiſe the material from which all the other antimonial medicines are prepared, directly or indirectly.

Antimonium vitrefactum (*Pharm. Lond.*), *vitrum antimonii* (*Pharm. Edin.*), Glaſs of antimony.

To prepare this, the crude antimony is roaſted on a tile or other ſhallow veſſel, with a very ſlow fire, and frequent ſtirring, till all the ſulphur is expelled which can be ſeparated in this method. What remains is a grey powder, which is to be melted in a crucible and an intenſe fire into a yellowiſh vitreſcent maſs, to be poured out on a warm copper or iron plate, and when cold reduced to a very fine powder.

powder. This preparation is an oxyd of antimony not at its highest point of oxydation, and ſtill retaining a ſmall portion of ſulphur, which it is impoſſible to ſeparate by mere heat. When well prepared it is pretty uniform in its nature, and is a very violent medicine, operating even in ſmall doſes as a ſtrong emetic and cathartic. It is ſcarcely ever employed internally, but is the baſis of the emetic tartar, and the antimonial wine, in the London Pharmacopœia.

Vitrum antimonii ceratum (Pharm. Edinb.).

Take one ounce of glaſs of antimony in fine powder, add it to one dram of yellow wax melted in an iron veſſel, heat them gently together for a quarter of an hour, with conſtant ſtirring; pour out the maſs when cold, and reduce it to powder.

The glaſs of antimony here incorporates with the wax, and changes its colour from lemon yellow to brown in the proceſs. The wax appears to leſſen in a very great degree the activity of the antimony, ſo that this medicine may be given with ſafety, and has been much recommended in dyſenteries and other bowel complaints. It is rejected from the London pharmacopœia; but retained in thoſe of Edinburgh, Amſterdam, and ſome others.

A great variety of preparations have been made from the crude antimony by the intermedium of nitre. The operation of this ſalt on the metallic ſulphuret when dephlagrated together, is firſt to conſume the ſulphur, and afterwards, if the quantity be ſufficient, to oxydate the metal to the higheſt point. It is remarkable, that the perfect oxyd of antimony, entirely diveſted of ſulphur, and fully ſaturated with oxygen, appears almoſt as inert as the crude ſulphuret of antimony itſelf, whilſt in the intermediate ſtates of deſulphuration, and oxydation, many very active medicines are found.

Of theſe the two following alone are now retained, the firſt with a ſmaller proportion of nitre, the latter fully ſaturated.

Crocus antimonii (Pharm. Lond. & Edin.). Crocus of antimony, alſo called crocus metallorum, ſaffran des metaux, and hepar or liver of antimony, by foreign writers.

To prepare this, take one pound of crude antimony, one pound of nitre, and one ounce of common ſalt, mix them accurately, and project them, a ſpoonful at a time, in a large crucible heated red hot; when the whole is dephlagrated, increaſe the fire ſo as to melt the maſs, and pour it out. When cold it will be found to conſiſt of two parts, the upper a whitiſh ſaline ſcoria, to be ſeparated from the lower, which is the crocus of antimony. This is to be rubbed to a fine powder, and repeatedly waſhed with warm water, till it comes off from the powder quite inſipid.

The crocus of antimony is a very violent emetic and purgative, and is ſeldom employed internally except in farriery. When waſhed it appears to have the greateſt reſemblance to the glaſs of antimony above deſcribed, and it is reſerved for ſimilar purpoſes, that is, as a baſis for the tartar emetic and ſome other of the antimonial preparations.

When prepared in the large way, it would appear that it is not neceſſary to heat the veſſel in which the mixture is fired, the heat excited by the dephlagration being ſufficient to fuſe the whole to the requiſite degree. The whitiſh ſcoriæ here produced conſiſt of ſulphat of potaſh (formed by the potaſh of the nitre and the ſulphuric acid, generated by the dephlagration of the ſulphur), of the ſea-ſalt, and probably of a portion of uncombined alkali, with ſome particles of the metallic ſulphuret that may have eſcaped the action of the nitre.

Antimonium calcinatum (Pharm. Lond.), antimonium uſtum cum nitro (Pharm. Edin.), calx antimonii, or diaphoretic antimony.

This is prepared, according to the London college, by projecting gradually in a hot crucible a mixture of one part of crude antimony with three parts of nitre, raiſing the heat after dephlagration, and continuing it for half an hour; and when cold, pulverizing and edulcorating it.

The Edinburgh college direct one part of the grey powder left after roaſting crude antimony for the glaſs of antimony, to be dephlagrated with only an equal weight of nitre, to be heated for an hour, and afterwards reduced to powder and waſhed till inſipid.

Theſe two preparations are, however, eſſentially the ſame, and conſiſt of the oxyd of antimony left after the ſulphur has been entirely diſſipated by the nitre, itſelf having been oxydated to a high degree by the ſame dephlagration.

As the intention of uſing ſo much nitre in the firſt method is to conſume the whole of the ſulphur as well as to oxydate the metal, it is obvious that a much leſs quantity of this neutral ſalt will be ſufficient where ſo much of the ſulphur has been driven off by roaſting, as is the caſe in the ſecond method. Formerly a diſtinction was made between the pulverized oxyd taken before, or after waſhing; in the firſt inſtance being termed *antimonium diaphoreticum nitratum*; and in the ſecond, *antimonium diaphoreticum lotum*; the former, as it contained an alkaline ſalt, was deliqueſcent to a certain degree, and required to be preſerved in a cloſe veſſel. It is now, however, diſuſed, the *waſhed* alone being retained.

The diaphoretic antimony, owing probably to its high ſtate of oxydation, is mild in its effects, and may be taken in large doſes, without producing ſickneſs or purging. It is naturally white and in a pulverulent ſtate, the antimonial oxyd not being truly vitrified in the proceſs, as it is in the preparation of the crocus of antimony, but only involved in the alkali of the nitre, from which it is ſeparated by waſhing.

The ſeveral waſhings of this ſubſtance contain a mixture of ſulphat of potaſh, with part of the nitre undecompoſed, and the naked alkali, all holding in ſolution a certain quantity of antimonial oxyd.

If this compound liquor is decompoſed by an acid, the metallic oxyd precipitates in the form of a white powder, which has been called the *ceruſſe of antimony*, or *materia perlata*; but if the liquor is merely evaporated to dryneſs, part of the ſalts cryſtallize together with metallic oxyd, and form the *nitrum ſtibiatum*, or *antimoniated nitre of Stahl*. Theſe latter preparations are now in diſuſe.

Some other antimonial medicines have been prepared with different proportions of antimony and nitre, forming oxyds, all of which act in a ſimilar manner upon the human body, but with different degrees of energy. It ſhould ſeem that the middle point with regard to the proportions of antimony and nitre, that is, equal parts of each, furniſhes the moſt active antimonial oxyd, which is the crocus; and the medicinal power ſeems to diminiſh in proportion as either of theſe ingredients is uſed in exceſs. Thus the completely oxydated metal, the diaphoretic antimony, is poſſeſſed of but little activity; and on the other hand, the *crocus antimonii medicinalis*, formed by dephlagrating eight parts of antimony with one of nitre, and conſequently but partially deſulphurated, is equally mild in its operation.

The *crocus antimonii mitior*, the proportions of which are two parts of antimony to one of nitre, is another medicine now in diſuſe, which appears to be more active than the laſt mentioned, but milder than the common crocus.

The

The *emeticum mite antimonii* of Boerhaave is made by employing one part of antimony to two of nitre, and is a mild and ſafe medicine.

Another antimonial oxyd, formerly employed in medicine, is prepared by dephlagrating the *regulus* of antimony with twice or thrice its weight of nitre, and this has alſo been termed by ſome the *ceruſſa antimonii*.

The nitre here, having no ſulphur to engage it, acts entirely on the metal, and reduces it to the ſtate of a perfect oxyd, which, when waſhed, reſembles in every reſpect the waſhed diaphoretic antimony made with the black ſulphuret and three times its weight of nitre. The regulus, however, does not require more than its own weight of nitre for this preparation; all the reſt is ſuperfluous.

Regulus antimonii medicinalis, vel *febrifugum Craanii*, an antimonial remedy much recommended by many of the German phyſicians, and introduced in the former pharmacopœias of Edinburgh, Brandenburg, Straſburg, and others of celebrity, but now diſuſed.

This, which is improperly termed a regulus, is prepared by fuſing together five parts of crude antimony with four of common ſalt and one of ſalt of tartar. On cooling, two ſubſtances are found in the crucible, an upper ſcoria, containing the ſea-ſalt, the alkali, and part of the ſulphur, and the lower, a reddiſh maſs compoſed of the greater part of the metal, deprived of a portion of its ſulphur by means of the alkali, and thus rendered more active as a medicine than the crude antimony. It is this lower reddiſh maſs which is the *medicinal regulus*. The uſe of the common ſalt ſeems to be merely to aſſiſt the fuſion.

Regulus antimonii. The methods of preparing the true regulus of antimony have been already mentioned. This metal uſed formerly to be caſt in the form of a cup, and, owing to its ſlight degree of ſolubility in various menſtrua, a powerful emetic liquor was prepared ſimply by filling the cup with wine, and ſuffering it to ſtand for ſome hours. At the ſame time the cup had loſt ſo little of its weight that it would continue to give the ſame properties to freſh portions of wine for years, or almoſt centuries, without being corroded through.

In like manner the regulus caſt into the form of pills would produce the emetic or purgative operation to any number of perſons in ſucceſſion, and hence they were called *perpetual pills*.

Theſe preparations are now, however, diſcontinued.

Vinum antimonii. (Pharm. Lond.) Inſtead of the regulus, the glaſs of antimony is now employed as the baſis of this medicated wine. One ounce of this, in fine powder, is to be digeſted for twelve days with frequent agitation, in a pint and a half of white Liſbon wine.

This is a very valuable antimonial, principally employed in doſes of from ten to ſixty drops as a diaphoretic. The quantity of the metal taken up by the wine is extremely ſmall, but is liable to vary in proportion to the acidity of this menſtruum, which is one inconvenience attending its uſe.

Vinum antimonii tartariſati. (Pharm. Lond. and Edin.) In the former diſpenſatory it is directed to be made by diſſolving forty grains of emetic tartar in two ounces of boiling water, and afterwards adding eight ounces of white Liſbon wine.

In the latter, twenty-four grains of emetic tartar are ſimply diſſolved in a pint of the wine.

The nature and preparation of the celebrated *kermes mineralis*, or *pulvis carthuſianus*, have been already explained; this is at preſent laid aſide, and in its place the London and Edinburgh pharmacopœias have adopted the precipitate, formed from a liquid ſolution of ſulphuret of antimony in cauſtic alkali, by the addition of an acid, inſtead of by mere cooling, as is the caſe with the kermes: this is the

Sulphur antimonii præcipitatum vel *auratum*, the golden ſulphur of antimony.

To prepare it, boil for three hours two pounds of crude antimony with four pounds of the aqua kali puri (or cauſtic lye), diluted with three pounds of diſtilled water; ſtrain it while hot through a linen cloth, and immediately add gradually dilute vitriolic acid, ſufficient to precipitate the ſulphurated antimony, which is of a fine golden colour. Waſh it well with warm water, and dry in a gentle heat.

The golden ſulphur is of a lighter colour than the kermes, the latter being generally of a brown or brick red. Both of them conſiſt principally of ſulphur, but holding in ſolution a certain quantity of the metal which renders them emetic or purgative when taken in doſes of ſeveral grains. The golden ſulphur is never uſed with a view of acting violently or by any ſenſible operation, but it is employed (often combined with mercury) as a gentle alterative, with a view of keeping up a conſtant perſpirable ſtate of the ſkin, and determining a gentle increaſe to the ſeveral emunctories. Hence its uſe in various obſtinate cutaneous complaints, and other chronical diſorders.

The only ſolutions of antimony in acids employed in medicine are the *muriated antimony*, more commonly known by the name of *butter of antimony*, and the *antimoniated tartrite of potaſh*, or the *tartar emetic*. The chemical nature of each of theſe intereſting preparations has been already deſcribed.

The muriated antimony is much too acrid and violent to be employed for internal purpoſes. It is uſed externally as a cauſtic, eſpecially in farriery. The *powder of algaroth*, or the antimonial oxyd, precipitated from this ſalt by water alone, or by an alkaline ſolution, is uſed by ſeveral chemiſts as the baſis of the emetic tartar.

Antimonium tartariſatum vel *tartarus emeticus. (Pharm. Lond.* and *Edin.)* To prepare this moſt valuable medicine according to the London Pharmacopœia: take one pound and a half of crocus of antimony in fine powder, two pounds of cream of tartar, and two gallons of water, boil them together in a glaſs veſſel for a quarter of an hour, ſtrain the liquor through paper, and ſet it by to cool: the cryſtals that form are the emetic tartar.

The Edinburgh college directs: firſt, to add ſome of the muriated antimony to hot water, holding ſalt of tartar in ſolution, to collect the white precipitate thus formed, and edulcorate it thoroughly: next to add nine drams of this precipitate, and two ounces and a half of cream of tartar, in fine powder, to five pints of water, and to boil the whole till the tartar is diſſolved; afterwards to evaporate the liquor in a glaſs veſſel, till a pellicle appears on its ſurface, and to ſet it by to cryſtallize.

The emetic tartar is by much the moſt valuable of all the antimonial preparations; its compoſition renders it ſufficiently ſoluble in ſimple menſtrua, and as it is almoſt entirely inſipid, and as the requiſite doſe is in all caſes comparatively ſmall, it may be given with great eaſe to children, or wherever there would be a difficulty of getting down bulky medicines. In doſes of from one to about three grains it proves emetic, and often purges even after the ſtomach has been emptied: in ſmaller quantities, or mixed with various other medicines, and eſpecially with thoſe that correct its emetic property, it fulfills the other intentions with which antimonials are given; and with proper precautions it is always ſafe, manageable, and highly to be depended on.

When prepared in the ſame way, it is generally very uniform in its nature, but it is liable to ſome variation, when different antimonial oxyds are uſed; an inconvenience it would be of great importance to prevent.

The laſt of the antimonial medicines that we ſhall mention, is the *pulvis antimonialis (Pharm. Lond.)*, or the *antimonium calcareo-phoſphoratum. (Pharm. Edin.)*

To prepare it. Take equal parts of crude antimony and hartſhorn ſhavings, mix them together, and throw them into a wide iron pan, heated fully red, and ſtir them conſtantly till they acquire an aſh-colour; then take them out, reduce them to powder, fill a coated crucible with it, and lute over the top another crucible, inverted, and with a ſmall hole at the bottom, to ſerve as a cover: then raiſe the fire gradually to a full white heat, and keep it in this ſtate for two hours; when cold, take out the contents, reduce them to a moſt ſubtile powder, and it is the pulvis antimonialis.

This preparation is intended as a ſubſtitute for the JAMES's POWDER, one of the moſt celebrated empiric medicines in this or any other country, the value of which has long been eſtabliſhed by the moſt unequivocal teſtimony. We ſhall refer the reader to this article for an account of the ingenious analyſis made by Dr. Pearſon of this powder, and publiſhed in the Philoſophical Tranſactions, whereby it is proved to be a mixture of an oxyd of antimony with the earth of bones, or calcareous phoſphat; and hence the pulvis antimonialis has been employed as a ſubſtitute.

This preparation is given in doſes of one to five or ſix grains, or even more, and is employed peculiarly in removing general fever, by means of perſpiration. It is never intentionally given in ſuch large doſes as to prove emetic; but it is generally ſuppoſed, that the genuine James's Powder may be taken in larger doſes than the antimonial powder, without exciting ſickneſs.

We may add, that Mr. Chenevix, (in the Philoſophical Tranſactions for 1801) has given the following ingenious method of preparing this medicine in the moiſt way, which removes every cauſe of variation which may take place whenever the oxyd of a metal ſo volatile as antimony is in certain ſtates, is ſubjected to intenſe and long-continued heat. The following is the ſimple proceſs: "Diſſolve together, or ſeparately, in the leaſt poſſible portion of muriatic acid, equal parts of the white oxyd of antimony, formerly called algaroth powder (made by dropping the butter of antimony into water), and of phoſphat of lime; pour this ſolution gradually into diſtilled water, previouſly alkalized by a ſufficient quantity of cauſtic ammonia: a white and abundant precipitate will take place, which, well waſhed and dried, is the propoſed ſubſtitute for James's Powder."

In this proceſs, the antimony and the phoſphat of lime are precipitated from their ſolution in muriatic acid at the ſame inſtant, the former by means both of the ammonia and the water in which it is diſſolved, and the latter merely by this alkali. Hence, the inventor gives the uſeful caution to pour the mixed muriatic ſolutions *into the alkaline liquor*, and not to add the latter to the former; in order that the precipitation of the antimony and the phoſphate of lime may be conſentaneous, and therefore in uniform proportion from firſt to laſt. The muriatic acid ſimply diſſolves phoſphat of lime, and does not decompoſe it, and therefore it is ſeparated unchanged from its ſolution by the ammonia. If it be wiſhed to prepare this powder with a ſtronger doſe of antimony, it is only requiſite to increaſe the proportion of muriated antimony to the muriated calcareous phoſphat, before the precipitation is made.

We ſhall only add to this ſhort review of the various antimonial preparations uſed in pharmacy, that ſeveral other preparations, ſlightly varying from thoſe which we have mentioned, have been at times recommended by ſeveral eminent men, and have had a certain vogue; but it does not appear that any thing further can be expected from any other change in the preparation of antimonial medicines; and thoſe which we already poſſeſs, form ſome of the moſt valuable articles of the Materia Medica.

§ 13. Uſes of Antimony.

The uſes of antimony are not very numerous; it is of high value in medicine, and is employed, in combination with other metals, in the manufacture of printers' types, and ſpecula for teleſcopes. Its oxyds are uſed in colouring glaſs; the ſulphuret is employed in ſcorifying copper and other metals which are found mixed with gold; hence it was called by the alchemiſts *balneum regis*, or *balneum ſolis*.

The native antimony, at firſt, was of ſervice only in the compoſition of paint. Scripture deſcribes it to us as a ſort of paint, with which the women blacken their eye-brows. Jezebel underſtanding that Jehu was to enter Samaria, painted her eyes with antimony, or, according to the Hebrew, "put her eyes in antimony."

At this day the women of Syria, Arabia, and Babylonia, anoint and blacken themſelves about the eyes; and both men and women put black upon their eyes in the deſert, to preſerve them from the heat of the ſun, and the piercing of its rays. M. D'Arvieux tells us, that the Arabian women border their eyes with a black colour made of *tuty*, which the Arabians call *rebel*. They draw a line of this kind of blacking without the corner of their eyes, to make them appear larger. Iſaiah, in his enumeration of the ſeveral ornaments belonging to the daughters of Sion, has not forgot the needles which they made uſe of in painting their eyes and eye-lids: nor has this practice eſcaped the laſh of Juvenal.

> "Ille ſupercilium madida fuligine tinctum
> Obliqua producit acu, pingitque trementes
> Attollens oculos."

Ezekiel, deſcribing the irregularities of the Jewiſh nation, under the idea of a debauched woman, ſays, that ſhe bathed and perfumed herſelf, and that ſhe anointed her eyes with antimony. Job ſhews ſufficiently how much antimony was in eſteem, by calling one of his daughters a veſſel of antimony, or a box to put paint in, *cornu ſtibii*. Tertullian and St. Cyprian have declaimed very warmly againſt this cuſtom of painting the eyes and eye-brows.

ANTINE, in *Biography*, a Benedictine monk, was born at Gonireux, in the dioceſe of Liege, in 1688, and publiſhed ſeveral uſeful works of an hiſtorical kind. In 1736, he publiſhed the five firſt volumes of a new edition of "Du Cange's Gloſſary," with valuable corrections and editions. He alſo beſtowed much pains upon "Bouquet's collection of French Hiſtorians," and on "The Art of verifying Dates," publiſhed in 4to. in 1750, and reprinted, with enlargements, in 1770. Nov. Dict. Hiſt.

ANTINOE, or ANTINOOPOLIS, now called *Enſenè* by the Arabs, in *Ancient Geography*, a city of Upper Egypt, on the eaſt ſide of the Nile, was built near the ruins of Abydus, where the Egyptians worſhipped the god Beſa, and revered his oracles; and became the capital of a nome or prefecture. The oracle of Beſa was famous in the time of Ammianus Marcellinus, who ſays that all the neighbouring people went to conſult him, and aſſembled at a certain period to celebrate feſtivals in his honour. Hence the Arabs call Antinoe the city of the Magi. This city was built in conſequence of a ſhameful paſſion, which ill diſguiſed the appearance of gratitude affected by Adrian, its founder.

This

This prince, renowned for his political and military talents, was, at the ſame time, contemptible on account of his paſſion for Antinous, the perfection of whoſe form is proved by one of the fineſt ſtatues bequeathed to us by antiquity. Adrian, equally ſuperſtitious and depraved in his manners, while he was in Egypt with his court and army, conſulted the oracle of Beſa, which declared, that he was threatened with great danger, unleſs a perſon that was dear to him, and by whom he was beloved, was immolated for his preſervation. Antinous offered himſelf for the victim, and the emperor had the cruelty to accept the ſacrifice. The beautiful and generous Antinous precipitated himſelf from the ſummit of a rock into the Nile, and Adrian thought to efface his ingratitude and infamy by building, in honour of his favourite, whom he likewiſe regarded as his deliverer, a city which, under the name of Antinoe or Antinoopolis, has perpetuated at once his barbarous cruelty, and his criminal paſſion. This city he embelliſhed with all the moſt valuable productions of art. The ſtatues of Antinous were here conſidered as ſacred images; and the emperor not only erected temples in honour of him, but inſtituted games and ſacrifices, and regulated the worſhip that was to be paid to his memory. Savary ſays, that this city was half a league in circumference, and that two principal ſtreets, 45 feet wide, interſecting each other at right angles, traverſed its whole extent. The others were narrower, but equally ſtraight. The two largeſt terminated by four gates, ſome of which ſtill ſubſiſt; the handſomeſt has three vaulted entries; that of the middle is 40 feet high by 22 in width, and 20 thick; the other two are ſmaller. Each of the façades of this edifice is ornamented with four pilaſters in bas relief, the Corinthian capitals of which, with the leaf of the Acanthus, have a conſiderable projection. This beautiful gate was ſurrounded by eight Corinthian columns, of the ſame height with itſelf. One only has eſcaped the ravages of time, and of men; the reſt are either mutilated or deſtroyed; but the pedeſtals remain entire. Beſides this edifice, one diſcovers in different quarters of the town, heaps of rubbiſh, which announce temples or palaces deſtroyed. If we may judge from the diſtances of the pedeſtals along the ſtreets, they were bordered by a colonnade, which formed a portico on each ſide, and allowed the inhabitants to walk ſheltered from the ſun. Beſides theſe embelliſhments, one of the ſquares was ornamented with four large pillars of the Corinthian order, three of which have periſhed, their baſes only remain. The fourth is preſerved, and is about 50 feet high. The ſhaft is compoſed of ſeveral ſtones. On the firſt is carved an ornament of oak leaves. On the pedeſtal is a Greek inſcription, half effaced, which dedicates it to the emperor Alexander Severus.

The veſtiges of the city, ſays Sonnini, excite regret for its deſtruction. The extent of ground, ſtrewed with the moſt beautiful remains of antiquity, threw him into admiration and aſtoniſhment. In the time of Vanſleb and of Paul Lucas, there were exiſting piers of architecture altogether entire, which he could not find. What appeared to him moſt remarkable was a triumphal arch, or magnificent gate, decorated with fluted pillars; its front was 50 yards in length; and he has given a drawing of it. On the other ſide of the mountain which terminates, towards the eaſt, the ſite of the ancient Antinoopolis, are to be diſtinguiſhed many apertures in the rock, which led to grottoes, that were burial-places or catacombs. The moſque of the village which is near the city, the appearance and population of which form ſo ſtriking a contraſt with the ſuperb edifices and elegance of the ancient city built by Adrian, contains a tomb, and the relics of a ſaint, from whom this place has obtained the name of *Sheick Abadé*; and this ſaint, though regarded by the Mahometans as a zealous defender of the koran, was, at the ſame time, claimed by the Chriſtians as one of their biſhops, who enjoyed the painful honour of martyrdom at *Inſiné*. Towards the end of the fourth century, this city is ſaid to have been peopled by Chriſtians. Palladius aſſures us, that it had 12 convents of virgins, and ſeveral others inhabited by monks. It is now occupied by the worſt people and moſt determined banditti and robbers in Egypt. Savary's Letters, vol. i. p. 552. Sonnini's Travels in Upper and Lower Egypt, p. 517.

ANTINOEIA, in *Antiquity*, annual ſacrifices, and quinquennial games, in memory of Antinous the Bithynian. They were inſtituted at the command of Adrian the Roman emperor, at Mantinea in Arcadia, where Antinous was honoured with a temple and divine worſhip. They were alſo celebrated at Argos.

ANTINOMIANS, in *Church Hiſtory*, denote thoſe who maintain the law of no uſe or obligation under the goſpel diſpenſation, or who hold doctrines that clearly ſuperſede the neceſſity of good works and a virtuous life.

The Antinomians took their origin from John Agricola, about the year 1538, who taught that the law is no wiſe neceſſary under the goſpel; that good works do not promote our ſalvation, nor ill ones hinder it; that repentance is not to be preached from the decalogue, but only from the goſpel.

This ſect ſprung up in England, during the protectorate of Oliver Cromwell; and extended their ſyſtem of libertiniſm much farther than Agricola, the diſciple of Luther. Some of their teachers expreſsly maintained, that as the elect cannot fall from grace, nor forfeit the divine favour; the wicked actions they commit are not really ſinful, nor are to be conſidered as inſtances of their violation of the divine law; and that conſequently they have no occaſion either to confeſs their ſins, or to break them off by repentance. According to them, it is one of the eſſential and diſtinctive characters of the elect, that they cannot do any thing which is either diſpleaſing to God, or prohibited by the law.

Luther, Rutherford, Schluſſelburgh, Sedgwick, Gataker, Witſius, Bull, Williams, &c. have written refutations; Criſp, Richardſon, Saltmarſh, &c. defences of the Antinomians; Wigandus, a compariſon between ancient and modern Antinomians.

The doctrine of Agricola was in itſelf obſcure, and perhaps repreſented worſe than it really was, by Luther, who wrote with acrimony againſt him, and firſt ſtyled him and his followers Antinomians. Agricola ſtood on his own defence, and complained, that opinions were imputed to him, which he did not hold. Nicolas Amſdorf fell under the ſame odious name and imputation, and ſeems to have been treated more unfairly than even Agricola himſelf. It is rather hard to charge upon a man all the opinions that may be inferred from things that have haſtily dropped from him, when he himſelf diſavows ſuch inferences.

ANTINOMY, Antinomia, derived from *αντι*, *contra*, and *νομος*, *lex*, a contradiction between two laws, or between two articles of the ſame LAW.

Antinomy, ſometimes alſo ſignifies an oppoſition to all law. Whence a ſect of enthuſiaſts, who are for carrying goſpel liberty above all moral regards, and who ſlight the motives of virtue as inſufficient to ſalvation, are called Antinomians; and ſometimes Anomians.

ANTINOUS, in *Aſtronomy*, a part of the conſtellation Aquila, or the eagle.

ANTINOUS, in *Mythological Hiſtory*, a Bithynian youth,

youth, the favourite of Adrian, and the object of his unnatural and detestable passion. Some have said, that he fell accidentally into the Nile, as he was sailing on that river with the emperor, and was drowned. Dio Cassius assures us, that he was sacrificed in the manner already related under Antinoe. The emperor, whatever was the occasion of his death, bewailed him, says Spartian, with all the tenderness and weakness of a woman lamenting the death of her husband. To soothe in some measure his grief, he desired the Greeks to rank him among the gods, which they accordingly performed; so that in a short time all the Eastern provinces were filled with statues, temples, and chapels, consecrated to this new divinity. It was even pretended, that he uttered oracles; but his answers were commonly thought to have been composed by Adrian. The Astrologers, having discovered, or pretended to discover a new star, gave out that it was Antinous. Adrian caused the body of his beloved catamite to be buried with the utmost magnificence, built a city on the spot, and converted his tomb into a temple, where he was said to work miracles; which we find exposed and ridiculed by the Pagans themselves.

Antinous, in *Sculpture*, a very famous Roman antique statue; originally in the collection of cardinal Alexander Albani: it is at present in the gallery of antiques, in the museum at Paris.

This statue is in marble; it is a standing figure of a young man, entirely naked; the head looks downwards, with a melancholy air; this is in every respect a highly finished and beautiful performance.

There are nearly as many statues of Antinous as of the Venus de Medicis; and they are very similar to each other: the hair is always disposed in the same manner, covering the forehead nearly as low as the eyebrows; and they all resemble one another in conveying a melancholy idea to the mind.

Mr. Richardson supposes that the vast number of these statues may be attributed to the nobility of Rome, who probably might make court to the emperor Adrian, by having statues of his favourite Antinous.

Among the different statues referred to, was one of late in the yard of the palace of the grand duke at Florence. There were two in the Villa Mattei; another in the garden of the Belvidere, found in Adrian's baths by Leo. X. Another fine statue of Parian marble, formerly broken to pieces, but well put together, stood in the Villa of Cassali, on Monte Caelio. The pieces of this statue had been made use of by the Goths to build a wall with, at the demolishing of which, they were found and put together. All the statues of this Villa had been treated in the same manner.

There is also a number of very fine busts of Antinous; among which, was one twice the size of life in the palace Farnese, at Rome; another in the palace Giustiniani; besides many others.

ANTIO, or Anzio, *Cape*, in *Geography*, a promontory of Italy, in the ecclesiastical state, between port Ostia and the gulf of Gaeta. It has a fortified tower, and a convenient port. It takes its name from the ancient *Antium* in its vicinity.

ANTIOCH, in *Ancient Geography*, a city of Syria, was built in memory of his father Antiochus, by Seleucus Nicator, on the river Orontes, about 20 miles from the place where that river empties itself into the Mediterranean; being equally distant from Constantinople and Alexandria in Egypt, or about 700 miles from each. It soon became, and continued to be for many ages, the metropolis of the east, for the Syrian kings, and afterwards the Roman governors, who presided over the affairs of the eastern provinces, chose it for their place of residence; and in the Christian times, it was the see of the chief patriarch of Asia. It ought also to be particularly mentioned, that the disciples of Christ were first called Christians at Antioch, and this Chrysostom specifies as the distinguishing prerogative of this city above all others; and he has celebrated this honour in a distinct homily on Acts XI. Here also the gospel was preached to Grecians who were incorporated into the Christian church. Here also Barnabas and Saul were sent out by the church, under the direction of the Holy Ghost, to travel through Pagan cities, to give light to the Gentiles, and to publish Jesus for salvation to the ends of the earth. We cannot forbear observing, that the Gospel acquires credibility from its having been first taught in the most populous, enlightened, and learned cities, never shunning the public eye, but challenging full examination; and that in those cities it obtained numerous converts by conviction, without the aid of force or fraud. Antioch was particularly honoured by the Jews, on account of the jus civitatis, which Seleucus Nicator had given to them in that city, together with the Greeks and Macedonians; and which, according to Josephus (Ant. lib. xii. c. 13.), they retained in his time. This metropolis of Syria was afterwards known by the name of Tetrapolis, being divided, as it were, into four cities, each of them having its proper wall, besides a common one, which enclosed them all. The first of these cities or quarters was built by Seleucus Nicator; the second by those who repaired thither on its being made the capital of the Syro-Macedonian empire; the third by Seleucus Callinicus; and the fourth by Antiochus Epiphanes. At the distance of about four or five miles was a place called *Daphné*, and reckoned a suburb of Antioch. Here Seleucus planted a grove, and in the midst of it erected a temple, which he consecrated to Apollo and Diana. To this place the inhabitants of Antioch resorted for their pleasures and diversions; and thus it became at last so infamous, that "to live after the manner of Daphné," was used proverbially to express the most voluptuous and dissolute mode of living. Daphné was formerly of such note, that the metropolis was distinguished by it, and denominated *Antioch near Daphné*.

Antioch, though it continued for 1600 years, as Pliny calls it, the queen of the East, was frequently in danger of being overwhelmed by earthquakes to which its situation exposed it, or of being ruined by its enemies. About 144 years before Christ, the disorders and tumults occasioned by the licentious and tyrannical conduct of Demetrius, the sovereign of Syria, terminated in a general revolt of the inhabitants of Antioch; and Demetrius was under a necessity of seeking assistance from Jonathan, one of the Maccabees, for the purpose of chastising the mutineers. Having obtained 3000 men, he resolved to disarm them, and issued orders for this purpose. This measure inflamed their resentment, and produced an insurrection, so that 120,000 men invested the palace in order to kill the king. The Jews flew to disengage him, dispersed the multitude with fire and sword, burnt a great part of the city, and killed or destroyed very nearly 100,000 of the inhabitants. Upon the destruction of the Syrian empire by the Romans, Antioch submitted, and remained for a long time under their dominion. About the year 115, in the reign of the emperor Trajan, Antioch was almost utterly ruined by one of the most dreadful earthquakes which history records. Trajan himself escaped with difficulty, and not altogether unhurt, through a window of the room in which he had retired; and he afterwards contributed largely towards restoring its ancient splendour. In the year 155, it suffered very much by a fire, the damage of which was repaired by Antoninus Pius. Upon the revolt of Avidius Cassius, the Roman

general, about the year 176, the inhabitants of Antioch took part with him, and thus incurred the reſentment of Marcus Aurelius, who iſſued a ſevere decree, forbidding all ſhows and public diverſions, and even the exerciſe of all municipal offices; but upon their repentance he pardoned their offences, reſtored their privileges, and viſited their city before he left the province. In the year 194, they were again deprived of their privileges by the emperor Severus, for joining Niger, and ſubjected, as a mere village, to the authority of Laodicea; but by the intreaties of his ſon Caracalla, then an infant, he mitigated their puniſhment.

Upon the decline of the Roman power, Antioch became an object of contention between the Romans and the nations of the Eaſt; and accordingly, when Sapor, king of Perſia, over-ran Syria and other provinces, the city of Antioch was ſurprited whilſt the idle multitude was fondly gazing on the amuſements of the theatre; its ſplendid buildings, private and public, were either pillaged or deſtroyed; and the numerous inhabitants were put to the ſword, or led away into captivity. This ſack of Antioch is aſſigned, by the deciſive teſtimony of Ammianus Marcellinus, to the reign of Gallienus; though other hiſtorians refer it to that of Valerian, ſome years before. Upon the diviſion of the Roman empire by Conſtantine, in 331, it was afflicted with a very grievous famine, and relieved by the liberality of the emperor, who ſent thither 30,000 buſhels of corn. In 347, Conſtantine II. cauſed a harbour to be erected at Seleucia for the convenience of Antioch, which was executed at a very great expence. It ſuffered from famine in the reign of Julian, and alſo in that of Theodoſius the Great, at which latter period the diſtreſs of famine was aggravated by a plague. On occaſion of a tax impoſed in 387, by Theodoſius, the people were much enraged; and the cruelty of the governor, in reſtraining and puniſhing their ſedition, induced many of them to abandon their dwellings, and to retire with their wives and families to the neighbouring mountains. Some of them, however, returned; and to theſe St. Chryſoſtom preached ſome of thoſe admired homilies now in our poſſeſſion; and theſe homilies are ſaid to have had a great effect in reforming the licentious and diſſolute. Theodoſius, when he heard of this tumult, commanded the city to be deſtroyed, and the inhabitants to be put indiſcriminately to the ſword; but the order was revoked; and he contented himſelf with inflicting a puniſhment ſimilar to that of Severus at a former period. Numbers, however, were condemned; and St. Chryſoſtom interpoſed to obtain for them a reſpite. At laſt a general pardon was obtained, and the city was reſtored to its former privileges. Antioch ſuffered from earthquakes in the years 458 and 526; but when Choſroes, king of Perſia, invaded Syria in 540, the city, diſdaining the offers of an eaſy capitulation, was taken by ſtorm, the inhabitants ſlaughtered with unrelenting fury, and the city itſelf delivered to the flames; thoſe who eſcaped were carried into Perſia, and ſold as ſlaves. Having again recovered, in a great degree, its former ſplendour, it was viſited with an earthquake, A. D. 587, by which 30,000 perſons loſt their lives, and the city was almoſt wholly deſtroyed. In 611, it was ſeized by Choſroes II.; but "the aged metropolis, ſo often overturned by earthquakes and pillaged by the enemy, could ſupply but a ſmall and languid ſtream of treaſure and blood." In 638, Antioch was reduced by the Saracens, and ranſomed with 300,000 pieces of gold: but "the throne of the ſucceſſors of Alexander, the ſeat of the Roman government in the eaſt, which had been decorated by Cæſar with the titles of free, and holy, and inviolate, was degraded, under the yoke of the caliphs, to the ſecondary rank of a provincial town." It was recovered by the Greeks under Nicephorus Phocas and John Zimiſces, in the 10th century, and again reſtored as a permanent and uſeful acceſſion to the Roman empire. But the civil diſſenſions in the empire afforded to the Turks an opportunity of ſeizing upon Antioch, as well as the whole kingdom of Syria; and from them it was taken by the cruſaders, A. D. 1098. In 1262, it was taken by Bibaris, ſultan of Egypt, and then its glory terminated.

Antioch, called by the Arabs *Antakia*, anciently ſo renowned, is now no more than a ruinous town, the houſes of which built with mud and ſtraw, and conſiſting of narrow and miry ſtreets, exhibit every appearance of poverty and wretchedneſs. It is ſituated on the ſouthern bank of the Orontes, at the extremity of an old decayed bridge, and is covered to the ſouth by a mountain, upon the ſlope of which is a wall built by the cruſaders. The diſtance between the preſent town and this mountain may be about 400 yards; and the intervening ſpace is occupied by gardens and heaps of rubbiſh.

Antioch, however, ſeems to be better calculated than Aleppo, which is become the metropolis of theſe eaſtern parts, to be the emporium of the Europeans. By clearing the mouth of the Orontes, which is ſix leagues lower down, boats might be towed up that river, though they could not ſail up, as Pococke has aſſerted, its current being too rapid. The natives, who never knew the name Orontes, call it, on account of the ſwiftneſs of its ſtream, *El-Aaſi*, that is, the rebel. Its breadth at Antioch is about 40 paces. Seven leagues above the town it paſſes by a lake abounding in fiſh, and eſpecially in eels. Many of theſe are ſalted every year; but the quantity is not ſufficient for the numerous faſts of the Greek chriſtians. We no longer hear at Antioch either of the grove of Daphné, or of the voluptuous ſcenes of which it was the theatre.

The walls of each quarter of Antioch, as well as thoſe which ſurrounded the whole, are ſtill remaining; but as the houſes are deſtroyed, the four quarters appear like ſo many incloſed fields.

The plain of Antioch, though the ſoil of it is excellent, is uncultivated, and abandoned to the Turkmans; but the hills on the ſide of the Orontes, particularly oppoſite to Serkin, abound in plantations of figs and olives, vines and mulberry trees, which are planted in quincunx, and exhibit a beautiful landſcape. N. lat. 36° 20′. E. long. 37° 5′. Anc. Un. Hiſt. vol. viii. p. 115. Rollin's Anc. Hiſt. Crevier's Hiſt. of the Roman Emperors. Gibbon's Hiſt. vol. i. p. 438., ii. p. 361., iv. 123. 146., v. 59. 64., vii. 313. 417., viii. 220., ix. 417., x. 90., xi. 64. Volney's Travels in Egypt and Syria, vol. ii. p. 154.

There were many other ancient cities which bore the name *Antiochia*. Stephanus, de Urbibus, and Euſtathius, in Dionyſ. p. 170, enumerate 14; and others, particularly Appianus in Syriacis, mention 16 cities diſtinguiſhed by this appellation. Of theſe we may mention, Antioch of Piſidia, as it was uſually denominated, though it was ſituated in Phrygia, near Piſidia, or in the northern part of Piſidia; this was a Roman colony, and called alſo *Cæſarea*. It is mentioned by Strabo and Ptolemy; and alſo by St. Luke, Acts xiii. 14. Another was of Caria, ſituate on the Meander river, at the confluence of this with the Corſinus, north-weſt of Aphrodiſius. According to Stephan. Byz. it was alſo called Pythopolis, and Nyſia or Nyſa; which, according to Strabo, was near Tralles. This was built by Antiochus, the father of Seleucus, and was a biſhop's ſee. Another was of Cilicia, in that part called Trachea, on the borders of the ſea, at the foot of Mount Cragus. Steph. Byz. is miſtaken in placing this city near the Pyramus, which

which watered Cilicia Campeſtris. There was alſo another town of this name in Cilicia, ſituate on the Sarus, and anciently called Adana; but Antiochus Epiphanes gave it his name, about 171 years before Chriſt. It was famous under the emperor Titus Antoninus, and diſtinguiſhed by honorary titles. The Itineraries place it 27 Roman miles from Tarſus, and 18 miles from Mopſueſtia. Another Antiochia was ſituated in Meſopotamia, at the foot of mount Maſius, according to Strabo, and the ſame with Niſibis. A city of this name is placed by Steph. Byz. between Cœloſyria and Arabia; and Berkelius ſays, it was the ſame with Gadara. Another Antiochia was ſituated in the province of Syria, called Comagene, at the foot of mount Taurus, to the weſt of Samoſata, and at a diſtance from the Euphrates, where Pliny places it. Antiochia was alſo the name of Edeſſa. Pliny places a city of this name in Sittacene, which Hardouin ſuppoſes to be that which Ptolemy calls Apollonia. Another Antiochia was in Margiana, called Alexandria, after the name of its original founder, but re-eſtabliſhed by Antiochus, ſon of Seleucus, who gave it his own name. Antiochia was alſo, according to Pliny, an iſland at the entrance of the Thracian Boſphorus. Stephanus Byz. ſays, that there was alſo a city of this name in Scythia.

ANTIOCHA, in *Entomology*, a ſpecies of PAPILIO that inhabits South America. The wings are black, with two white bands on the anterior pair. Fabricius, Gmelin, &c. Papilio clytia of Cramer is conſidered as a variety β of this ſpecies.

ANTIOCHE, PERTUIS DE, in *Geography*, a channel in the Atlantic, on the French coaſt, near the northern part of the iſland Oleron, and on the ſouthern of the iſle of Rhé.

ANTIOCHETTA, a town of Aſiatic Turkey, on the coaſt of Caramania, and nearly due north from the weſtern end of the iſland of Cyprus. It is a biſhop's ſee. N. lat. 36° 8′. E. long. 32° 15′.

ANTIOCHIA, a town of South America, in the kingdom of Popayan.

ANTIOCHIAN *ſect*, or *academy*, a name given to the fifth academy, or branch of academies.

It took the denomination from its being founded by Antiochus, a philoſopher contemporary with Cicero.

The Antiochian academy ſucceeded the Philonian. As to points of doctrine, the philoſophers of this ſect appear to have reſtored that of the ancient academy, except that in the article of the criterion of truth, Antiochus was really a Stoic, and only nominally an Academic. After his time, the profeſſors of the academic philoſophy were diſperſed by the tumults of war, and the ſchool itſelf was transferred to Rome. See ANTIOCHUS.

ANTIOCHIAN *epocha*, in *Chronology*, a method of computing time from the proclamation of liberty granted the city of Antioch, about the time of the battle of Pharſalia.

ANTIOCHIS, in *Ancient Geography*, a tribe of Greece, in Attica.

ANTIOCHUS SOTER, in *Ancient Hiſtory* and *Biography*, was the ſon of Seleucus Nicator, by Apama, the daughter of Artabazus the Perſian; and took poſſeſſion of the empire of Aſia, on his father's death, and held it for 19 years. He is chiefly recorded in hiſtory on account of his paſſion for Stratonice, his mother-in-law. Fearing to diſcloſe his attachment, he fell into a lingering diſeaſe, which endangered his life. But the affection of his father induced him to employ the celebrated phyſician, Eraſiſtratus, to diſcover the cauſe of his diſorder, and to adminiſter neceſſary relief. The phyſician ſoon perceived, by the changes of his pulſe and countenance whenever Stratonice entered the room, the occaſion of his complaint; and he pretended to the father, that Antiochus was in love with *his* wife, and at the ſame time expreſſed his concern, that his malady admitted of no cure. Seleucus remonſtrated, and ſtrongly urged the phyſician to preſerve the life of his ſon by yielding to his wiſhes. "Would you do ſo (ſaid Eraſiſtratus) provided Stratonice were the object of his affection?"—"Moſt willingly," replied the king.—"The cure then (rejoined Eraſiſtratus) is in your own power:" and when he diſcloſed to him the ſecret. Seleucus fulfilled his promiſe, and reſigned the beautiful Stratonice to his ſon, together with a conſiderable part of his dominions; and cauſed them to be crowned king and queen of Upper Aſia. Upon the death of his father, he ſucceeded to the whole empire, and reſided at Antioch. Having ſurrendered his pretenſions to Macedon in favour of Antigonus Gonatus, on his marrying Phila, the daughter of Stratonice by Seleucus, he afterwards defeated the Gauls, who had ſettled in Lower Aſia, whence he obtained from theſe provinces the title of *Soter*, or *Saviour*. He himſelf was afterwards defeated by Eumenes king of Pergamus; and after this defeat returned to Antioch, where he put one of his ſons to death, for raiſing diſturbances in his abſence; and at the ſame time proclaimed the other, called Antiochus, king of Syria. He died ſoon after in the year before Chriſt 261. Anc. Un. Hiſt. vol viii. p. 125.

ANTIOCHUS THEOS, or *God*; ſo called by the flattery of the Mileſians, for delivering them from Timarchus; was the ſon of the preceding Antiochus by Stratonice, and ſucceeded his father in the ſole poſſeſſion of all his dominions. In the third year of his reign, a bloody war broke out between him and Ptolemy Philadelphus, king of Egypt, on occaſion of an inſult offered to Apame, ſiſter of Antiochus, and widow of Magas king of Cyrene and Lybia. During this war, the Parthians revolted, and putting themſelves under the conduct of Arſaces, drove out the Macedonians; and thus laid the foundation of the Parthian empire, which at length became formidable not only to all the Princes of the Eaſt, but even to the Romans. The Bactrians alſo, under Theodotus, and the other nations in thoſe parts, ſhook off the Macedonian yoke, and elected princes of their own; and thus Antiochus loſt all the provinces of his empire lying beyond the Euphrates. In theſe circumſtances of deſertion and diſtreſs, Antiochus concluded a treaty of peace with Ptolemy, on the condition of divorcing his former wife Laodice, who was his own ſiſter by the father, and marrying Berenice, the daughter of Ptolemy, and ſettling the crown upon the male iſſue of that marriage. The nuptials were ſolemnized with extraordinary magnificence at Seleucia. Within two years after this marriage Ptolemy died, and Antiochus repudiated Berenice, and reſtored Laodice, who embraced this favourable opportunity of ſecuring the ſucceſſion to her ſon. With this view, ſhe cauſed Antiochus to be poiſoned, and employed Artemon, who much reſembled him in his voice and features, to be placed in his bed, the body of her deceaſed huſband being ſecretly conveyed away. To complete this ſtratagem, Artemon ſtrongly recommended his dear Laodice and her children to the lords that viſited him. Accordingly, in the name of Antiochus, ſuppoſed to be ſtill alive, orders were iſſued that all his ſubjects ſhould obey his beloved ſon Seleucus Callinicus, and acknowledge him for their lawful ſovereign. The crown being thus ſecured, the death of the king was publicly declared, and Callinicus, without oppoſition, aſcended the throne. Antiochus died in the year before Chriſt 246, after a reign of 15 years. Laodice finiſhed her infamous career by the murder of Berenice and her ſon. Anc. Un. Hiſt. vol. viii. p. 127.

ANTIOCHUS *the Great*, ſo called on account of his illuſtrious actions, was the ſon of Seleucus Callinicus, and ſucceeded his brother Seleucus Ceraunus, in the year before Chriſt

Chriſt 225. After the troubles with which his reign commenced, and which were terminated peaceably by his activity, his attention was engaged by the revolt of his uncle Achæus, who uſurped the ſovereignty of Aſia Minor; and by a conteſt with Ptolemy Philopator, king of Egypt, for the recovery of Cœloſyria. He firſt reſolved on a war with Ptolemy, which, after ſeveral advantages gained by him, terminated by a defeat in the deciſive battle of Raphia, in the year before Chriſt 217, which obliged him to abandon all his conqueſts, and to withdraw, with the remains of his ſhattered army, to Antioch. The reſult was a negotiation for peace, which Antiochus obtained, on the condition of ſurrendering to Ptolemy the whole of Cœloſyria and Paleſtine. His next object was Achæus, whom he obliged to quit the field, and to ſhut himſelf up in the caſtle of Sardis; but he was at length delivered up by treachery to Antiochus, who, whilſt he compaſſionated the misfortunes of a man to whom he was indebted for his crown, ordered him to be beheaded, and thus put an end to the war of Aſia. Antiochus was now at liberty to purſue his plans for the reduction of thoſe provinces in the eaſt, which had ſhaken off the Syrian yoke. Accordingly he recovered Media and Parthia, and reduced Syringis, the capital of Hyrcania. Arſaces, however, was a formidable enemy; and he therefore made overtures to him for putting an end to the war; the conſequence of which was, that it was agreed by treaty, that Arſaces ſhould hold Parthia and Hyrcania, on condition of his aſſiſting Antiochus to recover the other provinces which had revolted. He alſo, in a ſimilar manner, concluded a peace with Euthydemus king of Bactria. After this pacification, he croſſed Mount Caucaſus, and entered India, where he renewed his alliance with Sophagaſenus king of that country; and having marched through Arachoſia, Drangiana, and Carmania, he returned by Perſia, Babylonia, and Meſopotamia, to Antioch, after a ſucceſsful expedition of ſeven years, and with the ſurname of *Great*, which he had acquired, and which he might have retained, with the reputation annexed to it, till his death, if he had not unfortunately engaged in a war with the Romans.

Soon after the return of Antiochus, Ptolemy Philopator died, and was ſucceeded by his ſon Ptolemy Epiphanes, a child of five years. The youth of the ſovereign of Egypt preſented to the ambitious views of Antiochus objects which were too alluring to be reſiſted. This, he thought, was a favourable opportunity, not only for recovering his loſt provinces, but for ſeeking further aggrandiſement. Accordingly he entered into a treaty with Philip king of Macedon, in virtue of which they were to deprive the infant king of his dominions, and to divide them: Philip was to have Caria, Lybia, Cyrene, and Egypt; and Antiochus all the reſt. Antiochus, having ſettled theſe preliminaries, marched into Cœloſyria and Paleſtine, and ſoon ſubdued them. But it ſo happened, that at this time Scipio had concluded the ſecond Punic war; and the fame of the Romans was every where ſpread. The guardians of the young king, incited by the celebrity of the Roman name, ſent an embaſſy to Rome, imploring the protection of that republic, and offering the guardianſhip of their king, and the regency of the kingdom during his minority. The Romans acceded to the propoſal, and immediately ſignified their compliance to Antiochus and Philip, requiring them to deſiſt from invading the dominions of their pupil, and threatening war upon them for his protection. Ariſtomenes, an old experienced officer, was appointed the young king's miniſter, and he deputed Scopas to levy troops in Ætolia, for the ſervice of his maſter. Theſe troops marched, during the abſence of Antiochus, into Paleſtine and Cœloſyria, in order to recover thoſe provinces; but after ſome ſucceſs, Antiochus returned, defeated Scopas, with the loſs of the greateſt part of his army, and obliged him to ſurrender Sidon, into which he had retired, with the whole garriſon. Antiochus was cordially received by the Jews; and on his approach to Jeruſalem, treated with the utmoſt reſpect and hoſpitality. In return, Antiochus granted them many privileges and favours. Antiochus proceeded from Paleſtine to Aſia Minor; and as he ſailed with a formidable fleet along the coaſt of Cilicia, Pamphylia, Lycia, and Caria, many of the maritime cities of thoſe provinces voluntarily ſubmitted to him. He then ſailed to Epheſus, made himſelf maſter of it, and took up his winter-quarters there. In the mean time Smyrna, Lampſacus, and other Greek cities of Aſia, which at that time enjoyed their liberty, concurred in imploring the protection of the Romans, who were at laſt prevailed upon to exert themſelves in reſtraining the progreſs of Antiochus. But during this embaſſy, Antiochus croſſed the Helleſpont, and ſeized all Thracian Cherſoneſus. The ſuccour which theſe cities ſolicited was delayed, and much time was loſt in ineffectual negotiation; till at length, in the year before Chriſt 195, Hannibal beſought the protection of Antiochus, and engaged him to make war on the Romans. Antiochus ſtrengthened himſelf by new alliances; having married his daughter Cleopatra to Ptolemy king of Egypt; and Antiochis, his ſecond daughter, to Ariarathes king of Cappadocia. After fruitleſs embaſſies between him and the Romans, he formed the fatal reſolution of commencing a war with them. Hoſtilities were mutual, and ſucceſs for ſome time was doubtful; but the fleet of Antiochus having been defeated by that of the Romans, and his troops having been withdrawn from the Helleſpont, the two Scipios, Cornelius and Africanus, found a free paſſage into Aſia. The king was alarmed, and mae propoſals of accommodation to the Romans, which, although very advantageous to them, were rejected. He alſo reſtored, without ranſom, the ſon of Africanus; and the grateful father acknowledged his obligations, by deſiring him not to hazard a battle before his return to the army. But a deciſive engagement took place at Magneſia, in Lower Aſia; Antiochus was completely vanquiſhed, in the year before Chriſt 190: and compelled by the circumſtances to which he was reduced, to ſue for peace. The terms were his giving up all his pretenſions on Europe, limiting his Aſiatic dominions to the country beyond Mount Taurus, and paying the expences of the war. The ſurrender of Hannibal was alſo ſtipulated, but he had made his eſcape. The Syrian monarch did not long ſurvive this humiliation: the manner of his death is not ſo ſatisfactorily aſcertained. Jerom, on the authority of Strabo, ſays, that having plundered the temple of Jupiter Belus, in the province of Elemais, he was ſlain in an inſurrection of the people. Aurelius Victor relates, that he gave himſelf up to every kind of diſſolute pleaſure; and that he was killed at an entertainment by one of his gueſts, whom he had inſulted. He died, however, in the year before Chriſt 187, in the 37th year of his reign, and 52d of his age; and he is highly commended by moſt of the ancient hiſtorians for his humanity, clemency, and liberality. Till the 50th year of his age, his prudence in counſel, and courage in action, were ſuch as to command ſucceſs, and entitle him to the appellation of "Great;" but after that age, he was leſs wiſe and valiant, and leſs proſperous. His conduct in the war with the Romans, the contempt with which he received the wiſe counſels of Hannibal, and the ignominious peace which he was forced to accept, obſcured all the glory of his former expeditions. The prophecies of Daniel, from the 10th verſe of the 11th chapter to the 19th, inclu-

ſive,

cluſive, relate to the actions of this prince, and were all fully accompliſhed. Anc. Un. Hiſt. vol. viii. p. 139—191.

Antiochus Epiphanes, a younger ſon of Antiochus the Great, ſucceeded his brother Seleucus, in the year before Chriſt 176. It was one article of the humiliating treaty of Magneſia, that this prince ſhould be ſent to Rome as a hoſtage; and there he was detained for 13 years, till he was exchanged for his brother's ſon Demetrius. In his way home, his brother Seleucus was poiſoned by Heliodorus, who uſurped the crown. But aided by Eumenes, king of Pergamus, and Attalus that king's brother, he drove out the uſurper, and aſcended the throne. His conduct was fooliſh and extravagant to an extreme degree; and beſides the frantic follies with which he was chargeable, he was addicted to drunkenneſs, ſquandered away large ſums of money in riotous exceſſes; and in his mad frolics, ſcattered handfuls of money among the populace, crying out, "Let him take it to whom fortune gives it." This odd and extravagant conduct, of which many ſingular inſtances are recited, made his ſubjects regard him as a madman; whence, inſtead of "Epiphanes, or the Illuſtrious," the title which he aſſumed on being ſettled on the throne, they uſed to ſtyle him "Epimanes" that is, "the Madman." Soon after his acceſſion, a demand was made by the adminiſtration of Egypt for the reſtoration of Cœloſyria and Paleſtine; and this demand occaſioned a war between the two crowns. Antiochus determined to anticipate the preparations made in Egypt, by a commencement of hoſtilities, and by an actual invaſion of the country; and, at the ſame time, he ſent a ſplendid embaſſy to Rome to juſtify his conduct, and to conciliate the favour of the ſenate. In his firſt expedition, he routed the Egyptians, and wintered at Tyre. In a ſecond campaign, in the year before Chriſt 170, he reduced the whole country, except Alexandria, and gained as much by his clemency as by his arms. On this occaſion, Ptolemy Philometer fell into the hands of the conqueror; and the Alexandrians, conſidering him as loſt to them, placed upon the throne his younger brother Ptolemy Euergetes, called alſo Phyſcon; and made attempts to recover their country from the Syrians. Antiochus was thus induced to make a third expedition into Egypt, and advanced directly to Alexandria, with the deſign of beſieging it. In this danger, Ptolemy Euergetes, and his ſiſter Cleopatra, ſent an ambaſſador to Rome to ſupplicate aſſiſtance. The ſenate determined to give them relief, and accordingly ſent an embaſſy into Egypt for the purpoſe of terminating the war: and the inſtructions of their ambaſſadors were, to order the contending princes to ſuſpend all hoſtilities, and to put an end to the war, on pain of forfeiting the friendſhip and alliance of the Romans. Antiochus, in the mean time, had made a pacification with Philometor, and engaged to reſtore him to the poſſeſſion of his dominions, Peluſium excepted. He then returned to Antioch; but during his abſence, the two royal brothers agreed, under the influence of Cleopatra's mediation, to reign jointly, and to renounce their dependence on Antiochus. This produced a fourth expedition into Egypt; and the Syrian king was haſtily marching towards Alexandria, after having reduced the greateſt part of the country, when he was met by the three Roman deputies. The decree of the ſenate was announced to him, and he deſired ſome time for deliberation. Popilius, one of the deputies, drew a circle with a rod, which he held in his hand, round the king, and informed him that he expected a peremptory anſwer before he left that ring. Antiochus heſitated for a few minutes, and then declared his readineſs to comply with the requiſition of the republic. The three deputies gave him their hands, and Popilius renewed his former familiarity with him. Antiochus was probably not a little exaſperated, though he was obliged to ſubmit; for on his return from Egypt, he viſited Jeruſalem, and with extreme cruelty compelled the Jews to violate the principles of their religion and worſhip at the heathen altars which he had cauſed to be erected. In a former expedition, he had taken Jeruſalem by ſtorm, plundered and defiled the temple, and aboliſhed the Jewiſh ritual. Theſe violences, which are related in the books of the Maccabees, occaſioned the new revolt of Mattathias and his ſons; which for a long time filled that country with bloodſhed, and defied the whole power of Syria.

With a view of further ingratiating himſelf with the Romans, he celebrated their ſubjugation of the kingdom of Macedon under Perſeus, by cauſing games to be exhibited at Daphné near Antioch, with a pomp and magnificence which even in that luxurious part of the world had never before been witneſſed. The king's conduct was ſo extravagant and abſurd on this occaſion, that Tiberius Gracchus, the Roman envoy at his court, informed the ſenate, that they need be under no apprehenſions from any deſign which he could form. Nevertheleſs, on a revolt of Armenia and Perſia, he left part of his army under Lyſias to reduce Judæa, and marched with the reſt againſt Artaxias, the Armenian king, whom he defeated and took priſoner. From Armenia he marched into Perſia, and flew to Elimais, of the immenſe wealth of which he had received information, with a deſign to plunder both the city and the temple. Here he was repulſed with the greateſt ignominy; and mortified at the diſgrace he ſuffered, he withdrew to Ecbatan in Media. But news arriving of the defeat of Nicanor and Timothæus, two of his generals in Judæa, he haſtened towards Babylonia; and was met in his paſſage by two meſſengers, who gave him an account of the defeat of Lyſias, and that the Jews had retaken the temple, thrown down the images and altars which he had erected, and reſtored their former worſhip. Theſe tidings exaſperated him beyond meaſure; and he determined to march in perſon againſt the Jews, and threatened to extirpate the whole nation. He had ſcarcely uttered theſe words, when he was ſeized with an excruciating pain in his bowels, which no remedy could cure or alleviate. He reſolved, however, to proceed, till at length he was obliged to halt at a town called Tabæ, on the confines of Perſia and Babylonia, in the year before Chriſt 165, where he expired, after languiſhing for ſome time in the moſt dreadful agony both of mind and body, in the 12th year of his reign, and 39th of his life. The 11th chapter of Daniel, from the 20th verſe to the end, wholly relates to this Antiochus. Anc. Un. Hiſt. vol. viii. p. 195. 213.

Antiochus Eupator, was the ſon of the preceding, and placed on the throne at the age of 9 years, on the death of his father, by Lyſias; though the deceaſed monarch had appointed Philip, his prime miniſter, for his guardian. Philip retired into Egypt; and Lyſias proſecuted the war with the Jews which Epiphanes had begun; but the large army which he conducted thither was defeated by Judas Maccabæus.

From another expedition into Judæa, and the ſiege of Jeruſalem, he was recalled by the intelligence, that Philip had taken poſſeſſion of Antioch, and ſeized on the government. Lyſias made peace with the Jews; and having marched againſt Philip, defeated him, and put him to death. In the mean time the Roman ſenate had aſſumed the tutelage of the young king, and ſent a commiſſion of guardianſhip into Syria, with orders to burn all the decked ſhips, and diſable the war-elephants. Octavius, who was appointed chief of this commiſſion, and who executed his orders with great inſolence,

ſolence, was killed in a popular tumult at Laodicea; and buried with great pomp by Lyſias, who dreaded the indignation of the ſenate, and ſent ambaſſadors to Rome for his own exculpation. At this time Demetrius, the ſon of Seleucus Philopator, who had the beſt right to the crown, but who was kept at Rome as a hoſtage, contrived to make his eſcape: and arriving in Syria, was received every where by the people as their lawful ſovereign. Lyſias and the inoffenſive Eupator were delivered by their own ſoldiers to Demetrius, who ordered them both to be put to death, in the year before Chriſt 162, after the young prince had reigned between two and three years. The author of the firſt book of the Maccabees ſays, they were taken priſoners by the ſoldiers of Demetrius, and by them put to death, without any orders from Demetrius. Anc. Un. Hiſt. vol. viii. p. 212. 221.

ANTIOCHUS SIDETES, or the *Hunter*, was the ſecond ſon of Demetrius Soter, and ſucceeded to the throne, vacated by his brother Demetrius Nicator, after the expulſion of Tryphon the uſurper, by the intereſt of Cleopatra, the wife of Demetrius, whom he married, and the aſſiſtance of Simon, high prieſt of the Jews, in the year before Chriſt 138. After his acceſſion, he reduced all thoſe cities of Syria which had rendered themſelves independent during the inteſtine troubles. He then made war with the Jews, beſieged Jeruſalem, and compelled Hyrcan, who had ſucceeded his father Simon, to purchaſe a peace, on the condition of paying tribute. He then entered Parthia, with a motley multitude of cooks, ſingers, women, and other miniſters of luxury, much more numerous than his ſoldiers, defeated Phraates, and regained the provinces which he had ſeparated from the Syrian empire. But his troops being diſperſed into diſtant winter-quarters, the oppreſſed people, joined by the Parthians, conſpired to attack them all in one day; and Antiochus, and every man under his command, were deſtroyed. Others ſay, that he could not ſurvive the diſgrace of being vanquiſhed in battle, and that he put an end to his own life. This happened in the ninth year of his reign, before Chriſt 130. Although Antiochus was addicted to intemperance and amuſement, he is repreſented as a prince poſſeſſing many good qualities, a lover of juſtice, and inclined to clemency. Phraates, on viewing his dead body, is ſaid to have exclaimed, "Your wine, Antiochus, and your too great confidence, have brought you to this untimely end. You thought you could have ſwallowed the kingdom of Arſaces in your cups." Anc. Un. Hiſt. vol. viii. p. 242—245.

ANTIOCHUS GRYPUS, or *hook-noſed*, was the ſon of Demetrius Nicator by Cleopatra; and on the death of his brother Seleucus, whom his mother, jealous of her power, cauſed to be murdered, was recalled by her from Athens, where he had been ſent for his education, and proclaimed king of Syria, in the year before Chriſt 123, to the excluſion of Alexander Zebina, who had uſurped the throne, and whom Grypus afterwards put to death. Cleopatra had advanced Grypus to the throne, with a view of reſerving the authority to herſelf, and of allowing him the mere title of king. But when he began to manifeſt an inclination to govern independently of his mother, ſhe determined to transfer the crown to a younger ſon, and to diſpatch this by poiſon. For this purpoſe, ſhe prepared a bowl, and preſented it to the young king on a day when he returned hot and weary from the chace. But as he was forewarned of her purpoſe, he deſired her to take the firſt draught; and on her refuſal, he ſummoned the lords of his court, communicated to them the information he had received, and then ſaid, that the only mode by which ſhe could exculpate herſelf, was to drink what ſhe had prepared for him. She drank, and preſently expired. After her death, Antiochus enjoyed the ſovereignty of Syria for eight years without diſturbance; but there aroſe a rival, viz. Antiochus the Cyzicene, the ſon of Cleopatra by Antiochus Sidetes. The conſequence of this rivalſhip was a civil war, which terminated in the diviſion of the kingdom. Having thus ſettled their difference, they both devoted themſelves to voluptuouſneſs and debauchery, and totally neglected both their private and public concerns. This negligence on their part gave John Hyrcan an opportunity of making conqueſts upon Syria; and the ſubſequent diſagreement of the two brothers afforded occaſion for ſeveral cities to aſſert their independence. At length Grypus was aſſaſſinated by one of his own ſubjects, in the 45th year of his age, in the year before Chriſt 97, after having reigned, according to Joſephus, 29, and according to Porphyrius, 26 years. Cyzicenus, ſome years after, was defeated and ſlain by his nephew Seleucus. Anc. Un. Hiſt. vol. viii. p. 248—253.

ANTIOCHUS, a monk of Seba in Paleſtine, of a very ſuperſtitious complexion, lived towards the beginning of the ſeventh century; and wrote a ſummary of the chriſtian doctrine, intitled "The Pandect of the Holy Scriptures," in 130 homilies. In the preface, he mentions the capture of Jeruſalem by Choſroes, king of Perſia; and relates the cruelties inflicted on the monks of Paleſtine; and in an annexed poem, he laments in doleful ſtrains the loſs of a precious fragment of the true croſs, which, among other ſpoils, was carried away by the Perſians. The work is publiſhed in Greek and Latin, in the additions to the "Bibliotheca Patrum." Fabric. Bib. Grec. l. v. c. 34. § 3. t. ix. p. 260. Moſheim Eccl. Hiſt. vol. ii. p. 174. 179.

ANTIOCHUS, a Stoic philoſopher, was a native of Aſcalon, a diſciple of Carneades, and the laſt preceptor of the Platonic ſchool in Greece. He flouriſhed about 100 years before Chriſt. Cicero (in Brut. et de Nat. Deorum. l. i. c. 7.) mentions him with reſpect as one of his inſtructors, and as the author of an ingenious treatiſe upon the Academic ſect; in which he ſhewed that the Peripatetics and Stoics differed more in words than in real opinion. He alſo maintained, that the doctrines of the Stoics were to be found in the writings of Plato. Cicero alſo profeſſes to admire his eloquence and the politeneſs of his manners; and Lucullus took him as his companion into Aſia and to Rome, in which city he enjoyed the friendſhip of many illuſtrious men. Plutarch (in Lucull.) mentions a treatiſe of his "On the Gods;" and Stephanus Byz. ſays, that he was the ornament of his country, and gives him the appellation of a "ſwan." None of his writings are extant. He reſigned the academic chair in the 175th Olympiad, or in the year before Chriſt 80. Brucker's Hiſt. of Philoſ. by Enfield, vol. i. p. 254.

ANTIOCHUS, was a contemporary with Galen. He is ſaid to have lived nearly an 100 years, and to have enjoyed his faculties to the laſt. This was attributed to an abſtemious and careful regimen, which he adopted as ſoon as he became advanced in years.

ANTIOCHUS, in *Entomology*, a ſpecies of PAPILIO that inhabits China. The wings are entire, roundiſh, black; with a broad yellow-brown band continued acroſs the upper ſurface of all the wings. Fabricius, and Donovan's Inſects of China.

ANTIODONTALGICUS, a new inſect, deſcribed by profeſſor Gerbi, in a ſmall work publiſhed at Florence in 1794; ſo called from its property of allaying the tooth-ach. It is a kind of curculio, and found on a ſpecies of thiſtle, carduus ſpinoſiſſimus, which is perhaps a variety of

the cuicus. Its flowers, when analyſed, gave the acid of ſalts, the muriatic acid, oxalate of lime, extractive matter, and a very little reſin. The inſect eats not only the parenchyma, but alſo the veſſels and fibres of the leaves. It is of a longiſh figure, covered below with ſhort yellow hair, and above with golden, yellow velvetty ſpots. Its corcelet is variegated with ſpecks, and the covering of its wings with ſpecks and ſtripes. It has a ſhort proboſcis, and ſomewhat reſembles the curculio villoſus of Geoffroy. Its larva repreſents a ſort of ichneumon. If 12 or 15 of theſe inſects, in the ſtate of larva, or when come to perfection, be bruiſed and rubbed ſlowly between the forefinger and thumb, until they have loſt their moiſture; and if the painful tooth, where it is hollow, be touched with that finger, the pain ceaſes, ſometimes inſtantaneouſly. A piece of ſhamoy leather will anſwer the ſame purpoſe with the finger. If the gums are inflamed, the remedy is of no avail. Other inſects poſſeſs this property of curing the tooth-ach; ſuch as the carabus ferrugineus of Fabricius; the coccinella ſeptem-punctata, or lady-bird; the chryſomela populi, and the chryſomela ſanguinolenta. This property ſeems to belong to ſeveral kinds of the coleoptera.

ANTIOPA, a ſpecies of PAPILIO that inhabits Europe. The wings are angulated, black, with a whitiſh border. Linn. Faun. Suec. Fabricius, &c. This is papilio maxima nigra, alis utriſque limbo lato albo cinctis of Ray, &c.; and is known by the Engliſh name of Camberwell beauty butterfly. The dark colour of the wings inclines to a rich purple-brown, the external border to yellowiſh; and it has an intermediate black ſtripe, with a row of blueiſh ſpots, and two long yellowiſh ſpots on the anterior margin of the firſt wings. It is produced from a black ſpinous larva, that is marked on the back with a row of ferruginous ſpots, and feeds on the willow. It is remarkable, that the inſects of this ſpecies found in England have the external border of a paler colour than thoſe found in other parts of Europe, though in other reſpects they are perfectly ſimilar. Donovan's Britiſh Inſects, vol. iii. p. 47.

ANTIOPE, in *Fabulous Hiſtory*, the wife of Lycus king of Thebes, who, being deflowered by Jupiter in the form of a ſatyr, brought forth Amphion and Zethus. Another Antiope was queen of the Amazons; and, with the aſſiſtance of the Scythians, invaded the Athenians, but was vanquiſhed by Theſeus.

ANTIOPIA, in *Ancient Geography*, an ancient town of Paleſtine, in the tribe of Naphtali, towards the frontier of Aſer, between Tyr and Bethſaida. It was once a principal city of the Canaanites, but is now reduced to a miſerable village.

ANTIPACHSU, in *Geography*, a ſmall iſland on the coaſt of Epirus, over againſt the gulph of Arta, between Corfu and Cephalonia.

ANTI-PÆDO-BAPTISTS, derived from αντι, *againſt*, παις, παιδος, *child*, and βαπτιζω, *baptize*, whence βαπτισης, is a diſtinguiſhed denomination given to thoſe who object to the baptiſm of infants; becauſe, they ſay, infants are incapable of being inſtructed, and of making that profeſſion of faith which entitles them to this ordinance, and an admiſſion into church communion. See ANABAPTISTS and BAPTISTS.

ANTIPAGMENTS, *Antipagmenta*. See ANTEPAGMENTA.

ANTIPAPINIANUS, αντιπαπινιανος, a title given by the Greek lawyers to the fourth part of the Digeſt, including four books, beginning with the title *De pignoribus*.

This is otherwiſe called *antipapianus*.

The antipapinianus was thus denominated, not as being intended in oppoſition to Papinian, but becauſe it was to ſerve in the ſchools of the civil law in lieu of the books of that lawyer, purſuant to an edict of the emperor Juſtinian; ſo that the antipapinian was ſo far from being a refutation of Papinian, that it was only a ſubſtitute for his writings, which were not ſo proper for the uſe of the younger ſort of ſtudents.

ANTIPARALLELS, in *Geometry*, are thoſe lines which make equal angles with two other lines, but in oppoſite directions. Thus, if AB and AC (*Plate* II. *Geometry, fig.* 27.) be any two lines, and FC and FE be two others interſecting them in ſuch a manner, that the angle B is equal to the angle E, and the angle C equal to the angle D, then BC and DE are antiparallels, with reſpect to AB and AC; and theſe latter are antiparallels with regard to the two former. It is a property of theſe lines, that each pair cuts the other into proportional ſegments, if they be taken alternately, *viz.* AB : AC :: AE : AD :: DB : EC, and FE : FC :: FB : FD :: DE : BC. M. Leibnitz, however, calls thoſe lines antiparallels, which cut two parallels ſo, that the outward angle being added to the inward one, the ſum may be equal to a right angle.

ANTIPARALYTICA, in the *Materia Medica*, medicines ſuited to cure the palſy.

ANTIPARASTASIS, from αντι and παραστασις, of παριστημι, *I exhibit*, in *Rhetoric*, a reply to an opponent, by allowing part of his argument, and denying the reſt, *e. gr.* "you may print whatever you pleaſe, provided the public ſuffer no prejudice from it; but you muſt not, if it does."

ANTIPAROS, in *Geography*, an iſland in the Archipelago, oppoſite to Paros, and ſeparated from it by a ſtrait about ſeven miles wide. This is the ancient *Oliaros*, which was eſtabliſhed by a colony of Sidonians. It is narrow and long, extending in a direction from north-eaſt to ſouth-eaſt; and, according to Tournefort, about 16 miles in circumference; its ſoil is tolerably fertile, and produces for its own ſupply wheat, barley, wine, ſeſamum, and ſome legumes; but the moſt conſiderable production, and that which enables the inhabitants to pay their impoſts, is cotton. What renders Antiparos particularly famous is the grotto, which penetrates into its boſom to a very great depth; and which, according to the relations of the Greeks, communicates beneath the waters with ſome neighbouring iſlands. Magni, an Italian traveller, who firſt diſcovered this ſubterraneous grotto, has given an account of it; Tournefort has alſo deſcribed it with great exactneſs; and M. de Choiſeul Gouffier has given ſome very beautiful drawings of it in his "Voyage Pittoreſque de la Gréce." We firſt find a ruſtic cave, about 30 feet wide, divided by ſome natural pillars; between which the ground ſlopes gently, and then more precipitately to the bottom of the cavern. At laſt the deſcent is by a ladder to the grotto itſelf, which is about 300 fathoms below the ſurface of the earth; and it appears to be about 40 fathoms high, and 50 wide. It is full of large and beautiful ſtalactites, hanging from the roof, and covering the floor. Olivier (Travels, p. 121.) queries, whether it ought to be conſidered as a quarry, from which marble has been extracted for a length of time, or as an immenſe cavity, ſuch as naturally exiſt in moſt calcareous mountains.

ANTIPAS-HEROD. See HEROD.

ANTIPASCHA, in *Eccleſiaſtical Writers*, denotes the firſt Sunday after Eaſter; otherwiſe called DOMINICA *in albis*.

ANTIPATER, in *Hiſtory* and *Biography*, was a native of Idumæa; and, having acquired wealth and influence in the Jewiſh ſtate, joined the phariſees againſt Ariſtobulus the high

high prieſt, in favour of his brother and competitor Hyrcan. He alſo engaged Aretas, the Arabian king, to invade Judæa, where he was ſtrengthened by Hyrcan's party; and totally defeated Ariſtobulus, who was forced to fly into Jeruſalem, and await the event of a cloſe ſiege. In theſe circumſtances Ariſtobulus applied to the Romans for ſuccour; and Scaurus, the Roman general, was induced by a conſiderable bribe to threaten Aretas, and thus to induce him to lead his army out of Judæa. He was afterwards overtaken by Ariſtobulus, and defeated with great ſlaughter. When Pompey arrived in Syria, in the year before Chriſt 63, the two brothers, Ariſtobulus and Hyrcan, appeared before him, and urged their reſpective pleas: but the deciſion was deferred, and Ariſtobulus departed in diſguſt. When Pompey entered Judæa, he ſummoned Ariſtobulus, who had raiſed a conſiderable army, to appear and to anſwer for his conduct; but being diſſatisfied with the terms of conciliation that were propoſed to him, he fled with haſte to Jeruſalem, and was ſoon followed by Pompey, who laid ſiege to the city, and, after an obſtinate reſiſtance, took it. On this occaſion, 12,000 of the beſieged were ſlaughtered by the Romans, beſides many more who died by their own hands. During this horrid ſcene, the prieſts never intermitted the divine ſervice in the temple; and at laſt ſuffered themſelves to be butchered before the altar, with as much meekneſs and conſtancy as the victims they were then offering. Hyrcan was reſtored to the pontifical dignity, with the ſpecious title of prince, though from thenceforth tributary to Rome; but he was wholly diveſted of his regal power, and forbade to reſume either the diadem or royal ſtyle, or to extend his territory beyond the old borders of Judæa. Ariſtobulus and his two ſons, Alexander and Antigonus, together with his two daughters, were taken by Pompey to Rome, as captives to adorn his triumph. The indolence of Hyrcan led him to commit the management of his affairs to Antipater, who artfully contrived to ingratiate himſelf with the Romans, and to promote the aggrandizement of his own family. With theſe views he gave ſucceſſive aſſiſtance to Scaurus, Gabinius, and Caſſius, the Roman generals who commanded in thoſe countries. He alſo facilitated the capture of Peluſium by the ſuccours which he afforded to Julius Cæſar, and he was one of the foremoſt in ſcaling it, when this city was taken by aſſault. Mithridates, in a letter to Cæſar, acknowledged that his ſucceſſes were owing to the co-operation and valour of Antipater; and in recompence of his ſervice, Cæſar gave him conſiderable poſts in the army, and made him procurator or lieutenant of Judæa, and citizen of Rome. Antipater, having accompanied Cæſar to Tyre, where he embarked for Sicily, returned to Jeruſalem, and exerted himſelf in reſtoring the Jewiſh government to its ancient model, and repairing the walls and fortifications. He alſo made his eldeſt ſon Phaſael governor of the metropolis, and appointed his ſecond ſon, Herod, governor of Galilee. This growing power, however, excited the envy and jealouſy of the principal Jews; and at length Malichus, who had been of the ſame party with Antipater, and who had concurred with him in the ſupport of Hyrcan's intereſt, reſolved to take him off by treachery. Antipater, being apprized of his deſign, retired beyond Jordan, and put himſelf in a poſture of defence; but Malichus contrived by various proteſtations to remove his ſuſpicion, and to effect a reconciliation with him; and Antipater, by his intereſt with Marcus, governor of Syria, prevented his being put to death. The jealouſy and envy of Malichus were ſmothered, but not extinguiſhed; and he embraced the firſt convenient opportunity that offered of bribing the butler of the high prieſt to poiſon him with a glaſs of wine, whilſt with an armed force he ſeized upon the government of Jeruſalem. This event happened in the year before Chriſt 43. Anc. Un. Hiſt. vol. iii. p. 127—147.

Antipater, the Macedonian, was a perſon of noble birth, and diſtinguiſhed by his natural talents and excellent education. He was the friend and diſciple of Ariſtotle, learned, and a lover of learning; magnificent in his actions, but plain in his dreſs and behaviour, never varying his habit during the whole time of his government, but appearing like a private perſon when he gave law to kings. Philip of Macedon ſelected him as his miniſter, and confided in him as his friend. "I have ſlept ſoundly," ſaid he; "for Antipater was waking." And Alexander, referring to his plain garb, replied to thoſe who obſerved to him, that all his great officers, except Antipater, wore purple; "True; but Antipater is all purple within." During the abſence of Alexander, on occaſion of his expedition into Aſia, the government of Macedon was given to Antipater; and he was ſupported even againſt the interference of Olympias, Alexander's mother. He alſo maintained the tranquillity of all Greece; and marching with a conſiderable force againſt Agis III. king of Sparta, who had united ſeveral of the Grecian ſtates againſt the Macedonians, he defeated the Spartan king, and by a ſingle action terminated the war.

After the death of Alexander, when the empire was divided by a general council ſummoned by Perdiccas, the government of the European provinces was aſſigned to Antipater, as general of the army in that continent. In conſequence of an edict of Alexander, which directed all the cities of Greece to recall their exiles, Antipater was ſoon engaged in a war, in which the Athenians were particularly active, and in which they were at firſt ſucceſsful; ſo that they compelled him, after a defeat, to retire to Lamia, a ſtrong city, near the field in which their armies had been engaged. But Antipater, receiving aſſiſtance from Aſia, was reſcued from confinement, and the ſiege being raiſed, he was joined by Craterus, and thus enabled to defeat the confederate Greeks. Athens, on his approach, was compelled to ſubmit at diſcretion; and he aboliſhed the popular government there, and eſtabliſhed that of Solon, leaving a Macedonian governor in the place. He alſo ſettled the reſt of the Grecian ſtates on a ſimilar plan of equity and moderation; and ſo much to general ſatisfaction, that he was honoured as the father and protector of Greece. Upon his return to Macedon, he directed his arms, in conjunction with his ſon-in-law Craterus, who had married his daughter Phila, againſt the Ætolians, the only perſons that had refuſed to be comprehended in the peace, and effected their purpoſe. They afterwards entered into a league with Ptolemy, and paſſed over into Aſia, in order to control the power of Perdiccas, who had aſſumed the ſovereignty. But Perdiccas being ſoon after ſlain in Egypt, Antipater was ſent for to the army in Syria, and declared the ſole protector of kings, and inveſted with ſovereign power. Antipater next proceeded to make a new diviſion of the provinces, and then returned to Macedon, his own province, with the kings, leaving the army ſatisfied with his proceedings. Soon after his return to Macedon, he was attacked by a dangerous diſeaſe, which, at his advanced age, left him little hope of life. In his laſt moments he behaved with the ſame firmneſs and the ſame regard to his reputation which he had manifeſted in all the actions of his life. His great offices of protector and governor of Macedon he bequeathed to Polyſperchon, the eldeſt of Alexander's captains then preſent; and his eldeſt ſon, Caſſander, he merely appointed to be a chiliarch or colonel of a thouſand

men. To Polysperchon he gave a council suggested by the experience of his life: "Never, on any account to suffer a woman to interfere in affairs of state." He died at the age of 80, in the year before Christ 318. Anc. Un. Hist. vol. vii. p. 454., vol. viii. p. 16. Rollin's Anc. Hist. vol. iv. p. 374., vol. v. p. 119—151.

ANTIPATER, was bishop of Bostra, an Arabian church, and flourished towards the end of the fifth century. He wrote a refutation of Eusebius's Apology for Origen, fragments of which are preserved in the acts of the second council of Nice. Fabr. Bib. Græc. l. v. c. 34. § 7. t. 9. p. 274.

ANTIPATER, LELIUS COELIUS, a Roman historian, who lived in the time of the Gracchi, was the author of a history of the second Punic war, of which Brutus wrote an abridgment. He is often mentioned by Cicero. The emperor Adrian preferred Antipater to Sallust, probably for the same reason that he preferred Ennius to Virgil, because he was an admirer of the ancient Roman language. Fragments of this historian were published by Riccoboni in 1568, and reprinted with fragments of other historians, by Antony Augustin, at Antwerp, in 1595. Voss. de Hist. Lat. l. i. c. 8.

ANTIPATER of Sidon, or of Tarsus, a stoic philosopher, and also a poet commended by Cicero and Seneca, flourished about the 175th Olympiad, or 80 years before Christ. He was the disciple and successor of Diogenes the Babylonian; and his chief opponent was Carneades.

ANTIPATER, an ancient physician of the sect of the methodists, died, as Galen relates, of a tubercle in his lungs. The tubercle occasioning an intermission of his pulse, which continued several months, Galen, from this circumstance, predicted that his death would be sudden, which accordingly happened.

ANTIPATHES, among the *Ancient Naturalists*, was used to express any stone or gem, which, according to their superstitious ideas of the virtues of gems at that time, was supposed to have a power of resisting the force of enchantments. Pliny mentions a very valuable gem, called by the ancients antipathes for this very reason; and the black coral had the same name on the same account.

ANTIPATHES, in *Natural History*, the name of a genus in the ZOOPHYTA order of VERMES, the character of which, according to the Linnæan system, is, animal growing in the form of a plant; stem within horny, with small spines; base expanded; the outside covered with gelatinous flesh, and numerous polypiferous warts. The species of the genus are, spiralis, ulex, subpinnata, myriophylla, elopecuroides, cupressus, orichalcea, dichotoma, clathrata, fabellum, pennacea, ericoides, and fœniculacea; which see respectively.

ANTIPATHY, compounded of ἀντι, *contra*, *against*, and πάθος, *passion*, in *Physiology*, a natural enmity or aversion of one body to another. In which sense the word stands opposed to SYMPATHY. Such an aversion is commonly said to be between the salamander and the tortoise, the vine and the elm, the toad and the weasel, the sheep and the wolf, the olive and the oak, &c. Phil. Trans. N° 339.

In a more restricted and proper sense, antipathy denotes that natural aversion and detestation which an animated and sensitive being feels with regard to some object that is presented to it, either in reality or in imagination; and the cause of which is mysterious and inexplicable. Such are some of the antipathies mentioned in the last paragraph; and such also is the aversion to which some persons are conscious under the apprehension or at the sight of particular objects, as cats, mice, spiders, serpents, eels, &c. and which produces, whatever be the cause of it, sensible and apparent effects. Many instances of antipathies that have been recorded are, perhaps, no better than fables; and a severe examination would reduce them to the large class of vulgar errors. There are also fictitious aversions, which have no other source besides affectation, and a pretended delicacy of nerves, which is more frequently feigned than real. Of those other antipathies, the existence of which is capable of being ascertained, and which produce sensible and undisputed effect, it is not difficult to assign a cause without recurring, with the Peripatetics, to any occult qualities inherent in bodies. In the credulous period of infancy, with what pains and industry are the minds of children impressed with the sense of the noxious qualities of particular animals, such as serpents and other reptiles; and how easily do they associate the ideas they are thus led to entertain of some objects, with others that resemble them in their visible form or general properties? When an aversion thus imbibed in early life, or in consequence of some trivial act or injury, concurs with a feeble frame and irritable state of the nervous system, it will serve to account, with sufficient satisfaction, for the antipathies of advanced age, without recurring to any occult qualities and latent principles, which are mere names for unknown and unascertained causes of particular effects. The antipathy which some persons have to eels, may be traced to the resemblance which these fishes bear to serpents, and to the dread of these reptiles that has been betimes implanted and cherished. There are other antipathies with regard to food or liquor of any particular kind, which have proceeded from a defective and faulty conduct of indulgent and ill-judging parents in early life, or from some natural unsuitableness to the taste or digestive faculty of children. "To what then are those antipathies of which we have heard so much reducible? Either to legendary tales, or to aversions against objects which we believe dangerous; or to a childish terror of imaginary perils; or to a disrelish, of which the cause is disguised; or to a ridiculous affectation of delicacy; or to an infirmity of the stomach: in a word, to a real or pretended reluctance for things, which are either invested, or supposed to be invested with qualities hurtful to us. Too much care cannot be taken in preventing or regulating the antipathies of children; in familiarising them with objects of every kind; in discovering to them, without emotion, such as are dangerous; in teaching them the means of defence and security, or the methods of escaping their noxious influence; and when the rational powers are matured by age, in reflecting on the nature of those objects which we fear, in ascertaining what has been told concerning their qualities, or in vigorously operating upon our own dispositions to overcome those vain repugnances which we may feel."

Some think that the term antipathy can only be applied to any certain purpose, when used with the restriction of modern philosophers; among whom it signifies no more than a *vis centrifuga*, or repelling power.

ANTIPATHY is sometimes also used in a *moral* sense, to denote a contest between the mind and the body, or between reason and inclination.

ANTIPATHY, in *Painting*, relates wholly to the colouring part of that art, and which may be more properly expressed by *contrast*, *degradation*, &c. Blue and crimson are by mixing changed into purple, as blue and yellow are into green, or red and yellow into an orange colour: these mixtures may be said to be kind to, or to harmonize with each other. If red and green, yellow and purple, or blue and orange colours, be united by admixture, they not only de-

ſtroy the character of the colours, but they alſo deſtroy moſt completely the brilliancy of the ſeveral tints employed. Hence we may ſay, that purple has an antipathy to yellow, green to red, and orange to a blue colour. The union of theſe antipathies degrades the colours more or leſs, according to the proportion in which they are uſed: theſe degradations, however, are of the greateſt uſe in the hands of a ſkilful artiſt, without which his pictures would reſemble the crudeneſs of paintings upon glaſs, rather than be imitations of nature. Although the ſkilful uſe of theſe antipathies prevents a too ſtaring and gaudy effect, yet there is danger on the other hand, if they are not uſed with great judgment and delicacy, that the picture may ſink into coldneſs, inſipidity, and flatneſs. It is upon the knowledge of theſe three colours, blue, red, and yellow, and their proportion to each other as antipathies, that the whole art of colouring depends, which requires more ſtudy and application, and an eye of nicer diſcernment, than may be generally ſuppoſed. The term antipathy can hardly be applied to the arrangement of the parts which compoſe a picture, as the colours of garments, &c. without affectation; the expreſſions in more common uſe convey ideas with leſs ambiguity, ſuch as contraſt, union, harmony, diſcord, &c.; the two laſt, although they are, in ſtrict propriety, muſical terms, yet have been adopted, and very aptly applied by painters, who well underſtood their ſignification as relative to their art, as well as to that of a muſician. We ſhould not have inſerted the term antipathy, as applied at all to painting, but on account of its being found among ſome writers on that art, and that our readers might not be diſappointed when ſeeking its explanation.

ANTIPATRIA, in *Ancient Geography*, a town placed by Pliny in Macedonia, towards the ſouth, in Elymiotis, upon the Celydnus, to the north-weſt of Adrianopolis. Livy, ſpeaking of its capture by the Romans, ſays, that it was ſituated in a narrow defile.

ANTIPATRIS, or *Capharſaba*, formerly called *Capharſalema* (1 Maccab. vii. 31.), a town of Paleſtine, placed by Reland and M. d'Anville in Samaria, to the eaſt of Apollonia, on the ſea-coaſt. It was of little repute till it was rebuilt by Herod the Great in the plain of Capharzaba, which, according to Joſephus, was watry and fit for plants, with a river and a grove encompaſſing the city. It was 18 miles from Jeruſalem, and in the way to Cæſarea Paleſtinæ, (Acts, xxiii. 31.), and within the borders of Samaria and the half tribe of Manaſſeh. Herod called it Antipatris, in honour of his father Antipater.

ANTIPELARGIA, among the *Ancients*, a law, whereby children are obliged to furniſh neceſſaries to their aged parents. The *ciconia*, or ſtork, is a bird famous for the care it takes of its parents when grown old. Hence, in ſome Latin writers, this is rendered *lex ciconiaria*, or the ſtork's law. Paſſavant has publiſhed a diſſertation De Antipelargia, Baſil, 1672, 4to.

ANTIPERISTALTIC, in *Anatomy*, a motion of the inteſtines producing a contrary effect to that which the periſtaltic motion naturally occaſions. The latter, in a ſtate of health, determines the reſidue of the alimentary matter downwards towards the anus; whilſt the former, being the conſequence of diſeaſe, urges the contents of the inteſtines upwards into the ſtomach. See PERISTALTIC *Motion*.

The word is derived from *αντι*, *againſt*, *περι*, *about*, and *σαλτικος*, *that which hath the power of compreſſing*

ANTIPERISTASIS, in *Philoſophy*, the action of two contrary qualities; one whereof is ſuppoſed, by its oppoſition, to excite and heighten the force of the other.

The word is formed of *αντι*, *contra*, *againſt*, and *περιϛαναι*, *to ſtand round*, or *to reſtrain*; q. d. *circumobſiſtentia*, or the reſiſtency againſt any thing that ſurrounds or beſets another.

Antiperiſtaſis is uſually defined, "the oppoſition of a contrary quality, whereby the quality it oppoſes becomes heightened or increaſed: or the action whereby a body attacked by another, collects itſelf, and becomes ſtronger by ſuch oppoſition: or it is an increaſe of the activity of one quality, cauſed by the oppoſition of another."

Thus, cold, ſay the ſchool-philoſophers, on many occaſions, exalts the degree of heat, and dryneſs that of moiſture. Thus it is, ſay they, that quick-lime is ſet on fire by the effuſion of cold water; and ſo water becomes warmer in winter than in ſummer by antiperiſtaſis; and to the ſame cauſe it is owing, that thunder and lightning are excited in the middle region of the air, which is continually cold.

This antiperiſtaſis was a principle of great uſe and extent in the Peripatetic philoſophy.

Mr. Boyle has canvaſſed this doctrine thoroughly, in his Hiſtory of Cold (Works by Birch, vol. ii. p. 659.). It is certain, that *a priori*, or conſidering the reaſon of the thing abſtracted from the experiments alleged to prove an antiperiſtaſis, it appears highly abſurd; ſince, according to the courſe of nature, one contrary ought to deſtroy, not to ſtrengthen another.

In effect, not only reaſon, but experiment alſo, concludes againſt the notion of an antiperiſtaſis: the leading argument urged in behalf of it is, the heating of quick-lime in cold water; now how aſtoniſhing the lazineſs and credulity of mankind, who have ſo long and generally acquieſced in what they might ſo eaſily have found to be falſe! for if, inſtead of cold water, the lime be quenched with hot water, the ebullition will always be far greater than if the liquor were cold.

As to the refreſhing coldneſs which ſubterraneous places afford in ſummer, it may be denied that they are then really colder than in winter; though, if the contrary were allowed, it would not neceſſarily infer an antiperiſtaſis. The ſmoking of waters drawn from deep places in froſty weather, does not neceſſarily infer ſuch water to be warmer than at other times when it does not ſmoke, ſince that effect may proceed, not from the greater warmth of the water, but from the greater coldneſs of the air. For a man's breath in a cold ſummer, or in mild winter weather, becomes very viſible; the cold ambient air ſuddenly condenſing the fuliginous ſteams diſcharged by the lungs; which in warm weather are readily diffuſed in imperceptible particles through the air. See COLD and EFFLUVIA,

ANTIPHARMACA, in the *Materia Medica*, medicines ſuited to reſiſt poiſon.

ANTIPHATES, in *Entomology*, a ſpecies of PAPILIO found in America, and deſcribed by Fabricius, from a ſpecimen in the Britiſh Muſeum. The wings are tailed, white; margin brown, faſciated with white; poſterior pair, beneath yellowiſh at the baſe, and faſciated with black. This is the ſpecific character, to which it is added, that the exterior margin has ſeven white bars; the tail is very much elongated, ovate, and black; the black bands on the baſe of the poſterior wings two in number, and apex of the wings white, with a few black dots.

ANTIPHELLOS, or ANTIPHELLUS, in *Ancient Geography*, a town of Aſia Minor, in Lycia, took its name probably from the town of Phellus, which was ſituated at a ſmall diſtance to the north. The ſmall iſland of Ciſthenes lay oppoſite to it.

ANTIPHERNA, among the ancient Greeks, denoted a kind of ſettlement made on a wife in caſe of ſurviving her huſband, as an equivalent for her dowry.

This

This word ſeems to anſwer to what in our law is called a JOINTURE.

ANTIPHILI, in *Ancient Geography*, a place of Africa in the Mareotid, mentioned by Ptolemy, and alſo by Strabo.

ANTIPHLOGISTICA, in the *Materia Medica*, medicines or remedies ſuited to reſiſt, diminiſh, or cure inflammation, or an inflammatory ſtate of the ſyſtem.

ANTIPHON, in *Biography*, an Athenian orator, was born at Rhamnus in Attica, and hence called the *Rhamnuſian*. He was inſtructed by his father Sophilus in rhetoric, and was deemed not inferior in eloquence to Themiſtocles, Ariſtides, Pericles, or Gorgias, his immediate predeceſſors; and he was preceptor in this art to Thucydides, who mentions him as an eminent orator. Quinctilian (Inſt. l. iii. c. 1.) informs us, that he was the firſt who wrote precepts on oratory; and Ammianus Marcellinus (l. xxx. c. 4.) ſays, that he firſt introduced the practice of pleading for money. Plutarch, as well as Thucydides, repreſent him as an energetic and purſuaſive orator, of fertile invention, and ingenious in adapting himſelf to the prejudices and intereſts of his auditors. Philoſtratus (de Sophiſt. l. 1.) deſcribes him as poſſeſſing peculiar powers for ſoothing the minds of his hearers, and alleviating grief. Plato, however (in his Menexenus) treats his talents with contempt, and makes Socrates employ him in oppoſition to Aſpaſia; but Socrates, it ſhould be remembered, had been inſulted by the ſophiſts, and particularly by Antiphon. His talents, as it is obſerved to his diſhonour, were employed in eſtabliſhing the tyranny of the four hundred in Athens; and, as Plutarch ſays, he was, for this offence, condemned and executed as a traitor, and his body thrown out of the walls of the city, in the firſt year of the 92d Olympiad, or 412 years before Chriſt. Others have given a different account of the manner of his death. Sixty orations under his name were formerly extant, but there now remain only 16; of which the ſubjects are criminatory, for murder or manſlaughter, or defenſive in ſimilar cauſes. Fabricius and other critics think that they are genuine, though their authenticity has been queſtioned by others. They have been edited, with the orations of Æſchines, Lyſias, &c. by Aldus at Rome, in folio, in 1513; by H. Stephens, in 1575; and in 8vo. by Minatus, at Hanau, in 1619. Plutarch. de Vita x. Oratorum, apud op. tom. ii. p. 832. Fabr. Bibl. Græc. l. ii. c. 26. § 2. t. i. p. 884.

ANTIPHONALLY, from ἀντι, *contra*, and φωνη, *voice*, in reſpect of church muſic, imports as much as alternately, or anthem-wiſe.

The Greeks have a method of ſinging *antiphonally*, *antiphonatim*, called by them παραλλαξιακον, wherein two perſons ſing together, and then are ſilent, and ſo on.

ANTIPHONARY, *antiphonarium*, a ſervice book which contained all the invitatories, reſponſories, collects, and whatever elſe was ſaid or ſung in the choir, except the leſſons. This is otherwiſe called *reſponſarium*, from the reſponſes therein contained. The author of the Roman antiphonary was Pope Gregory the Great.

This is a book containing, in Gregorian notes, the anthems and hymns of the Romiſh church. The Abbé Feytou, in correction of Rouſſeau, ſays that the book only which contains the *anthems* is ſtyled the Antiphonarium. When the pſalms and hymns are underſtood to be included, it is called *veſperal*; when it contains the chants of the maſs, it is termed *gradual*. The proceſſional book contains the benediction, ſtation, and proceſſional chants. The funeral chants occupy the *ritual*.

We alſo find mention of nocturnal and diurnal *antiphonaries*, for the uſe of the daily and nightly offices; ſummer and winter *antiphonaries*; alſo *antiphonaries* for country churches, &c. By the provincial conſtitutions of archbiſhop Winchelſea, made at Merton, A. D. 1305, it is required that one of theſe ſhould be found in every church within the province of Canterbury.

The uſe of theſe, and many other popiſh books, was forbidden by the 3d and 4th of Edward VI. c. 10.

ANTIPHONY, ANTIPHONA, the anſwer made by one choir to another, when the pſalm or anthem is ſung alternately between two.

ANTIPHONY, ſometimes denotes a ſpecies of pſalmody, wherein the congregation, being divided into two parts, repeats the pſalms, verſe for verſe, alternately.

In this ſenſe, antiphony ſtands contradiſtinguiſhed from SYMPHONY, where the whole congregation ſings together.

Antiphony differs from *reſponſorium*, becauſe in this latter the verſe is only ſpoken by one perſon, whereas in the former, the verſes are ſung by the two choirs alternately. The original of antiphonal ſinging in the weſtern churches is referred to the time of St. Ambroſe, about the year 374. That father is ſaid to have firſt introduced it into the church of Milan, in imitation of the cuſtom of the eaſtern church, where it appears to be of greater antiquity, though as to the time of its inſtitution, authors are not agreed. It was moſt probably introduced at Antioch.

St. Ignatius, who, according to Socrates (E. H. l. vi. c. 8.), had converſed with the apoſtles, is generally ſuppoſed to have been the firſt who ſuggeſted to the primitive chriſtians in the eaſt the method of ſinging pſalms and hymns alternately, or in dialogue; dividing the ſingers into two bands or choirs, placed on different ſides of the church. Socrates, and ſeveral of the fathers, pretended, that it was revealed to St. Ignatius by a viſion, in which he had ſeen choirs of angels praiſing the Holy Trinity in this manner by ſinging alternate hymns. The cuſtom ſoon prevailed in every place where chriſtianity was eſtabliſhed. But Theodoret (E. H.) l. ii. c. 24.) informs us, that this manner of ſinging was firſt practiſed at Antioch. Suidas, under the word χορος, ſays, that the choirs of churches were, in the time of Conſtantius, the ſon of Conſtantine the Great (who reigned from 337 to 361) and of Flavian, biſhop of Antioch, divided into two parts, who ſung the Pſalms of David alternately; a practice, he adds, that began at Antioch, and was thence diſperſed into all parts of the chriſtian world. Indeed, it ſeems, that many of the primitive chriſtians had not any more ſublime conceptions of the celeſtial employment, or the joys of the bleſſed, than that they were eternally ſinging. The ancient hymn, "Te Deum laudamus," ſtill retained in the church, appears to have furniſhed the poet Dante with a model of the 28th canto of his "*Paradiſo*;" where, under three different hierarchies, conſiſting each of three choirs or choruſes, the heavenly hoſt of cherubim and ſeraphim are ſinging perpetual hoſannahs. Milton has alſo aſſigned them the ſame employment:

"——— Their golden harps they took;
Harps ever tun'd, that glittering by their ſide
Like quivers hung, and with preamble ſweet
Of charming ſymphony they introduce
Their ſacred ſong, and waken raptures high:
No voice exempt, no voice but well could join
Melodious part, ſuch concord is in heaven."

Paradiſe Loſt, book iii.

See Burney's Hiſt. of Muſic, vol. ii. p. 10.

ANTIPHONY is alſo uſed to denote the words given out at the beginning of the pſalm, to which both the choirs are to accommodate their ſinging.

ANTIPHONY, in a more modern ſenſe, denotes a kind of compoſition made of ſeveral verſes extracted out of different pſalms, adapted to expreſs the myſtery ſolemnized on the occaſion.

ANTIPHONA *ad introitum*, that anciently ſung in the introit of the maſs.

ANTIPHONA *invitatoria*, that repeated at the pſalm *Venite exultemus*.

ANTIPHONÆ *majores*, thoſe ſeven uſed to be ſung in the time of Advent, at the Magnificat, and during the ſeven days before Chriſtmas.

ANTIPHONÆ *proceſſionales*, thoſe ſung at proceſſions.

ANTIPHONÆ *rogationes*, thoſe rehearſed at rogations.

ANTIPHRASIS, derived from αντι and φρασις, of φραζω, *I ſpeak*, in *Rhetoric*, a ſort of figurative expreſſion, which has a contrary meaning to what it carries in appearance. Or, a kind of irony, wherein we ſay one thing, and mean the contrary.

Sanctius defines antiphraſis to be a form of irony, whereby we ſay a thing, by denying what we ought rather to affirm it to be: as when we ſay, "it did not diſpleaſe me;" or, "he is no fool;" meaning, "I was pleaſed with it: or "he is a man of ſenſe." On this principle the antiphraſes ought to be ranked among the figures of ſentences, and not among thoſe of words.

It is a common error, to make antiphraſes conſiſt in ſingle words; as when we ſay, that the Parcæ are thus called by antiphraſis, becauſe they ſpare nobody, "PARCÆ, qui nemini parcunt." St. Jerom, in his epiſtle to Riparius againſt Vigilantius, ſays, he ought rather to be called "Dormitantius per antiphraſin," than Vigilantius, becauſe he oppoſed the chriſtians holding wakes at the tombs of the martyrs.

Sanctius holds it improper to call theſe antiphraſes; becauſe *phraſis* is not applicable to a ſingle word, but ſignifies *orationem, aut loquendi modum*.

ANTIPHTHISICA, in the *Materia Medica*, medicines adapted to reſiſt and cure phthiſis or conſumption.

ANTIPHUS, in *Entomology*, a ſpecies of PAPILIO that greatly reſembles P. Polydorus, but is ſtill a diſtinct inſect. The wings are tailed, black on both ſurfaces, with ſeven lunated red ſpots on the poſterior pair. Fabricius, and Donovan's Inſects of India.

ANTIPINO, in *Geography*, a town of Ruſſia, in the province of Saratov on the Volga, 100 miles ſouth of Saratov.

ANTIPLEURITICA, in the *Materia Medica*, medicines ſuited to cure pleuriſy.

ANTIPODAGRICA, medicines ſuited to cure the gout.

ANTIPODES, from αντι, *againſt*, and πους, ποδος, *a foot*, in *Geography*, a relative term, denoting ſuch inhabitants of the earth as live diametrically oppoſite to one another.

The Antipodes are thoſe who live in parallels of latitude equally diſtant from the equator, the one toward the north, the other to the ſouth; and under the ſame meridian, though 180°, or juſt half of that meridian, diſtant from one another.

The Antipodes have nearly the ſame degree of heat and cold; and the ſame length of night and day; but at contrary times: it being midnight with one, when it is noon with the other; and the longeſt day when it is the ſhorteſt with the other.

Again, as the horizon of any place is 90° diſtant from its zenith, the Antipodes have the ſame HORIZON. And hence, when the ſun riſes to one he ſets to the other.

Plato is ſaid to have firſt ſtarted the notion of Antipodes and likewiſe to have given them the name: as he conceived the earth to be of a ſpherical figure, it was eaſy for him to infer, that there muſt be Antipodes.

Many, and particularly Lactantius and Auguſtine, ridiculed the notion. Theſe fathers are ſtrangely perplexed to think how men ſhould hang pendulous in the air, with their feet uppermoſt, as he thought they muſt do in the other hemiſphere.

This perplexity was owing to their not conſidering, that the loweſt point, with regard to the inhabitants of our earth, is the centre; and that the terms *up* and *down* are relative, and merely ſignify farther from or nearer to the centre, to which all heavy bodies gravitate. If we traverſed the globe, we ſhould, in every part of it, have the ſky over our heads, and our feet towards the centre; and we ſhould every where call it *up* over our heads, and *down* under our feet; although the ſame right line which is *down* to us, if continued through and beyond the oppoſite ſide of the earth, would be *up* to the inhabitants on the oppoſite ſide. Our Antipodes may as well imagine, that we ſtand with our heads hanging downwards, as we conceive that this is their pendulous poſition; but if we changed places, we ſhould find that we ſtood equally upright and firm whereever we were. Nay, the fact is, that we, who are now on what we are ready to call the uppermoſt ſide of the earth, and ſo wonder how another, in the ſituation of our Antipodes, can ſtand ſecurely on the undermoſt ſide, with his head hanging downwards, ſhall be carried by the revolution of the earth, in the ſpace of 12 hours, to the ſituation where our antipodes now are, although we ſhall be as far from them as before; and when we arrive there, we ſhall find no difference as to our manner of ſtanding; but we ſhall then ſee the oppoſite half of the heavens, and imagine that they have moved half round the earth.

If we may believe Aventine, Boniface, archbiſhop of Mentz and legate of pope Zachary, the eighth century, declared a biſhop of that time, called Virgilius, heretic, for maintaining that there was ſuch a thing as Antipodes.

But this piece of hiſtory is controverted by the authors of the Mem. de Trevoux: as having been made uſe of, it ſeems, by ſome perſons, to ſhew that the church has been miſtaken in its deciſions.

As to the ſentiments of the primitive Chriſtians with regard to the Antipodes, ſome, rather than admit the concluſions of the philoſophers, abſolutely denied the whole, even the demonſtrations of the geometricians relating to the ſphericity of the earth: which is Lactantius's way. Inſtit. lib. iii. cap. 24. Others only called in queſtion the conjectures of the philoſophers; which is St. Auguſtine's method, De Civit. Dei, lib. xvi. cap. 9. After putting the queſtion, whether there ever were nations of the cyclopes, or pigmies, or of people whoſe feet ſtood outward, &c. he comes to the point of Antipodes, and aſks, "whether the lower part of our earth be inhabited by Antipodes?" He made no doubt of the earth's being round, nor of there being a part diametrically oppoſite to ours, but only diſputes its being really inhabited. And the conſiderations he ſuggeſts for that purpoſe are juſt enough, as that they who aſſerted Antipodes had no hiſtory for it; that the lower part of the earth may be covered with water; and that to place Antipodes there, of a different origin from us (as muſt have been the opinion of the ancients, ſince they thought it impoſſible to go from our world to theirs), is to contradict ſcripture which teaches, that the whole race deſcended from one man. Such are the ſentiments of that father. It may be added, that the Chriſtian fathers were not the only perſons who diſputed the truth of the Antipodes. Epicurus and Lucretius had

had done it before them, at the end of his fifth book, v. 1063, &c. See alſo Plutarch, lib. De Facie in Orbe Lunæ; and Pliny, who relates the opinion, lib. ii. cap. 5.

ANTIPOLIS, in *Ancient Geography*, now ANTIBES, a city of Gaul, near the river Varus, in Narbonenſis Secunda, ſituate on the Mediterranean; built and colonized, according to Strabo, by the Maſſilians, from whoſe authority it was withdrawn by a decree of the Roman ſenate, in the time of Auguſtus. Others ſay, that it was taken by them from the Ligurians of Gaul, called Deciates. It was once very conſiderable, and had a port, a theatre, and many public monuments. See ANTIBES.

ANTIPOPE, a falſe or pretended pope; or one that is, or is pretended to be, irregularly elected in oppoſition to another.

Geddes gives the hiſtory of no leſs than twenty-four ſchiſms in the Romiſh church, cauſed by antipopes; ſome took their riſe from a diverſity of doctrine or belief, which led different parties to elect each their ſeveral pope; but the greater part from dubious controverted rights of election, the fruits of chicane and ambition.

ANTI-PORTICO is uſed by ſome for a veſtibule, or porch, at the entrance of an edifice.

ANTIPRAXIA, from ἀντι and πρασσω, *I perform*, in the *Ancient Phyſic*, denotes a contrariety of functions, temperaments, &c. in different parts of the body; invented to account for that contrariety of ſymptoms which frequently concur in hypochondriac caſes, when, e. gr. the liver is charged with being immoderately hot, and the ſtomach exceſſively cold.

The moderns, particularly Etmuller, refute the notion of an antipraxia, on this principle, that the blood circulating duly through the whole body, warms all the parts, as well the ſtomach as liver proportionably. To which ſome advocates for the ancient ſyſtem object, that this is confounding the preternatural ſtate with the natural.

ANTIPREDICAMENTS, in *Logic*; ſee ANTEPREDICAMENT.

ANTIPROBABILISM, the doctrine or ſyſtem of thoſe who hold it unlawful to follow the leſs probable opinion in oppoſition to the more probable one.

There have been vigorous advocates for antiprobabiliſm; for even among its greateſt enemies, the Jeſuits, F. Gilbert has a treatiſe in favour of antiprobabiliſm, *viz.* "Antiprobabiliſmus, ſeu tractatus theologicus fidelem totius probabiliſmi ſtateram continens," &c. Par. 1703, 4to.

ANTIPROBOLE, in *Rhetoric*, a figure whereby the defendant adopts or admits the charge brought againſt him by the proſecutor.

E. gr. ſuppoſing the proſecutor's προβολὴ to be, "Titus has killed Caius;" the defendant's antiprobole may be, "I have killed him, but undeſignedly."

ANTIPROPEMPTICON, in *Poetry*, a poem wherein a perſon going a journey addreſſes himſelf to his friends. Such is that of Ovid, lib. i. Triſt.

"Cum ſubit illius triſtiſſima noctis imago," &c.

It is oppoſed to PROPEMTICON.

ANTIPROTASIS, in *Rhetoric*, a ſolution of the PROTASIS.

ANTIPSARA, in *Geography*, a ſmall iſland in the Grecian Archipelago, two miles from the iſland of Ipſara.

ANTIPSORA, from ἀντι and ψωρα, *itch*, in *Pharmacy*, remedies proper againſt the itch.

ANTIPTOSIS, a figure in *Grammar*, whereby one caſe is put for another.

The word comes from ἀντι, *pro*, and πτωσις, *caſus*.

ANTIPYRETICA, from ἀντι and πυρ, *fire*, or ANTIPYRETRILIA, among *Phyſicians*, an appellation given to medicines againſt fevers.

ANTIPYRGOS, or ANTIPYRGUS, in *Ancient Geography*, a port of Africa belonging, according to Ptolemy, to Marmorica.

ANTIQUA, in *Entomology*, a ſpecies of PHALÆNA that inhabits Europe. The anterior wings are ferruginous, with a white lunated ſpot in the poſterior angle. Female apterous. Linnæus, Fabricius, &c.

ANTIQUANUS, or rather ANTIGUANUS, in *Ornithology*, a ſpecies of LANIUS, having a long wedge-ſhaped tail; above yellowiſh rufous; beneath white; head, bill, wings, legs, and upper ſide of the tail black. Gmelin. This is the antiguan ſhrike of Latham, and pie-greiſche d'Antigue of Sonnerat. It inhabits Panay, one of the Philippine iſlands, but chiefly about Antigue, one of the provinces thereof. Its ſize is that of the red-backed-ſhrike; bill large and black; the upper mandible very long, and extremely incurvated; irides duſky; head black; back yellowiſh rufous; throat and breaſt white; quills and baſtard wing coverts black; the wings reach only to the beginning of the tail, which is very long and wedge-ſhaped; the two middle feathers are wholly black; the others black above, and reddiſh beneath, with a rufous ſpot at the tip; legs duſky black. Latham.

ANTIQUARE, among Roman lawyers, properly denotes the rejecting of a new law, or refuſing to paſs it.

In which ſenſe, *antiquating* differs from *abrogating*; as the latter imports the annulling of an old law, the former the rejecting of a new one. See A.

ANTIQUARE is alſo uſed for a law's growing obſolete, or into diſuſe, either by age or non obſervance.

ANTIQUARIUM, among the *Ancients*, denoted a place or apartment, wherein their antique monuments were preſerved.

ANTIQUARTIUM is uſed by ſome modern practitioners, for a ſpecific againſt the quartan ague.

Hence ſome call the Jeſuits bark *antiquartium Peruvianum*. Wedelius alſo ſpeaks of an *eſſentia antiquartia*.

The *antiquartan* of Riverius is a preparation of *mercurius dulcis*, *aurum fulminans*, ſulphur of antimony, and ſcammony.

ANTIQUARY, ANTIQUARIUS, a perſon who ſtudies and ſearches after monuments and remains of the ancients; as old medals, books, ſtatues, ſculptures, and inſcriptions: and, in general, all curious pieces that may afford any light into antiquity.

Formerly there were ſeveral other kinds of antiquaries. The LIBRARII, or copyiſts, i. e. thoſe who tranſcribed in fair legible characters, what had been before written in the notes, were called by this name. They were alſo denominated *calligraphi*. They were alſo employed in repairing books injured by age.

In the chief cities of Greece and Italy, there were other perſons of diſtinction, called *antiquaries*, whoſe buſineſs it was to ſhew ſtrangers the antiquities of the place, to explain the ancient inſcriptions, and to give them all the aſſiſtance they could in this way of learning.

This was, doubtleſs, a very curious and uſeful inſtitution, and might well deſerve to be re-eſtabliſhed. Pauſanias calls theſe antiquaries ἐξηγηται. The Sicilians call them *myſtogogi*.

There was an ancient college of antiquaries erected in Ireland by Gilamh Fodhla, 700 years before Chriſt, for the compoſing a hiſtory of that country. And to this, ſay the Iriſh hiſtorians, it is owing that the hiſtory and antiquities of that kingdom may be traced back beyond thoſe of moſt other nations.

Foundations

Foundations of this kind have often been wiſhed for, and ſometimes alſo attempted, in England.

Sir H. Spelman ſpeaks of a ſociety of Antiquaries in his time, to whom his treatiſe of the terms, written in the year 1614, was communicated, he himſelf being one of the number.

The ſociety was founded in 1572, by archbiſhop Parker, Camden, ſir Robert Cotton, Stowe, and others. Application was made, in 1589, to queen Elizabeth for a charter, and a houſe wherein they might hold their meetings, erect a library, and the like. But by the death of that princeſs, their application proved abortive. Her ſucceſſor, king James I. was far from favouring their deſign.

In the year 1717, this ſociety was revived again, ſince which time no interruptions having happened, it is at preſent in a very flouriſhing condition; conſiſting of many learned and ingenious men, of the nobility, gentry, clergy, &c. whoſe buſineſs, as members, is to diſcover the antiquities of their own, as well as thoſe of other nations.

This ſociety was incorporated by the king's charter, in the year 1751, by the name of the Preſident, Council, and Fellows of the Society of Antiquaries of London; their council conſiſts of twenty-one perſons, ten of whom are annually changed: the election of members is by ballot, a certificate ſigned by three or more fellows being previouſly exhibited for ſix ordinary ſucceſſive meetings, except in the caſe of peers, members of the privy council, and judges, who may be propoſed by a ſingle member, and ballotted for the ſame day; and the choice is determined by a majority of two-thirds. Every member pays an admiſſion-fee of five guineas, and two guineas a year, or an additional ſum of twenty-one guineas. They have weekly meetings on Thurſday, from ſeven of the clock in the evening till nine. This ſociety began to publiſh its diſcoveries, &c. in 1770, under the title of "Archæologia."

A ſimilar aſſociation was founded in Edinburgh, in 1780, and received the royal charter in 1783. See SOCIETY.

ANTIQUARY is alſo uſed, by *Ancient Writers*, for the keeper of the antiquarium, or cabinet of antiquities.

This officer is otherwiſe called *archæota*, or *antiquary*, of a king, a prince, a ſtate, or the like.

Henry VIII. gave John Leland the title of his antiquary, a title which, ſays the author of his life, no body ever enjoyed beſides himſelf. But the reſtriction, we ſuppoſe, was only intended to be underſtood in reſpect of the kings of England. M. Schott, we find, had the title of antiquary to the king of Pruſſia; P. Pedruzzi, that of antiquary to the duke of Parma; M. Gallant reſided ſome time in Turkey, under the title of antiquary of the king of France. The univerſity of Oxford have ſtill their antiquary, under the denomination of *cuſtos archivorum*. The kings of Sweden have been at great expences in order to illuſtrate the antiquity of their country, having eſtabliſhed an academy of antiquaries with this ſingle view.

The office of the ancient Iriſh antiquaries was to preſerve the genealogies of the kings of Ireland, to correct the regal tables of ſucceſſion, and deliver down the pedigree of every collateral branch of the royal family.

P. Labbe and Petavius have publiſhed pieces expreſsly concerning the apparatus of antiquaries.

ANTIQUATA, in *Conchology*, a ſpecies of ARCA, that inhabits the Mediterranean, Indian, and American ſeas. The ſhell is obliquely heart-ſhaped, with many unarmed grooves Linnæus, Gmelin, &c. This kind is rather large, white, and covered with a hairy epidermis; a compreſſed prominent angle in the anterior ſlope.

ANTIQUATA, a ſpecies of CHAMA, found in the Atlantic, American, and Indian ſeas. The ſhell is rather heart-ſhaped, grooved longitudinally, and ſtriated tranſverſely. Linnæus. It is ſpotted with brown or ferruginous, and has from nineteen to twenty-two ribs; the margin is dentated; beaks inflected back; and a deep cloſed fiſſure before. Gmelin, &c. Adanſon calls this ſhell *ajar*.

ANTIQUATED, ANTIQUATUS, ſomething obſolete, or grown out of date or uſe.

ANTIQUE, ANTIQUUS, in a general ſenſe, ſomething that is ancient.

ANTIQUE is chiefly uſed among architects, ſculptors, and painters; who apply it to ſuch pieces of buildings, ſculpture, painting, &c. as were made at the time when the arts were in their greateſt perfection among the ancient Greeks and Romans; *viz.* from the age of Alexander the Great to the time of the irruption of the Goths into Italy, under Alaric, in the year 400.

In this ſenſe the word ſtands oppoſed to *modern*. Thus we ſay, an *antique* building, or a building after the *antique*; an *antique* buſt, or bas-relievo; the *antique* manner, taſte, &c.

The ſcience of antiques is alſo called by Spon ARCHÆOGRAPHIA.

Under this is included the knowledge of ancient coins, medals, inſcriptions, buildings, ſtatues, ſculptures, MSS. veſſels, weights, meaſures, &c.

ANTIQUE is ſometimes alſo contra-diſtinguiſhed from *ancient*, which denotes the leſſer degree of antiquity, when the art was not in its utmoſt purity.

Thus *antique architecture* is frequently diſtinguiſhed from *ancient architecture*.

Some writers alſo uſe the compound, ANTIQUO-MODERN, in reſpect of the old Gothic churches, and other buildings, to diſtinguiſh them from thoſe of the Greeks and Romans.

ANTIQUE, more eſpecially applied to *Painting*, deſignates ſuch works of the ancient painters as were produced before the deſtruction of the Roman empire. It appears very certain, that painting was but in an infantile ſtate among the Aſſyrians and Egyptians, as it was and ſtill continues to be among the Perſians and Chineſe, which is known from the accounts we have received, and the ſpecimens which are extant; but it is thought extraordinary, that there ſhould remain any degree of uncertainty with us reſpecting the ſtate of painting among the ancient Greeks and Romans, when it is allowed that ſtatuary, the twin ſiſter-art, ſhould have prevailed in ſo wonderful a degree, as to aſtoniſh the world with the excellent works which were produced by them, and remain the noble monuments of their ſuperior ſkill, the unrivalled objects of admiration, the patterns of imitation, and the ſtandards of excellence. It has, however, been the ſubject of controverſy with reſpect to the degree of excellence to which the ancient painters carried their art; the following obſervations are by ſir Joſhua Reynolds.

"From the various ancient paintings which have come down to us, we may form a judgment with tolerable accuracy of the excellencies and defects of art among the ancients. There can be no doubt, but that the ſame correctneſs of deſign was required from the painter as the ſculptor; and if the ſame good fortune had happened to us in regard to their paintings, to poſſeſs what the ancients themſelves eſteemed their maſter-pieces, which is the caſe in ſculpture, I have no doubt but we ſhould find their figures as correctly drawn as the Laocoon, and probably coloured like Titian. What diſpoſes me to think higher of their colouring than any remains of ancient painting will warrant, is the account which Pliny gives of the mode of operation uſed by Apelles,

that over his finiſhed picture he ſpread a tranſparent liquid like ink, of which the effect was to give brilliancy, and at the ſame time to lower the too great glare of the colour: *Quod abſoluta opera atramento illinebat ita tenui, ut id ipſum reverberatu claritates colorum excitaret.—Et tum ratione magna ne colorum claritas oculorum aciem offenderet.* This paſſage, though it may poſſibly perplex the critics, is a true and artiſt-like deſcription of the effect of glazing or ſcumbling, ſuch as was practiſed by Titian and the reſt of the Venetian painters; this cuſtom, or mode of operation, implies at leaſt a taſte of what the excellence of colouring conſiſts, which does not proceed from fine colours, but true colours; from breaking down thoſe fine colours which would appear too raw, to a deep-toned brightneſs. Perhaps the manner in which Corregio practiſed the art of glazing was ſtill more like that of Apelles, which was only perceptible to thoſe who looked cloſe to the picture, *ad manum intuenti demum appareret;* whereas in Titian, and ſtill more in Baſſan and others his imitators, it was apparent on the ſlighteſt inſpection: artiſts, who may not approve of glazing, muſt ſtill acknowledge, that this practice is not that of ignorance. Another circumſtance that tends to prejudice me in favour of their colouring, is the account we have of ſome of their principal painters uſing but four colours only. I am convinced the fewer, the cleaner will be the effect of thoſe colours, and that four are ſufficient to make every combination required; two colours mixed together will not preſerve the brightneſs of either of them ſingle, nor will three be as bright at two: of this obſervation, ſimple as it is, an artiſt, who wiſhes to colour bright, will know the value. In regard to their power of giving peculiar expreſſion, no correct judgment can be formed; but we cannot well ſuppoſe that men, who were capable of giving that general grandeur of character which ſo eminently diſtinguiſhes their works in ſculpture, were incapable of expreſſing peculiar paſſions. As to the enthuſiaſtic commendations beſtowed upon them by contemporaries, I conſider them as of no weight. The beſt words are always employed to praiſe the beſt works: admiration often proceeds from ignorance of higher excellence. What they appear to have moſt failed in is compoſition, both in regard to the grouping of their figures, and the art of diſpoſing of the light and ſhadow in maſſes. It is apparent that this, which makes ſo conſiderable a part of modern art, was to them totally unknown.

"If the great painters had poſſeſſed this excellence, ſome portion of it would have infallibly been diffuſed, and have been diſcoverable in the works of the inferior ranks of artiſts, ſuch as thoſe whoſe works have come down to us, and which may be conſidered as on the ſame rank with the paintings that ornament our public gardens. Suppoſing our modern pictures of this rank only were preſerved for the inſpection of connoiſſeurs two thouſand years hence, the general principles of compoſition would be ſtill diſcoverable in thoſe pictures; however feebly executed, there would be ſeen an attempt to an union of the figure with its ground, ſome idea of diſpoſing both the figures and the lights in groups. Now, as nothing of this appears in what we have of ancient painting, we may conclude that this part of the art was totally neglected, or more probably unknown.

"They might, however, have produced ſingle figures, which approached perfection both in drawing and colouring; they might excel in ſolo (in the language of muſicians), though they were probably incapable of compoſing a full piece for a concert of different inſtruments." Reynolds's Notes upon Frenoy, note 37, verſe 350.

ANTIQUE, in *Sculpture*, a ſtatue, buſto, baſſo-relievo, or other work, the production of ages prior to the fall of the Roman empire; a term chiefly applied by ſculptors to the works of the ancient Greeks and Romans.

The ſtatues of the ancients were very numerous, chiefly ariſing from their cuſtom of deifying and erecting ſtatues in honour of almoſt all the heroes and celebrated characters among them. But the Romans ſeem to have ſurpaſſed the Greeks in the number of their Gods. "There was no place in Rome," Livy obſerves, "which was not full of gods and ſacrifices;" and for this reaſon, Quartilla ſays, "our country is ſo full of deities, who honour it with their preſence, that it is more eaſy to find a god than a man."

Antique ſculpture is univerſally ſuppoſed to be far ſuperior to the productions of modern times: it is certain, that the beſt antiques greatly ſurpaſs modern ſculpture in general; but it is equally true, that the beſt modern works exceed by far the majority of the ancient. And here it may not be improper to remark, that the different caſts in plaiſter, and ſpecimens in marble which are brought to England from abroad, are carefully ſelected from the maſs of productions; and therefore an Engliſhman is not uſually aware of the deficiencies that are attached to the bulk of the works which remain abroad.

One conſiderable advantage which antiques poſſeſs above modern productions is, that they are in general works of much longer time. It was in many inſtances among the ancients conſidered ſufficient for one ſculptor to have executed four or five ſtatues in the courſe of his life; hence we find, that the moſt celebrated marbles of antiquity are finiſhed to a degree that will bear the cloſeſt inſpection, and will appear equally complete in all the different lights in which they may chance to be placed. Another advantage of the antique above the modern is, that they are the works of artiſts, who were continually in the habit of viewing nature half or quite naked, owing to the ſcanty cloathing of the lower orders of people in the climates of Greece and Italy: the artiſts were able to ſtudy theſe fine examples of nature while in action, as running, wreſtling, boxing, and playing at the ſeveral athletic games and exerciſes of thoſe times; and eſpecially in the gymnaſia or public places, where the youths performed their various feats quite naked. Here all the different motions and beautiful play of the muſcles, together with an amazing variety of poſtures and attitudes, were exhibited to the attentive obſerver; and with a dignity, truth, grace, and expreſſion, that can never be imitated by thoſe mercenary models, that ſell their ignoble nakedneſs to the artiſts in our modern academies. The clothing alſo of thoſe days, being light and ſcanty, did not confine and diſfigure the body, as unfortunately is the caſe in modern times. They had alſo, if report be true, peculiar advantages in the ſtatues of ſome of their goddeſſes; as it has been aſſerted, that even the modeſt women of thoſe days conſidered themſelves honoured by being allowed to ſit as models for a goddeſs: and that in conſequence of this, noblemen of the firſt diſtinction would bring their daughters to the artiſt for that purpoſe; report has alſo gone ſo far as to ſtate, that not leſs than four hundred young women of the firſt rank and greateſt beauty ſtood to the ſculptor who executed the Venus de Medicis.

In many inſtances, the ancients ſeem to have beſtowed as much labour on the ſubordinate parts of their ſtatues as on the principal; hence we very often find the fingers, toes, nails, ears, and hair as highly finiſhed as the face or body; whereas, modern ſculptors in general are apt to beſtow their labour upon the more important parts, to the neglect of the inferior. But in many other inſtances the ancients neglected, to a very inexcuſable degree, what they conceived to be of ſubordinate conſideration: the following remark in one of the lectures of ſir Joſhua Reynolds, is a ſufficient evidence

of this fact. "The ancient ſculptors," ſays he, "neglected to animate the features, even with the general expreſſion of the paſſions. Of this, the group of the boxers is a remarkable inſtance; they are engaged in the moſt animated action with the greateſt ſerenity of countenance;—this frequent deficiency in ancient ſculpture could proceed from nothing but a habit of inattention to what was conſidered as comparatively immaterial."

But it is nevertheleſs proper to remark here, that the ancients in their buſtos, where the face beame the principal object of attention, excelled to a great degree; and undoubtedly ſurpaſs modern ſculptors by far: their treatment of the human countenance, diſplayed in the beauty and dignity of ſome of their heads and buſtos, is beyond deſcription: they were acquainted to the ſmalleſt nicety with the ſeat of every expreſſion, and were perfect maſters of the art of bringing each into full effect.

Simplicity is a great characteriſtic of antique ſculpture in general: this principle is attached not only to the attitudes of their figures, but to the diſpoſition of the drapery, the hair, and every leſſer attribute: ſcarce an inſtance of the *outré* or extravagant is to be found among the finer antiques. But this principle, however beautiful, was often carried too far; and in many inſtances rendered their works ſtiff and unintereſting, which may certainly be conſidered the chief defect of antique ſculpture. The ancients, in order to preſerve dignity and majeſty in the ſtatues of their gods, heroes, emperors, philoſophers, and other great characters, often placed the head and body of the ſtatue in an upright poſition, which in very many inſtances bordered upon ſtiffneſs; and by purpoſely avoiding every trifling turn or angle in the drapery that might tend to deſtroy its ſimplicity, they were ſometimes drawn into the oppoſite error: we therefore find in many inſtances, though each fold may be beautiful in itſelf, that their draperies are compoſed of a continued repetition of long and ſtraight lines.

There is a ſubordinate miſtake attached to many of the beſt as well as to the inferior antique ſtatues; where, in order to ſtrengthen them, the ſtump of a tree, or a piece of rock is introduced, as incorporated with the fleſh of the limb againſt which it is placed; whereas, it is evident that ſome drapery or other diſguiſe ſhould be thrown over the ſupport, to conceal an effect ſo aukward and unnatural.

There was alſo a great degree of falſe taſte among the ancients, manifeſted in their cuſtom of introducing metallic eyes, and working the heads, hands, and feet of ſome of their ſtatues in marble of a different colour from the other parts of the figure; but this miſtake does not belong to their principal and moſt celebrated works.

For ſome account of the chief antique ſtatues, ſee the following articles:

Adonis.	Faunus.	Meleager.
Amazone.	Flora.	Melpomene.
Antinous.	Ganymede.	Mercury.
Antonine Column.	Gladiator.	Narciſſus.
Apollo.	Hercules.	Niobe.
Ariadne.	Juno.	Poppea.
Bacchus.	Jupiter.	Trajan Pillar.
Ceres.	Laocoon.	Torſo.
Cicero.	Livia.	Venus.
Cleopatra.	Marcus Aurelius.	Urania.
Cupid.	Mars.	
Diſcobolus.	Marſyas.	

See alſo SCULPTURE and STATUE.

ANTIQUENSIS, or ANTIGUENSIS, in *Entomology*, a ſpecies of APIS that inhabits the iſlands of Antigua. It is hairy and black; thorax and anterior part of the abdomen yellow. Fabricius and Gmelin.

ANTIQUENSIS, rather ANTIGUENSIS, is alſo a ſpecies of MUTILLA that inhabits Antigua, and is deſcribed by Fabricius and Gmelin. It is red, abdomen black at tip, and ſtreaked with white.

ANTIQUITY, ANTIQUITAS, is uſed to denote the times or ages paſt long ago.

Thus we ſay, the heroes of antiquity, the marks or footſteps of antiquity, monuments of antiquity, &c.

ANTIQUITY is alſo uſed to denote the works or remains of ancient times. See MONUMENT, REMAINS, RUINS, &c.

Thus we ſay, a fine curious piece of antiquity; Italy, France, and England, abound in antiquities.

ANTIQUITY is alſo uſed to denote the great age of a thing, or its duration from times of old.

In this ſenſe we ſay, the antiquity of a kingdom, a cuſtom, or the like; moſt nations lay claim to an antiquity much greater than they can truly warrant. The preſent age may be ſaid to be the antiquity of the world; which was but new in what are commonly called the ancient days, according to the received chronology.

There are great diſputes concerning the antiquity, or age of the world.

Ariſtotle carried it even to eternity; Parmenides, Pythagoras, and the Chaldeans, were of the ſame opinion: but the generality of philoſophers, as well as divines and hiſtorians, have always held an origin of it; though where to fix that origin is the difficulty. The different ſyſtems of the chronology of the Greeks, the Egyptians, the Jews, the Hebrew Text, and the Septuagint verſion of Scaliger, of Pezron, of ſir Iſaac Newton, &c. to ſay nothing of the Chineſe annals, leave the point infinitely embarraſſed.

Dom. Pezron thinks he has merited well of the public by adding 2000 years to the age of the world, which had been taken from it by Scaliger and others; but this did not hinder F. Martianay from entering a proſecution againſt him in the archbiſhop's court of Paris for hereſy. His crime was following the Heathen rather than the Hebrew chronology, in which however he was preceded by the generality of the fathers and primitive writers of the church; among whom it appears to have been a common practice, to make 5500 years between the creation and the incarnation. In reality, the Jews are charged with having corrupted their chronology; by which the moderns have been miſled.

Some have propoſed to trace out the antiquity of the earth, by an obſervation of the ſaltneſs of the ſea; others by obſerving the elevation of the bottom of the ſea, or the growth of its ſtrata. One mark or proof of antiquity has been ſtarted by Rudbeck, which he pretends to have carried to a demonſtration; it is taken from the thickneſs of a certain black cruſt, called in the Swediſh tongue, *mat-iorden* and *ſwart-myllan*, which covers the ſurface of the earth, being formed of a mixture of rotten graſs and other herbs, with duſt and a kind of mud, which the melted ſnow leaves behind it. According to this antiquary, there are at leaſt 500 years requiſite to form an inch thick of this cruſt, which in many places of Sweden is found to be upwards of ſeven inches thick, where urns have been dug up full of bones and aſhes. From whence it follows, according to this author, that it is upwards of 3500 years ſince burning the dead was practiſed in Scandinavia.

Recupero, the hiſtoriographer of Ætna, ſuggeſts an argument in favour of the antiquity of the earth from the ſeveral ſtrata of lava that have iſſued at different times from this mountain. A ſtream of lava, which Diodorus Siculus relates to have burſt out in the time of the ſecond Punic war,

is covered at this day only with a very ſcanty ſoil; and in digging pits and wells, ſeveral ſtrata of lava have been diſcovered with earth to a conſiderable thickneſs over the ſurface of each ſtratum; in one inſtance, ſeven diſtinct ſurfaces of this kind were pierced; and allowing 2000 years for the interval between two eruptions, the lava that compoſed the firſt or loweſt ſtratum, muſt have flowed from the mountain above 14,000 years ago. Brydone's Tour, &c. vol. i. p. 131.

But this argument is very fallacious, becauſe we learn from ſir William Hamilton's remarks on the ſoil of Naples, that ſince the firſt eruption of Veſuvius, which deſtroyed the ancient town of Herculaneum in the year 79, there have been ſix eruptions of lava, forming as many different ſtrata, with veins of good ſoil between them. Phil. Tranſ. vol. lxi. N° 1. See ÆTNA.

There is ſcarce a nation under heaven but lays claim to a greater degree of antiquity than the reſt of its neighbours: the Scythians, the Phrygians, the Chaldeans, Egyptians, Greeks, Chineſe, &c. pretend each to have the honour of being firſt inhabitants of the earth: ſeveral of theſe nations, leſt they ſhould be outſtripped in their pretenſions by any of the reſt, have traced up their origin to ages long before the received account of the creation. Hence the appellations *aborigines*, *indigenæ*, *terrigenæ*, *antelunares*, &c. The Athenians were not aſhamed to pretend to be *autochthones*; and what is moſt remarkable, Socrates himſelf gives them this ridiculous appellation, which, as ſome others of the philoſophers have wiſely obſerved, only put them on a level with ants and graſhoppers. Mem. Acad. Inſcr. tom. vii. p. 498.

The Chaldeans pretend to aſtronomical obſervations of 470,000, or 473,000 years; they mention the preciſe king who reigned over them at the time of the deluge, whoſe name was Xiſuthrus, and attribute to him ſeveral things which we aſcribe to Noah.

The Chaldaic antiquities of Beroſus are loſt, except a few fragments which have been collected by Joſ. Scaliger, and ſince more fully by Fabricius. Annius of Viterbo, a Dominican monk, towards the cloſe of the fifteenth century, would not ſuffer us to want ſuch a treaſure, but officiouſly went to work, and forged a Beroſus out of his own brain, which he publiſhed at Rome in 1498. The monk went farther; and from the ſame mint ſoon after produced Manetho's ſupplement to Beroſus, from the time of Ægyptus king of Egypt, to the origin of the Roman ſtate. The miſchief is, Manetho lived before Beroſus; this anachroniſm alone had ſufficed to betray the cheat.

St. Auguſtine laughs at the folly of the Egyptians, who pretend to obſervations of the ſtars above 100,000 years old; in effect, no people appear to have been warmer in the conteſt for antiquity than thoſe of Egypt. They pretend two periods of time; one ſhorter, during which the throne of Egypt had been filled by men; the other almoſt infinite, wherein gods and demi-gods had worn the crown. From Iſis and Oſiris to Alexander they reckoned a ſpace of 23,000 years, the time before that, while the gods reigned, made 42,984 years more; the whole duration from the beginning of their monarchy amounting to 65,984. De Civ. Dei, lib. xviii. c. 40.

The computation of their dynaſties, as given by Manetho, a writer of their own (of whom we have extracts in Syncellus, taken from Julius Africanus and Euſebius), extends to 5550 years before Alexander's time; and the Egyptian chronicle, cited by the ſame Syncellus, goes farther, reckoning 36,525 years. Diogenes Laertius makes no leſs than 48,863 years from the reign of Vulcan. Yet the Scythians, the Phrygians, the Ethiopians, and ſome others, ſtill inſiſted on their priority to the Egyptians; and in the judgment of many ſeem to have carried their point. Juſtin, after Trogus, gives the precedency to the Scythians; and affirms, that they were always allowed to have been before the Egyptians.

It is no wonder that their catalogues ſhould be ridiculouſly incredible, when the Egyptians made their firſt kings reign 1200 years a-piece; and the Aſſyrians theirs about 4000.

But the Chineſe is eſteemed the moſt ancient monarchy in the univerſe; having cultivated the ſciences from the earlieſt ages, and ſubſiſted at leaſt theſe 4000 years with the ſame laws, manners, and uſages.

Some indeed have called in queſtion the truth and authenticity of the Chineſe annals; yet we find them confirmed, at leaſt as high as 660 years before Chriſt, by the annals of Japan. At worſt, the Chineſe antiquities ſtand on as good a footing as thoſe of either Greece or Rome. Their annaliſts, both for order and chronology, are not inferior to any of thoſe ancients ſo much admired among us; but far ſurpaſs them in point of antiquity, and have a better title to be credited, as having written by public authority, which can be ſaid of few Greek or Roman pieces, except perhaps the Capitoline Marbles, which are not properly a hiſtory.

We have no inconſiderable confirmation of the truth of the Chineſe account, from an ancient obſervation of a grand conjunction of the planets under Chuen-Hio, emperor of China, related by Martinius. That prince lived 2513 years before Chriſt. M. Kirchius has defended the obſervation againſt Caſſini, and ſhewn a conjunction muſt really have happened at the time mentioned by the Chineſe annals.

But the authenticity of this obſervation, and the whole of the Chineſe chronology, has been attacked by an ingenious author, Mr. Coſtar.

Dionyſius Halicarnaſſus has traced the Roman antiquities, Joſephus the Jewiſh antiquities, Beroſus the Chaldaic antiquities, Sanchoniathon the Phœnician antiquities, Manetho and Marſham the Egyptian antiquities.

The Phœnician antiquities of Sanchoniathon are preſerved in part by Euſebius. We have an Engliſh tranſlation of Sanchoniathon, with notes, by biſhop Cumberland, and a continuation from the canon of Eratoſthenes. Lond. 1720, 8vo.

Dionyſius gave his book the title of Roman Antiquities, on account of the curious inquiries he had made concerning the origin of the Romans, by tracing them back to the remoteſt ages. For fidelity as well as inſtruction he is generally preferred to Livy; his accounts are more ample, and his facts deſcribed with more particulars; he gives a full idea of the Roman ceremonies, the worſhip of their gods, ſacrifices, manners, cuſtoms, diſcipline, policy, courts, laws, &c.

To the claſs of ſuppoſititious antiquities belong the Hetrurian antiquities, pretended to have been found by Scornelli near Volaterra; and publiſhed in 1636, by Curtius Inghiramus, who is generally ſuppoſed to have been the forger of them. A great number of fictitious names of ancient authors are cited in this book to give the better face to the cheat; but the ſtyle betrayed it. Allatius and Ernſtius early detected the impoſture. Fabr. Bibl. Lat. lib. iv. cap. 13.

The Britiſh antiquities, before Cæſar's invaſion, are utterly dubious, not to ſay fabulous. Old chronicles ſpeak of Samothes, the ſon of Japhet, as the founder of the Britiſh monarchy; Albion, a deſcendant of Cham, invaded it three hundred years after; and about 600 years after this, Brute, grandſon

grandſon of Æneas, came and took poſſeſſion of the iſland in the year of the world 2880, giving it the name which it ſtill retained when Cæſar made his attempt. This is Geoffry of Monmouth's ſyſtem of the antiquities of the Britiſh nation, which the generality of our hiſtorians admit, for want of a better. It has been defended by A. Thomſon of Queen's College, in the preface to his Engliſh tranſlation of that writer.

It muſt not be forgot that the Iriſh alſo pretend to be the moſt ancient of all nations; they trace their origin without interruption up to Japhet. But the Scots ſtill diſpute their priority with them, holding themſelves to be an elder branch of the Scythians, the firſt of men.

The antiquity of religion has been often urged as a proof of the truth of it. Jews, Gentiles, Chriſtians, Proteſtants, Papiſts, have all in their turns made uſe of the argument from antiquity. It is indeed of the inartificial kind; and comes rather under the denomination of a preſumption than a proof: on the whole, it ſeems to have ſerved the cauſe of error as much, if not more, than that of truth.

ANTIQUITY is more peculiarly uſed to denote the ceremonies, cuſtoms, and uſages, which obtained in ancient times, either with regard to perſons, places, or things.

Antiquities, in this ſenſe, are uſually divided into ſacred, political, military, literary, and domeſtic; ſometimes only into civil and eccleſiaſtical.

ANTIQUITIES, *ſacred*, thoſe relating to the religious worſhip, diſcipline, and belief of ancient times and people. Theſe may be ſubdivided into Heathen, Chriſtian, and Mahometan, &c.

Reland has a treatiſe expreſsly on the ſacred antiquities of the Jews: Struvius on thoſe of the Romans; Lakemacher on thoſe of the Greek; and Stillingfleet on thoſe of the Britiſh churches.

Fabricius has given two plans of a theſaurus or body of antiquities; the one of Hebrew antiquities, after the manner of Grævius and Gronovius: the other of eccleſiaſtical antiquities, divided into twelve books. He gives the names and titles of 156 authors to be included in the firſt, and 101 authors for the ſecond.

ANTIQUITIES, *Chriſtian*, thoſe which relate to the ancient ſtate of the Chriſtian church.

Theſe are the ſame with what we otherwiſe call *eccleſiaſtical antiquities*.

The Magdeburg centuries are looked upon by proteſtants as a library of Chriſtian antiquities.

Mr. Bingham has publiſhed a learned ſyſtem of Chriſtian *antiquities*.

As a principal branch of Chriſtian antiquities, we may reckon,

ANTIQUITIES, *Biblical*, the notices of ancient laws, ceremonies, events, &c. occurring in the ſcriptures.

Theſe make a branch of eccleſiaſtical antiquities, and bear a near relation to the Jewiſh, &c. antiquities.

Some pretend to deduce moſt of the heathen antiquities from the Bible; others, as Spencer, &c. take the contrary courſe, and deduce the antiquities of the Bible from thoſe of heatheniſm.

To interpret Scripture, it is abſolutely neceſſary regard be had to the heathen antiquities alluded to in them, and theſe not only ſuch as are directly aimed at or approved, but alſo ſuch as are purpoſely oppoſed.

Dr. Cave has publiſhed a treatiſe of apoſtolical antiquities, "Antiquitates Apoſtolicæ;" or the Lives, Acts, &c. of the Apoſtles, Evangeliſts, &c. Lond. 1674, fol. 1684, and 1686.

ANTIQUITIES, *civil*, all that belong not to the head of *eccleſiaſtical*.

ANTIQUITIES, *political*, thoſe relating to the origin of ſtates, governments, magiſtrates, and laws.

ANTIQUITIES, *national*, thoſe employed in tracing the origin, ancient actions, uſages, monuments, remains, &c. of ſome nation or people.

Gronovius has given a collection of the chief writers on the Greek antiquities; Rouſe, Pfeiffer, Bos, Brunings, and biſhop Potter, have given ſhorter ſyſtems; the laſt is the beſt eſteemed, though found too ſhort by ſome in what relates to the religion, the gods, vows, and temples of Greece. A ſyſtem of this kind has been lately publiſhed (*viz.* 1801), by Mr. Harwood, in 8vo.

The beſt ſyſtem of Roman antiquities yet extant is that of Roſinus, with Dempſter's notes.

We have compendiums and introductions to the Roman antiquities by Hoepfner, Nieuport, Godwin, Cantelius, Baſil, Kennet, Adam, &c.

Heineccius has given a collection of Roman antiquities for illuſtration of civil law; and Briſſonius another, drawn from the books of the civil law; Gravina's Origines Juris Civilis is excellent on this ſubject.

A body of the writers on the Roman antiquities hath been publiſhed by Grævius, and another of thoſe on the Greek antiquities by Gronovius, both under the titles of Theſauri.

A ſupplement to the former has been publiſhed by Sallengre and Polenus. Danet and Pitiſcus have alſo publiſhed lexicons of the Roman antiquities. Varro's books of Roman antiquities are entirely loſt, excepting ſome fragments, preſerved by St. Auguſtine.

ANTIQUITIES, *parochial*, thoſe confined to the limits of one or more pariſhes, and converſant chiefly in what relates to the tithes, revenues, &c. of the churches.

Dr. Kennet has publiſhed a learned and curious work under the title of "Parochial Antiquities," attempted in the hiſtory of Ambroſden and Burcheſter, and other adjacent parts in the counties of Oxford and Bucks. Oxf. 1695, 4to. See Phil. Tranſ. N° 220.

ANTIQUITIES, *literary*, thoſe relating to matters of learning and ſtudy; a principal branch of theſe, are,

ANTIQUITIES, *academical*, the origins, uſages, &c. of the ancient academies, ſchools, colleges, and other literary ſocieties. Theſe bear a near relation to ſcholaſtic antiquities, and make a branch or diviſion of literary antiquities. Herm. Conringius has given a body of academical antiquities, and Urſinus a treatiſe on the ſcholaſtical antiquities of the Hebrews. Montfaucon, count Caylus, Winckelman, Iken of Bremen, &c. ought to be mentioned as collectors of antiquities of various kinds.

ANTIQUUS, JOHN, in *Biography*, an hiſtorical painter, was born at Groeningen, in 1702, and was inſtructed in the art of painting on glaſs, which he practiſed to the age of 20 years; but being deſirous of learning the art of painting in oil, he ſought improvement in France and Italy, and at Florence was retained in the ſervice of the grand duke for ſix years. At this period, he painted a grand compoſition of the "Fall of the Giants," which, as to diſpoſition and deſign, ſhewed equal judgment and taſte. He made ſeveral journies to Rome, and in every part of Europe through which he travelled, left memorable proofs of his genius and fine execution; and he is ranked among the beſt artiſts of his time. Pilkington.

ANTIQUUS, in *Conchology*, a ſpecies of MUREX. The beak is patulous; ſhell oblong, with eight roundiſh whorls. Linn. and Gmelin. This ſpecies inhabits the northern ſeas

of Europe, and is admitted as a Britiſh ſhell. There are three ſuppoſed varieties of it figured by Seba, Martin, and Lifter: and the murex carinatus of Pennant has been conſidered as an accidental growth of the ſame ſpecies; but the laſt is certainly diſtinct. *Vide* Don. Brit. Shells, p. 119.

The ſhell is from four to ſix inches in length, of a yelloviſh colour, finely cancellated with tranſverſe ſtriæ and longitudinal plaits; it has two or more angular ridges along the whorls, which are tuberculated.

ANTI-RATIONALISTS, a name ſometimes given to divines, who in matters of religion are for humbling reaſon, and making it bend to faith, aſſerting that the abſurdity of a thing is no reaſon for rejecting it.

In this ſenſe, the rigid Calviniſts and adherents to the ſynod of Dort have been denominated anti-rationaliſts, on account of the doctrine of abſolute predeſtination, &c. The Roman Catholics are alſo entitled to the ſame appellation, on account of the doctrine of tranſubſtantation. M. Bayle took ſhelter in the ſyſtem of the anti-rationaliſts, the better to combat the Chriſtian doctrines of the origin of evil, providence, &c. But this, like other offenſive appellations, has been very indiſcriminately applied; it has been uncandidly uſed as a term of reproach; and reaſon, the firſt endowment conferred on mankind by their Creator, though unduly depreciated by ſome, has been extravagantly extolled by others, who have been enabled to extend and improve the exerciſe of it, eſpecially in the province of religion, by the extraordinary communications of a divine revelation.

ANTI-RHODUS, in *Ancient Geography*, a ſmall iſland ſituate within the port of Alexandria, in Egypt, whither Antony retired in deſpair, after the battle of Actium. After the example of Timon the miſanthropiſt, he withdrew from intercourſe with mankind, and called this recluſe habitation *Timonium*.

ANTIRRHEA, in *Botany*. See CUNNINGHAMIA.

ANTIRRHETICUM, from ἀντὶ and ῥέω, *I ſpeak*, in *Literary Hiſtory*, denotes a refutation of ſome book, author, or opinion. In this ſenſe we alſo meet with the word *antirrheſis*.

ANTIRRHINUM, in *Botany* (ἀντὶ, *æqualis*, and ῥὶς, *naſus*. Quod fructu ſit vituli narium ſimile; hence it has been called calves-ſnout); claſs *didynamia angioſpermia*. Linn. Gen. 750. Gærtn. 53. Juſſ. 120. Snap-dragon, or toad flax; natural order, *perſonatæ*.

Generic Character. *Calyx perianth* five parted, permanent; diviſions oblong, the two lower more gaping than the others; *corolla* monopetalous, ringent; tube oblong, gibbous; limb bilabiate; upper lip bifid, reflex on the ſides; lower limb trifid, obtuſe; palate convex, uſually cloſed by a prominency between the lips, ariſing from the under lip; *nectary* at the baſe of the corolla produced downwards, prominent; *ſtamina*, filaments four, two of which are ſhorter; antheræ converging; *piſtillum*, germen roundiſh; ſtyle ſimple, of the length, and in the ſituation of the ſtamina; ſtigma obtuſe; *pericarpium*, capſule roundiſh, two-celled; ſeeds numerous.

Eſſential gen. Character. *Calyx* five-leaved; *corolla* with the baſe produced downwards and nectariferous; *capſule* two-celled.

Fifty-two ſpecies of this plant are deſcribed, only eight of which, according to Dr. Smith, are the ſpontaneous growth of this country.

Species. *Leaves angular. 1. A. *cymbalaria*, ivy-leaved toad-flax; leaves heart-ſhaped, five-lobed, alternate; ſtalks procumbent; the root is perennial, from which iſſue long, decumbent, ſpreading ſtalks, bearing violet-coloured ſmall flowers, with a yellow palate: it is a native of Britain, growing on crevices of rocks and old walls; hence this plant is well adapted for the ornament of rock work; it flowers from June till October. Figured in Curt. Flor. Lond. faſc. i. 45. Eng. Bot. 502. 2. A. *piloſum*, hairy-leaved toad-flax, leaves kidney ſhaped, very hairy, alternate; ſtalks procumbent; the edge of the leaves divided into nine or ten obtuſe crenulate lobes: a native of the Alps. Jac. Obſ. ii. t. 48. 3. A. *elatine*, ſharp-pointed toad-flax, or fluellin, leaves haſtate, alternate; ſtalks procumbent; calyx and leaves hairy; corolla yellow; upper lip purple underneath: a Britiſh annual, growing in fields, and flowering from July till October. Curt. Flor. Lond. faſc. i. 46. Eng. Bot. 692. 4. A. *ſpurium*, round-leaved toad-flax, or fluellin, leaves ovate alternate; ſtalks procumbent; this plant is hairy; the upper lip of the corolla is yellow, the under purple: it is an annual Britiſh plant, growing among corn, and flowering from July till September. Curt Flor. Lond. faſc. iii. 37. Eng. Bot. 691. 5. A. *cirrhoſum*, tendrilled toad-flax, leaves haſtate, alternate; ſtems ſpreading; petioles tendrilled; ſtems filiform, very branching; peduncles axillary, one-flowered; corolla bluiſh, with a whitiſh palate ſpotted with purple; annual: a native of Egypt; introduced in 1777, by Dr. Joſeph. Nich. de Jacquin. Jac. Hort. t. 82. 6. A. *Ægyptiacum*, Egyptian toad-flax, leaves haſtate alternate; ſtem erect, and much branched; this very much reſembles the third ſpecies; it is an annual plant, a native of Egypt.

**Leaves oppoſite. 7. A. *triphyllum*, three-leaved toad-flax, leaves ternate, ovate; an annual plant, riſing with an upright branching ſtalk, more than a foot high; leaves oval, in threes, ſometimes in pairs, flowers yellow, with ſaffron-coloured lips: a native of Sicily; a variety of this has a purple ſtandard and ſpur: this ſpecies has been cultivated here ſince 1640. 8. A. *triornithophorum*, leaves in fours, lanceolate; ſtem erect, branching; flowers peduncled; it grows more than five feet high, bearing large purple flowers: a native of Portugal and America. 9. A. *purpureum*, purple toad-flax, leaves quaternate, linear; ſtem erect, flower-bearing, ſpiked; a perennial plant, riſing two feet high: it is a native of Italy; and cultivated in the Oxford garden, in 1648. Curtis Magaz. 99. 10. A. *verſicolor*, leaves linear-lanceolate; the lower ones ternate; ſtem erect, ſpiked; it reſembles the A. linaria, or common toad-flax, except that the upper lip is whitiſh, and the flowers racemoſe: a native of the ſouth of Europe, and introduced, in 1777, by Monſ. Thouin. Jac. Ic. rar. t. 116. 11. A. *repens*, leaves linear, glaucous, verticillated, or ſcattered; ſtem panicled; calyx ſmooth, of the length of the ſpur; corolla of an aſh-coloured white; under lip ſtreaked with purple: a perennial Britiſh plant, flowering from July till September. 12. A. *monſpeſſulanum*: this, according to Dr. Smith, is the ſame plant as the repens. 13. A. *ſparteum*, branching toad-flax, leaves ſubulate, channelled, fleſhy, the lower ternate; ſtem panicled; corolla very ſmooth; ſtem about a foot high, ſmooth, erect, ſtiff; flowers racemoſe, yellow, with a tinge of red at the palate: a native of Spain, and introduced in 1772, by M. Richard. Curt. Bot. Mag. 200. 14. A. *bipunctatum*, dotted toad-flax, leaves linear, ſmooth, the lower quaternate; ſtem erect, panicled; flowers ſpike-headed; an annual from four to eight inches high, bearing yelloviſh flowers, ſpotted with brown on the lower lip: a native of France and Spain; introduced by M. Thouin in 1777. 15. A. *triſte*, dark-flowered toad-flax, leaves linear, ſcattered, the lower oppoſite: nectary ſubulate; flowers ſubſeſſile; ſtem eight inches long, decumbent; flowers of a dark purple. Curtis Magaz. 74: a native of Spain; introduced in 1727, from Gibraltar, by ſir Charles Wager.

16. A.

16. A. *ſupinum*, procumbent toad-flax, leaves ſubquaternate, linear; ſtalk diffuſed; flowers racemed; ſpur ſtraight: a native of France and Spain; cultivated by Miller, in 1728. 17. A. *arvenſe*, yellow corn toad-flax, leaves ſublinear, lower quaternate; calyx hairy, viſcid; flowers ſpiked; ſtem erect, a ſpan high; the colour of its flowers varies blue and yellow; according to Hudſon, it is a native of Britain. 18. A *pelliſerianum*, violet-coloured toad-flax, ſtem-leaves linear, alternate; root leaves lanceolate, ternate; flowers corymbed; an annual, eight inches high, with purple flowers: a native of France and Italy. 19. A. *ſaxatile*, rock toad-flax; leaves lanceolate-linear, ſcattered villoſe; the inferior quaternate; ſtem decumbent; flowers ſpiked; a perennial, with yellow flowers, having two orange ſpots on the palate: a native of Spain. 20. A. *viſcoſum*, clammy ſnap-dragon, root leaves quaternate, lanceolate; ſtem-leaves linear, alternate; calyx villoſe; about eight inches high: a native of Spain: introduced by M. Thouin, in 1786. 21. A. *multicaule*, many-ſtalked toad-flax; leaves quinate, linear, fleſhy; flowers headed; an annual plant, about a foot high, with ſeveral ſtems, bearing either deep yellow, or ſulphur-coloured flowers: a native of the ſouth of Europe; and cultivated by Miller, in 1731. 22. A. *glaucum*, leaves quaternate, ſubulate, fleſhy; ſtem erect; flowers ſpiked; a ſmall annual, with yellow flowers; ſpurs pale, or ſtreaked with blue; a native of the ſouth of Europe. 23. A. *alpinum*, alpine toad-flax, leaves quaternate, linear-lanceolate, ſea-green; ſtem diffuſe; flowers racemed, ſpur ſtraight; perennial; it has a ſtem about five inches high; flowers of a fine violet-purple colour, and of a deep yellow in the middle. Curtis Mag. 207. A native of the Alps. 24. A. *bicorne*, horned toad flax, leaves oppoſite, ovate-oblong, ſerrate; ſtem erect; flowers racemed; capſules two horned; it grows a foot and a half high, bearing blue flowers, with a yellow mouth: a native of the Cape; and introduced by Mr. F. Maſſon, in 1774; annual. 25. A. *villoſum*, leaves all oppoſite, ovate, villoſe; ſtem ſimple; flowers oppoſite, lateral; a perennial with yellow flowers; introduced by ſir Francis Drake, in 1786; a native of Spain. 26. A. *origaniſolium*, leaves moſtly oppoſite, oblong; flowers alternate; an annual, polymorphous plant, varying with lanceolate leaves. It grows wild on the Pyrenées; it was introduced by Lee and Kennedy, Hammerſmith. 27. A. *pinnatum*, leaves oppoſite, pinnatifid; ſtem erect; flowers racemed: found at the Cape, by Thunberg.

***Leaves alternate. 28. A. *minus*, leaſt toad-flax; leaves moſtly alternate, lanceolate, obtuſe; ſtem very much branched, ſpreading; calyx longer than the ſpur; ſtem erect, branched, villoſe, viſcid; flowers ſmall, violet coloured, with the under-lip white, and palate yellow, growing on axillary peduncles; it is a Britiſh perennial plant; found in corn fields and ſandy paſtures. Curtis, Lond. 541. 29. A. *dalmaticum*, leaves alternate, heart-ſhaped; ſtem claſping; ſtem woody, three feet high; flowers large, yellow, axillary: a native of Crete. 30. A. *hirtum*, leaves lanceolate, ſhaggy; flowers ſpiked; the upper leaf of the calyx largeſt; an annual, riſing with a ſingle ſtalk a foot and a half high; flowers of a pale yellow colour, with dark ſtripes, and deep yellow lips. Miller received the ſeeds of this ſpecies from Madrid. Jac. ic. rar. t. 117. 31. A. *geniſtifolium*, broom-leaved toad-flax, leaves lanceolate acuminate; panicle ſlender, flexuoſe; ſtem erect, much branched, three feet in height; flowers of a bright yellow colour, in looſe ſpikes, and reſemble thoſe of the Linaria (33.); perennial or biennial: a native of Siberia, Auſtria, Switzerland, &c.; cultivated by Dr. Sherard, in 1732. Jacquin Flor. Auſt. t. ii. f. 244. 32. A. *junceum*, ruſh-like toad-flax, leaves linear, alternate; ſtem panicled, ſlender; flowers racemed; upper-lip of the flowers white, with blue ſtreaks; lower a pale yellow: found in Spain; introduced by M. Thouin, in 1780. 33. A. *linaria*, common yellow toad-flax, leaves lanceolate-linear, crowded; ſtem erect, ſpiked; calyx ſmooth, ſhorter than the ſpur: it is a common well-known plant, which, from the colour of its flowers, is vulgarly called *butter and eggs*. Woodv. Med. Bot. ſupp. 221. Eng. Bot. 658. 34. A. *linifolium*, leaves lanceolate, three-nerved; flowers racemed; peduncles diſtant, ſhorter than the bracteæ; flowers yellow; ſpur the length of the flower; it grows wild on the ſea-coaſts of Italy; perennial. 35. A. *chalepenſe*, white-flowered toad-flax, leaves linear-lanceolate, alternate; flowers in racemes; calyx longer than the corolla; ſtem erect; an annual plant, growing two feet high; the flowers are ſmall, white, with long ſpurs, produced ſingly, almoſt extending over the whole branches: a native of Italy; and cultivated in the Oxford garden, in 1680. 36. A. *reflexum*, leaves ovate, ſmooth; peduncles axillary, fruit-bearing, elongate, recurved; ſtem procumbent; this annual plant riſes with filiform procumbent ſtems, ſeven inches high, bearing white flowers, with a yellow mouth, placed on ſolitary peduncles; it grows near Meſſina; and was diſcovered in Barbary, by Brander. 37. A. *pedunculatum*, leaves linear remote; flowers panicled; peduncles longer than the leaf, ſtiff, upright; ſtems ſeven inches high, branching; flowers yellow, ſtreaked with blue: a native of Spain. 38. A. *lagopodioides*, leaves ſcattered, ſoft, recurved at the tip; ſpikes ovate, villoſe; ſtems herbaceous, nearly a foot high; leaves lanceolate-linear; flowers ſmall, yellow with two orange ſpots within the palate: a native of Siberia.

****No leaves. 39. A. *aphyllum*, a capillary ſcape; this is a very ſingular plant, reſembling a kind of moſs (ſplachnum); no part of it produces any leaves: found near the Cape by Thunberg.

*****Corollas gaping, or tail-leſs. 40. A. *majus*, great toad-flax, or ſnap-dragon; flowers without tails, in ſpikes; calyces obtuſe, villoſe; ſtem from one to two feet high; leaves lanceolate or ovate; flowers violet, lower lip white, mouth yellow, ſpur very ſhort pointed: a Britiſh annual, growing in ſandy ground, and flowering from June till Auguſt. Eng. Bot. 129. 41. A. *orontium*, leſſer toad-flax, corolla without a tail; flowers ſubſpiked; calyces digitate, longer than the corolla; ſtem erect, a foot high; leaves lanceolate; corolla a pale purple; lips roſe-coloured; palate yellow; ſpur very ſhort, obtuſe; this much reſembles the preceding ſpecies: it is a Britiſh annual, affecting a ſandy and calcareous ſoil, and flowering from July till Auguſt. Curtis, Lond. iv. 45. 42. A. *papilionaceum*, corolla tailleſs; flowers axillary; calyx papilionaceous; leaves fleſhy; leaves ovate, entire, alternate; calyx five-leaved; upper lip of the corolla bifid, lower trifid: a native of Perſia. 43. A. *aſarina*, heart-leaved toad-flax, corollas without tails; leaves oppoſite, heart-ſhaped, crenate; ſtems procumbent; a low, trailing annual; flowers of a dingy purple colour above; below greeniſh: a native of Italy and the ſouth of France; cultivated in 1669, by Jacob Bobart. 44. A. *molle*, woolly-leaved toad-flax; corollas without tails; leaves oppoſite, ovate, tomentoſe; ſtems procumbent; flowers white villoſe; upper lip ſtreaked with red: a native of Spain; cultivated by Miller, in 1748. 45. A. *unilabiatum*, corollas without tails, furniſhed with two calluſes; leaves alternate, pinnate; ſtem panicled: found near the Cape, by Thunberg.

******Corollas gaping. 46. A. *bellidifolium*, daiſy-leaved toad-flax, root leaves tongue-ſhaped, toothed, marked with lines; ſtem-leaves parted, entire; flowers very ſmall, in a long ſpike, which frequently contains one hundred flowers; it is a biennial or triennial, with a branched ſtem, two feet high: a native of the ſouth of Europe; and cultivated in England, in 1629. 47. A. *Cauadenſe*,

majus, Canada toad-flax, leaves linear, alternate; lower lip of the corolla ſpreading out, flat; an annual, with a filiform ſtem, about a foot high; flowers racemoſe, alternate: a native of Virginia. 48. A. *micranthum*, ſmall-flowered toad-flax, ſtem herbaceous, erect; lower leaves quaternate, upper alternate; flowers very ſmall; ſpur ſhort, interior; an annual, with very ſmall blue flowers, having a white palate; they are axillary, diſtant, ſolitary, terminating the ſtem: a native of Spain, near Madrid. 49. A. *reticulatum*, leaves linear, channelled, ſcattered; thoſe on the radical ſhoots generally in fives; flower-ſtalks ſhorter than the bracteæ; flowers thrice as long as the calyx; ſpur conical, acute, a little curved, twice the length of the peduncle, yellow, ſtreaked; upper lip erect; ſegments acute, divaricate, ſtreaked; before expanſion purple, changing to a blood-red, and afterwards violet-coloured; it is perennial, with herbaceous branched erect ſtems, having its radical ſhoots proſtrate, and producing only one flower on each peduncle placed alternately: diſcovered at Algiers, whence it was ſent to the royal garden at Paris, by profeſſor Deſfontaines. Its ſeeds were tranſmitted to Dr. Smith by M. Thouin; and from theſe ſeeds ſeveral plants were produced, in Chelſea garden, by the care of Mr. Fairbairn. Smith, ic. rar. faſc. i. t. 2. 50. A. *pygmæum*, dwarf toad flax, leaves ſagittate; peduncles capſulaceous; ſtems wand-like, proſtrate; leaves an inch long upon long foot ſtalks; calyx extremely ſmall; flowers yellow, little, each upon ſolitary axillary peduncles. 51. A. *ærugineum*, lower leaves in fours, linear; flowers in racemes; the upper leaflet of the calyx twice as long as the others; it is annual, having ſeveral wand-like ſtems nearly upright, and linear-lanceolate glaucous leaves; flowers in a terminal raceme, which contains about 30 or 40; theſe are yellow, and commonly their lower and upper lips are bluiſh; ſpur of the length of the flower, recurved and variegated above, with violet-coloured ſtreaks; this ſpecies varies into what Linnæus has termed *peloria*, with from one to five ſpurs on different flowers on the ſame plant: it is a native of Spain. 52. A. *hexandrum*, leaves oppoſite, cordato-ovate, ſerrate; peduncles axillary, one-flowered. Flor. Auſt. n. 235. A native of the iſland of Otaheite in the South Seas. The five laſt ſpecies are to be conſidered as new, none of them being noticed by Murray in the fourteenth edition of the "Syſtema Vegetabilium," publiſhed in 1784.

Propagation and Culture. The various ſpecies of ſnap-dragon are raiſed from ſeeds, which may be ſown in April or May, or in Autumn: all the varieties of the 40th ſpecies, ſown late in ſpring, may in July be planted out in borders, where they will flower the following ſpring; or they may be ſown early in the ſpring, for flowering in the autumn of the ſame year; but in this caſe the plants are not ſo likely to withſtand the winter; and if the autumn prove bad, they will not perfect their ſeeds. Any of the perennial ſnap-dragons may be propagated by parting the roots, or by cuttings, which, during the ſummer months, will readily take root. They are all pretty ornaments in a garden, and requiring very little culture, are rendered more acceptable. The antirrhinums are hardy plants, and will in general reſiſt the cold of our winters; but the tenderer ſpecies, or thoſe that are natives of warm climates, ſhould be planted in pots, and removed into ſhelter, or placed under a hot-bed frame during froſty weather. The ſoil and ſituation in which the different ſpecies grow in a wild ſtate, ſhould always be conſidered, and their culture adapted accordingly; a dry gravelly or ſandy ſoil well ſuits the 40th ſpecies and ſeveral others, eſpecially thoſe that are natives of Britain; and ſhould theſe be planted in a rich moiſt ſoil, they become very luxuriant in a ſhort time, but are very liable to rot in autumn or winter. Many of theſe plants are permitted to ſcatter their ſeeds, and thus ſuffered to propagate themſelves, the young plants only requiring thinning where they come up too cloſe, and removing any weeds with which they may be encumbered. See Miller's Dictionary, by Martyn.

The A. *linaria*, or common toad-flax, is the only plant of this genus to which any medicinal virtues have been aſcribed: its leaves, which have a bitteriſh and ſomewhat ſaline taſte, are reported to be diuretic and cathartic; hence they have been recommended in dropſies and other diſorders requiring copious evacuations. This plant has alſo been uſed as a reſolvent in jaundice and other viſceral obſtructions; but it has chiefly been valued as an external application in hæmorrhoidal affections, employed in the various forms of ointment, fomentation, and cataplaſm. An unguentum de linaria is to be found in the Wirtemberg, Brandenburg and Daniſh pharmacopœias. Linnæus (Flor. ſuec.) ſays, this plant is uſed as a poiſon for flies. See Murray, vol. ii. p. 183. Woodville, Med. Bot. vol. iv. p. 25.

ANTIRRHIUM, in *Ancient Geography*, a promontory and ſmall town of Locris, at the entrance of the Corinthian gulf, oppoſite to Rhium, whence its name.

ANTI-SABBATARIANS, a modern religious ſect, who oppoſe the obſervance of the Chriſtian Sabbath.

The great principle of the anti-ſabbatarians is that the Jewiſh Sabbath was only of ceremonial not moral obligation: and conſequently is aboliſhed by the coming of Chriſt. See SABBATH.

ANTISAGOGE, in *Rhetoric*, a figure differing little from that called CONCESSION. The following paſſage from Cicero is an inſtance of it: "Difficilis ratio belli gerendi; at plena fidei, plena pietatis; et ſic dicas, magnus labor, multa pericula proponuntur; at gloria ex his immortalis eſt conſecutura."

ANTI-SCEPTIC, ſomething oppoſed to the reaſonings and ſyſtem of Pyrrhoniſts, or ſceptics.

ANTISCII, compounded of ἀντὶ, *againſt*, and σκιὰ, a *ſhadow*, in *Geography*, denominates people who dwell in the oppoſite hemiſpheres of the earth, and whoſe ſhadows at noon fall in contrary directions.

Thus the people of the north are antiſcii to thoſe of the ſouth. The one project their ſhadows at mid-day towards the arctic pole; and the others towards the antarctic pole.

The antiſcii are very often confounded with the ANTOECI, though the former term is more general than the latter. The antiſcii ſtand contradiſtinguiſhed from *periſcii*, &c.

ANTISCII is ſometimes alſo uſed, among *Aſtrologers*, for two points of the heavens, equally diſtant from the tropics. Thus the ſigns Leo and Taurus are held antiſcii to each other.

ANTISCORBUTICS, in the *Materia Medica*, medicines proper for the cure of the ſcurvy.

ANTISEPTIC, from ἀντὶ, and σηπτὸς, *putrid*, of σήπω, *to putrify*, an appellation given to ſuch ſubſtances as reſiſt PUTREFACTION.

We have ſome curious experiments in relation to antiſeptic ſubſtances by ſir John Pringle, who has aſcertained their ſeveral virtues. Thus, in order to ſettle the antiſeptic virtue of ſalts, he compared it with that of common ſea-ſalt; which being one of the weakeſt, he ſuppoſes equal to unity, and expreſſes the proportional ſtrength of the reſt by higher numbers, as in the following table.

Salts, their antiſeptic virtue.

Sea ſalt	1	Saline mixture	3
Sal Gemmæ	1 +	Nitre	4 +
Tartar vitriolated	2	Salt of hartſhorn	4 +
Spiritus Mindereri	2	Salt of wormwood	4 +
Tartarus Solubilis	2	*Borax*	12 +
Sal diureticus	2 +	Salt of amber	20 +
Crude *Sal Ammoniac*	3	Alum	30 +

In

In this table the proportions are marked in integral numbers; only to ſome there is added the ſign +, to ſhew, that theſe ſalts are poſſeſſed of a ſtronger antiſeptic virtue than the number in the table expreſſes, by ſome fractions; unleſs in the three laſt, where the ſame ſign imports, that the ſalt may be ſtronger by ſome units.

Some reſinous and other ſubſtances even exceed the antiſeptic virtues of the neutral ſalts; thus myrrh, aſſa-fœtida, terra Japonica, and aloes, are at leaſt twelve times more antiſeptic than ſea-ſalt. Two grains of camphor are equivalent to ſixty grains of that ſalt. An infuſion of a few grains of Virginia ſnake-root, in powder, exceeds twelve times its weight of ſea-ſalt. Chamomile flowers have nearly the ſame extraordinary quality. The Jeſuits bark has it alſo. Beſides theſe, pepper, ginger, ſaffron, contrayerva-root, are twelve time more antiſeptic than ſea ſalt. Dried ſage, rhubarb, the root of the wild valerian, mint, angelica, ground ivy, ſena, green-tea, red roſes, wormwood, muſtard, and horſe-radiſh, were likewiſe found more antiſeptic than the ſtandard.

To the claſs of antiſeptic medicines may likewiſe be added fermented liquors, acids, ſpirits, and even thoſe plants called anti-acids, and erroneouſly ſuppoſed haſteners of putrefaction, particularly horſe-radiſh. Now vegetables poſſeſſing this virtue are the more valuable, in that, being uſually free of acrimony, they may be taken in much greater quantities than either ſpirits, acids, reſins, or even the neutral ſalts.

Antiſeptics are preſcribed in all putrid, malignant, and peſtilential caſes. It is to be remarked, however, that different kinds of them are to be given in different diſeaſes, and even in different ſtages of the ſame diſeaſe. Thus, the bark is a ſpecific in a gangrene, when the veſſels are relaxed, and the blood reſolved or diſpoſed to putrefaction; but will fail, if the veſſels are too full, or the blood be too thick. It muſt be confeſſed, however, that inferences drawn from the effects of antiſeptics on dead putreſiable matter, may miſlead us conſiderably in their application to the living human body. The putreſcent tendency of the fluids, ſuppoſed to be preſent in ſcurvy and contagious fevers, cannot be obviated by the moſt powerful antiſeptics alone, but will often yield to ſubſtances ſcarcely antiſeptic in the loweſt degree. On the contrary, gangrene, though generally treated with aſtringents and antiſeptics conjoined, has often been arreſted by animal food and volatile alkali.

From the great antiſeptic virtue of alum, the bark, and other aſtringents, it ſhould ſeem, that aſtriction had no ſmall ſhare in the cure of diſorders termed putrid; and, indeed, the very nature of putrefaction conſiſts in a ſeparation or diſunion of the parts. But as aſtringents are improper to be adminiſtered in many caſes, contrayerva-root, ſnake-root, camphor, &c. may ſupply their place; which, though highly antiſeptic, have very little, or any, of an aſtringent quality. Pringle's Obſ. on the Diſeaſes of the Army. See Dr. Macbride's Eſſay on the reſpective Powers, &c. of Antiſeptics.

Antiseptic *ſubſtances*, in *Agriculture*, are ſuch ſubſtances as have a tendency to reſiſt the putrefaction and decay of animal and vegetable matters, when united with them, either beneath the ſoil or upon its ſurface, and in the dung or compoſt heap. Aluminous and vitriolic ſubſtances are moſtly of this kind; and likewiſe the aſtringent principle of different vegetable matters.

ANTISIGMA, among the *Ancient Grammarians*, ſignifies one of the notes of ſentences affixed to thoſe verſes whoſe order was to be changed.

ANTISPASMODICS, in the *Materia Medica*, are medicines proper for the cure of ſpaſms and convulſions. Heat, eſpecially alternating with cold; æther, wine, ſpirits, opium, balſam of Peru, and the eſſential oils of many vegetables, are the principal articles of this claſs of medicines. Opium excels, for its immediate effects. Peruvian balſam, in many inſtances, produces more laſting benefit than opium, and ſometimes ſucceeds where opium fails. As *antiſpaſmodics*, the eſſential oils differ in this from opium, that they act more on a particular part than on the ſyſtem in general, and have no ſoporific effect. Where the ſtrictures are produced by inanition, and a defect of vital heat, ſpaſms are removed by thoſe medicinal means that reſtore the *vis vitæ*, ſuch as warmth, appropiate food and drink, pure airs, cordials, aromatics, and the cheerful paſſions.

The other *antiſpaſmodics* will be found under the particular diſeaſes, to which they have been applied with the greateſt ſucceſs; ſee Hysteria, Tetanus, Convulsions, &c.

ANTISPASTUS, a poetical foot, conſiſting of four ſyllables, whereof the firſt is ſhort, the ſecond and third long, and the fourth ſhort.

ANTISPODIUM. See Spodium.

ANTISSA, in *Ancient Geography*, was, according to Strabo, in ancient times, an iſland, and thus called, becauſe it was oppoſite to Leſbos, then known by the name of Iſſa; but having offended the Romans, it was depopulated by Labeo, and the inhabitants were tranſplanted to Methymna.

ANTI-STANCARIANS, in *Church Hiſtory*, a ſect of German proteſtants that oppoſed the doctrine of Stancarius, who aſſerted that juſtification was the ſole effect of Chriſt's human nature, excluſive of his divinity.

ANTISTASIS, in *Oratory*, a defence of an action, from the conſideration, that if it had been omitted, worſe would have enſued. This is called by Latin writers *comparativum argumentum*: ſuch e. gr. would be the general's defence, who had made an inglorious capitulation, that without it the whole army muſt have periſhed.

Antistasis, in *Antiquity*, denotes the gibbous part of the liver in the Grecian victims.

ANTISTES, from *ante*, *before*, and *ſto*, *I ſtand*, in *Eccleſiaſtical Writers*, a title uſually given to biſhops, though ſometimes alſo to prieſts or preſbyters. Among the ancient Romans, antiſtes was an appellation given to the chief or firſt orders of the prieſts in the provinces.

In which ſenſe, *antiſtes* ſtands diſtinguiſhed from *patres* and *magiſtri*.—In the more uſual ſenſe, notwithſtanding, *antiſtes* denotes the ſame with *ſacerdos*.

There were alſo females of this quality under the title of *antiſtæ*.

ANTISTHENES, in *Biography*, an Athenian philoſopher, and the founder of the Cynic ſect, was born about the 90th olympiad, or the year before Chriſt 420. His firſt attention was directed to military exploits, and he acquired fame by his valour in the battle of Tanagra. But changing his object, he ſtudied the art of rhetoric under Gorgias, and then proſecuted the attainment of more ſubſtantial wiſdom under Socrates; and ſuch was the ardour of his mind, that though he lived at the Piræum, which was diſtant 40 ſtadia from the city, he was a daily attendant on the inſtructions of this admired preceptor. The virtuous manners of Socrates, and the noble independence of his ſpirit, attracted his notice and eſteem; and he determined to make the character of his teacher the object of his imitation. Whilſt he was a diſciple of Socrates, he diſcovered his propenſity towards ſeverity of manners by the meanneſs of his dreſs, and frequently appeared in a thread-bare and ragged cloak. His maſter perceiving that he took pains to expoſe, rather

rather than to conceal his tattered dreſs, ſaid to him; "Why ſo oſtentatious? through your rags, I ſee your vanity." (Ælian, lib. ix. c. 36.) After the death of Socrates, Antiſthenes, by a ſeaſonable jeſt, haſtened the deſerved puniſhment of his perſecutors, Melitus and Anytas. When ſome young men came from Pontus to Athens for the purpoſe of attending upon Socrates, they were introduced to Anytas by Antiſthenes, who aſſured them, that he far exceeded Socrates in wiſdom. By this ſarcaſtic encomium the reſentment of the Athenians againſt thoſe who had diſgraced their city by the baniſhment of ſo excellent a man, was inflamed; and the conſequence was the ſpeedy exile of Anytas, and the death of Melitus. In the ſchool eſtabliſhed by Antiſthenes, and called Cynoſargum, or the temple of the white dog, he ſedulouſly inculcated, both by precept and example, a rigorous diſcipline. In order to accommodate his manners to his doctrine, he wore a coarſe cloak, ſuffered his beard to grow, and carried a wallet and ſtaff, like a wandering beggar. His diet alſo was of the moſt ſimple kind, and he refrained from every kind of effeminate indulgence. In his diſcourſes, he cenſured the manners of the age with a degree of harſhneſs, which procured him the ſurname of "The Dog." He alſo expreſſed the utmoſt contempt for pleaſure, as the greateſt evil, and declared, that he would rather be mad, than addicted to a voluptuous manner of living. Towards the cloſe of his life, the gloomy caſt of his mind, and the moroſeneſs of his temper, ſo increaſed, as to render him troubleſome to his friends, and an object of ridicule to his enemies. In his laſt illneſs he was fretful and impatient; tired of life, and yet loth to die. When Diogenes, at that time, aſked him, whether he needed a friend, Antiſthenes replied, "where is the friend that can free me from my pain?" Diogenes preſented him with a dagger, ſaying, "Let this free you;" but Antiſthenes anſwered, "I wiſh to be freed from pain, not from life." He paid little reſpect to the gods and to the religion of his country; nevertheleſs, he ſeems to have entertained juſt notions concerning the Supreme Being. In his book, which treats on phyſics, ſays Cicero (De Nat. Deor. lib. i. c. 13.), he obſerves, that "*The Gods of the people are many, but the God of nature is one.*" For the doctrine inculcated by Antiſthenes, ſee CYNICS. The following maxims and apophthegms are aſcribed to him: "As ruſt conſumes iron, ſo doth envy conſume the heart of man." "That ſtate is haſtening to ruin, in which no difference is made between good and bad men." "The harmony of brethren is a ſtronger defence than a wall of braſs." "A wiſe man converſes with the wicked, as a phyſician with the ſick; not to catch the diſeaſe, but to cure it." "A philoſopher gains at leaſt one thing from his manner of life, a power of converſing with himſelf." "The moſt neceſſary part of learning is to unlearn our errors." "The man who is afraid of another, whatever he may think of himſelf, is a ſlave." Antiſthenes being told that a bad man had been praiſing him, ſaid, "What fooliſh thing have I been doing?" He wrote many books, of which Diogenes Laertius has given a long liſt; but none are extant, except two declamations, under the names of Ajax and Ulyſſes, which are publiſhed in the collection of ancient orators by Aldus, in 1513; by H. Stephens, in 1575; and by Canter, with a Latin verſion, as an appendix to his edition of Ariſtides, printed in folio at Baſil, in 1566. Suidas. Fabr. Bibl. Græc. lib. ii. c. 23. §. 32. tom. i. p. 830. Brucker's Hiſt. Phil. by Enf. vol. i. p. 296.

ANTISTITIUM, is a term uſed in ancient chronicles for an abbey or monaſtery.

ANTISTIUS, in *Biography*, a phyſician whoſe name is only known from his having been called on to examine the wounds of Julius Cæſar, after he had been aſſaſſinated in the Capitol, forty-three years before the commencement of the Chriſtian æra.

ANTISTŒCHON, from ἀντὶ, and στοιχον, *letter*, a grammatical figure, whereby one letter is uſed inſtead of another: as *olli* for *illi*. This is otherwiſe called *antiſtichon*, by ſome writers.

ANTISTROPHE, a kind of dance in uſe among the ancients; wherein they ſtepped ſometimes to the right and ſometimes to the left, ſtill doubling their turns or converſions.

The motion towards the left, they called *antiſtrophe*; from ἀντὶ, *againſt*; and στροφὴ, of στρέφω, *I turn*.

It was cuſtomary among the Greeks, on ſome occaſions, to dance round the altars, whilſt they ſung the ſacred hymns, which conſiſted of three ſtanzas, or parts; the firſt of which, called *ſtrophe*, was ſung in turning from eaſt to weſt; the other, named *antiſtrophe*, in returning from weſt to eaſt. Then they ſtood before the altar, and ſung the epode, which was the laſt part of the ſong—Hence,

ANTISTROPHE is alſo uſed in *Lyric Poetry*, in ſpeaking of the ODE, which is uſually divided into the *ſtrophe*, *antiſtrophe*, and *epode*.

The *antiſtrophe* is a kind of echo, or replication to the *ſtrophe*; and the *epode* is a launching out from them both.

ANTISTROPHE is alſo a figure in *Grammar*, whereby two terms or things, mutually dependant one on another, are reciprocally converted. As if one ſhould ſay, "the maſter of the ſervant, and the ſervant of the maſter."

ANTISTROPHE, in *Rhetoric*, the ſame with what is more commonly called EPISTROPHE.

ANTISYLLOGISM, in *Logic*, a ſyllogiſm, which infers a contrary concluſion to that of another SYLLOGISM.

ANTITACTÆ, or ANTITACTICI, in *Antiquity*, a kind of Gnoſtics, who owned that God, the Creator of the univerſe, was good and juſt; but aſſerted, alſo, that one of his creatures had created evil, and had engaged us to follow it, in order to ſet us in oppoſition to God the creator; and that it becomes our duty to oppoſe this author of evil, in order to avenge God of his enemy.

Hence the name; which is derived from ἀντιτάττω, *I oppoſe*.

ANTITAURUS, in *Geography*, a chain of mountains in Cappadocia, paſſing from the ſouth-weſt to the north-eaſt, and extending from mount Taurus to the Euphrates. The inhabitants of the country now call it Rhoam-Taura.

ANTITHENAR, in *Anatomy*, from ἀντὶ, *againſt*, and θέναρ, the *palm of the hand*, is the name given by Riolanus to the muſcle, commonly named in England *abductor indicis manus*, to which refer. Winſlow alſo calls by this name, the *adductor pollicis pedis*, which ſee.

ANTITHESIS, from ἀντιτίθημι, *I oppoſe*, in *Rhetoric*, a ſetting two things together by way of oppoſition to each other, that the different qualities of each may appear the more ſtrongly.

Such is that of Cicero, in the ſecond Catilinarian; "On the one ſide ſtands modeſty, on the other impudence; on the one fidelity, on the other deceit; here piety, there ſacrilege; here continency, there luſt," &c.—Such alſo is that of Auguſtus to ſome ſeditious young men; "Audite juvenes ſenem, quem juvenem ſenes audivere."—Such again is that of Seneca; "Curæ læves loquuntur, ingentes ſtupent." And that of Virgil;

"Flectere ſi nequeo ſuperos, Acheronta movebo."

St. Auguſtine, Seneca, Salvian, and many other ancient

writers, ſeem greatly to affect antitheſes; but among the moderns they are generally deſcried. Deſmaret repreſents them as the favourites of young writers.

ANTITHESIS is ſometimes uſed for controverſy.

In this ſenſe we meet with *antithetic* method, *antithetic* diſcourſes, &c.

ANTITHESIS is alſo a figure in *Grammar*, uſed to the ſame purpoſe with ATISTOECHON.

ANTITHETARIUS, a term occurring in the title of a chapter in the laws of Canutus, but not in the chapter itſelf.

The meaning of the word is, a man who endeavours to diſcharge himſelf of the fact of which he is accuſed, by recriminating, *i. e.* by charging the accuſer with the ſame fact.

ANTITHETON, in *Rhetoric*, a figure wherein contraries are ſet in oppoſition to each other.

Some diſtinguiſh between the *antitheſis* and *antitheton*. Voſſius thinks that in the *antitheton* nouns and verbs are oppoſed; but in the *antitheſis*, epithets only. Others comprehend the *antitheſis* under *antitheton*.

ANTITHORA. See ANTHORA.

ANTITRAGICUS, in *Anatomy*, is a muſcle belonging to the pinna of the external ear. It ariſes from the cartilage below the antitragus, and terminates in its ridge, extending as far forwards as the antihelix.

ANTITRAGUS is a ridge or eminence in the cartilaginous pinna of the external ear. See the article EAR, *external*.

ANTITRAGUS, in *Botany*. See CRYPSIS.

ANTITRINITARIANS, thoſe who deny the Trinity, and teach, that there are not three perſons in the Godhead.

Thus the Samoſatenians, who do not believe the diſtinction of perſons in God; the Arians, who deny the divinity of the Word; and the Macedonians, who deny that of the Holy Spirit; are all properly Antitrinitarians. Among the moderns, Antitrinitarians are particularly underſtood of Socinians, called alſo Unitarians.

The *Bibliotheca Antitrinitariorum*, or *Antitrinitarian* Library, is a poſthumous work of Chriſtopher Sandius, an eminent Antitrinitarian; wherein he gives a liſt, digeſted in order of time, of all the Socinian or modern Antitrinitarian authors, with a brief account of their lives, and a catalogue of their works. See UNITARIAN.

ANTITYPE, a Greek word, properly ſignifying a type or figure correſpondent to ſome other type.

The word antitype occurs twice in the New Teſtament; *viz.* in the Epiſtle to the Hebrews, ix. 24. and in St. Peter, 1 Ep. iii. 21. where its genuine import has been much controverted.—The former ſays, that "Chriſt is not entered into the holy places made with hands, which are αντιτυπα, the figures or antitypes of the true—now to appear in the preſence of God for us."—Now τυπος, as is elſewhere obſerved, ſignifies the pattern by which another thing is made; and as Moſes was obliged to make the tabernacle, and all things in it according to the pattern ſhewed him in the mount; the tabernacle ſo formed was the antitype of what was ſhewn to Moſes: any thing, therefore, formed according to a model, or pattern, is an antitype. Sykes's Paraphraſe in loc. p. 137.

In the latter paſſage, the Apoſtle, ſpeaking of Noah's flood, and the deliverance only of eight perſons in the ark from it, ſays, Ὃ καὶ ἡμας αντιτυπον νυν σωζει βαπτισμα, "baptiſm, being an antitype to that, now ſaves us; not putting away the filth of the fleſh, but the anſwer of a good conſcience towards God," &c. The meaning is, that righteouſneſs, or the anſwer of a good conſcience towards God, now ſaves us by means of the reſurrection of Chriſt, as formerly righteouſneſs ſaved thoſe eight perſons by means of the ark, during the flood. The word antitype, therefore, here ſignifies a general ſimilitude of circumſtances; and the particle ὡ, "whereunto," refers, not to the immediate antecedent, ὑδατος, "water," but to all that precedes.

Some read, as it is in the Alexandrian and ſeveral other approved MSS. inſtead of ὃ, &c. ὃ καὶ ημας, &c. "that which is the antitype doth now ſave us alſo, that is, baptiſm." The term "antitype" ſeems here to ſignify no more than ſome ſimilitude, or reſemblance, in the two things compared. But it may be aſked, what are the two things compared? and in what does the reſemblance conſiſt? Is the water of baptiſm compared to the waters of the flood, or baptiſm itſelf, compared to Noah's ark; or the being ſaved by baptiſm, to being ſaved in the ark? A judicious commentator is of opinion, that the laſt compariſon was deſigned by St. Peter; and that the ſalvation by the ark, in this particular, reſembled our ſalvation by chriſtian baptiſm. For as thoſe righteous perſons, Noah and his family, were ſaved in the ark, from periſhing by the deluge; ſo chriſtian baptiſm, if accompanied with righteouſneſs, or a good conſcience, will, through the reſurrection of Chriſt, ſave chriſtians from periſhing with a wicked world. Benſon on the Epiſtles, in *loc. cit.* vol. ii. p. 260.

ANTITYPE, among the *Ancient Greek Fathers*, and in the Greek *Liturgy*, is alſo applied to the ſymbols of bread and wine in the Sacrament.

Hence it hath been argued, by many proteſtants, that the Greeks do not really believe the doctrine of tranſubſtantiation; becauſe they call the bread and wine *antitypes*, αντιτυπα, q. d. figures, ſimilitudes, and this even after the conſecration.

ANTIVARI, in *Geography*, a town of European Turkey, in Dalmatia, ſituate on the gulf of Venice, oppoſite to Bari, and formerly the ſee of a Greek archbiſhop. But the Turks took it from the Venetians in 1573, and it ſtill remains in their poſſeſſion. It is about eight miles northweſt of Dulcigno, and 38 ſouth-eaſt of Raguſa. N. lat. 42° 25′. E. long. 19° 30′.

ANTIVEDUTO, in *Biography*, an eminent painter of portrait and hiſtory, was born near Rome in 1552; and under the care of Giovanni Dominico Perugino, exhibited ſurpriſing proofs of genius, and became a portrait painter of the higheſt reputation. In the hairs of the head, natural tint of the carnations, and ſtriking reſemblance of the features, he had no ſuperior. He was principally employed by the Medicean family. He had likewiſe a conſiderable talent for hiſtorical painting. He died in 1626. Pilkington.

ANTIVENTRIA, in *Geography*, a name given by the Spaniards to one of their diviſions of Terra Firma in South America. It comprehends the government of St. Martha, the new kingdom of Grenada, and ſome others to the ſouth of Carthagena, as far as the river of the Amazons.

ANTIVIRGILIAN HUSBANDRY, a title by which the drill or horſe-hoeing huſbandry, as improved by Mr. Tull, is ſometimes diſtinguiſhed by writers on agriculture.

ANTIUM, in *Ancient Geography*, now *Capo d'Anzo*, a town of Italy ſouth of Rome, ſituate on a rock near the ſea, but without a harbour, as there was one in the neighbouring hamlet, called *Ceno*. It belonged to the Volſci before it became the poſſeſſion of the Romans, and was for a long time a very ſtrong place. Dionyſius Halicarnaſſenſis, after Demagoras, ſays, that it was founded by a ſon of Circè; others aſcribe its origin to Aſcanius. However that be, the Romans, under the conduct of Numicius, took poſſeſſion of it, A. U. 284; and within two years, ſent a colony thither. The coloniſts and inhabitants were called *Antiates*. Livy (l. viii. c. 14.), and Florus (l. i. c. 11.), informs us, the Romans acquired their firſt reputation in naval affairs againſt

the Antiates; whofe fhips they partly conveyed into the arfenal of Rome, and partly burnt, and with their beaks, or roftra, they adorned the pulpit erected in the forum, hence called *roftra*. Horace refers to a famous temple of Fortune in this place, l. i. od. 35.

"O Diva, gratum quæ regis Antium," &c.

Caligula and Nero were born in this city; and Suetonius fays, that the former propofed to retire thither after he had maffacred the principal perfons of Rome, and the latter affigned it as a place of retreat for the veteran foldiers. Tacitus informs us, that Nero was at Antium, when news was brought to him of the conflagration of Rome, which Suetonius charges upon himfelf. In Chriftian times, Antium became the fee of a bifhop; but it is now extinct.

ANTIXENI, a people of India, who, according to Pliny, lived on the other fide of the Indus.

ANTLER, among *Hunters*, the firft of the pearls that grow about the bur of a deer's horn. There are alfo fur-*antlers*, brow-*antlers*, &c.

ANTLESTORF, in *Geography*, a town of Germany, in the archduchy of Auftria, fix miles eaft of Entzerftorff.

ANTLIA, an ancient machine, fuppofed to be the fame with our pump.

Hence the phrafe, *in antliam condemnari*, according to the critics, denotes a kind of punifhment, whereby criminals were condemned to drain ponds, ditches, or the like.

ANTŒCI, in *Geography*, thofe inhabitants of the earth who live under the fame meridian, and at the fame diftance from the equator; the one toward the north, and the other toward the fouth.

The word is formed of αντι, *contra*, and οικεω, *I inhabit*.—The *Antæci* are contradiftinguifhed from the *Periæci*, and they are frequently confounded with the *Antifcii*.

Hence the *Antæci* have the fame longitude, and equal latitudes, only of a different denomination; and, of courfe, they have precifely the fame hour of the day and night, but oppofite feafons: when it is 12 o'clock in the longeft fummer's day with one, it is 12 o'clock of the fhorteft winter's day with the other; and hence the night of the one is equal to the day of the other.

ANTOING, a town of the Netherlands, in the circle of Hainault, near the Scheldt, 1½ league S. of Tournay. It is the chief place of a canton in the diftrict of Tournay, and department of Jemappe. The place contains 1,567, and the canton 14,849, inhabitants; the territory comprehends 125 kiliometres and 19 communes.

ANTOMOSIA, from αντι and ομοω, *I fwear*, in *Ancient Writers*, an oath taken by both the parties in a criminal accufation; whereby the accufer charges the other with the fact, and the accufed in his turn denies the fame.

In which fenfe, antomofia amounts to the fame with *diomofia*, though fome diftinguifh between the two, reftraining antomofia to the oath of the perfon accufed, whereby he engages to make no other than a fair defence; and diomofia to the profecutor's oath, whereby he fwears that his accufation is juftly founded.

Others will have antomofia properly denote a law-fuit about things to which there are no witneffes, and which can only be decided by the oaths of the parties. Others again will have it to be, where the accufed party alleging ficknefs for his non-appearance, the profecutor takes an oath that the ficknefs is only feigned, upon which the judges proceed to fentence.

ANTONA, in *Ancient Geography*, a name given by Tacitus (Vit. Agricol.) to a Britifh river, concerning which antiquarians are not agreed. Some writers, as Camden, Carte, &c. appropriate the name to the Nan of Northamptonfhire, others to the Wye; and Whitaker (Hift. Manchefter, c. 12.) to the Avon of Warwick. Other writers contend for the Southampton river, to which, according to Camden, the name of Anton was applied, and from which he deduces the appellation of Hante-Seyre for Hampfhire, and Hanton for Southampton.

ANTONACUM, or ANTONNACUM, a town of the Treveri, now Andernach, below Coblentz. See ANDERNACH.

ANTONELLO DA MESSINA, in *Biography*, a painter of hiftory and portrait, was born at Meffina in 1426; and was the firft of the Italian maffers who underftood the art of painting in oil, the fecret having been communicated to him by John Van Eyck of Bruges. In order to obtain it, he vifited Flanders, and fo effectually recommended himfelf to Van Eyck by his affability and ingenuity, as well as by a prefent of fome fine Italian defigns, that Van Eyck difclofed to him the whole myftery; and Antonello foon acquired an eminence almoft equal to that of his inftructor. From a principle of gratitude he continued in Flanders as long as Van Eyck lived; and, after his death, fettled at Venice, where he painted feveral pictures, that were univerfally approved, as the fubjects were well defigned, the figures beautifully drawn, and the whole very delicately finifhed. He communicated the fecret to a painter, named Domenico, from whom Andrew Del Caftagno obtained the knowledge of it; and from him the art of painting in oil gradually became known, and generally practifed through all Italy. He died at Venice at the age of 49. Pilkington.

ANTONGIL Bay, in *Geography*, lies on the eaft fide of the ifland of Madagafcar, in S. lat. 16°, and E. long. 49° 2'.

ANTONIA Tower, or *Fortrefs*, was fituated in Jerufalem, at the N. W. angle of the temple, founded by Hyrcanus, on a fteep hill; and fo elevated, that it commanded the temple. Herod enlarged and fortified it, and gave it the name of Antonia, inftead of Baris, by which it was known when Hyrcanus occupied it, in honour of Marc Antony. It communicated with the temple by an arcade, and when the Romans had poffeffion of the country, they kept a garrifon in this tower; and by commanding the temple from this fort, they were maffers of the city by means of the temple. It was taken by Titus, who thus became maffer of the temple and of the city.

ANTONIAN *Water*, in the *Materia Medica*, the name of a medicinal water of Germany, remarkably pleafant to the tafte, and of fervice in many cafes as a medicine.

This water, if mixed with any acid liquor, raifes a conficerable effervefcence; and, when mixed with Rhenifh wine and fugar, which is a common way of drinking it, makes a great hiffing and bubbling, and becomes turbid and milky. If powder of galls be added to it, it fuffers no change, but remains limpid and colourlefs; whence it is plain that it contains no iron nor vitriol. Syrup of vitriol mixed with it turns the whole green, whence it is plain that it contains an alkali: and if oil of tartar be added to it, it becomes turbid and milky, and precipitates a white fediment; whence it appears that there is either common falt or a calcareous earth in it. If it be expofed fome time to the air in an open veffel, it, like all the other mineral waters, lofes its pungent tafte and pellucidity, becoming turbid and vapid. A quart of it evaporated with a very gentle heat, leaves two fcruples of a very dry fediment, which being feparated by another folution, is found to be one-half of an alkaline falt, and the other a calcareous earth. Oil of vitriol mixed with the falt produces a great effervefcence; and a penetrating fcent arifes like that produced by the mixing of oil of vitriol and common falt. Hence it appears, that thefe waters contain

tain a ſmall portion of an alkaline ſalt, a larger portion of ſea-ſalt, and a yet larger of a calcareous earth, and with theſe a very conſiderable quantity of a ſubtile and penetrating mineral ſpirit.

It is a very temperate water, not too ſtrongly operating either by ſtool or urine; and hence it is a very proper drink for perſons in chronic and in many acute caſes, either alone, or mixed with wine, to ſupply the place of malt liquor, which is proper but in very few illneſſes. A long uſe of it alone may alſo prove of conſiderable ſervice in hypochondriac caſes.

ANTONIANO, Silvio, in *Biography*, a cardinal and learned man of the 16th century, was born at Rome in the year 1540; and, at the early age of 10 years, diſtinguiſhed himſelf by extemporaneous productions in verſe. Having given various proofs of his ſingular talents in this way, he was taken under the protection of the duke of Ferrara, who provided him with excellent maſters to inſtruct him, aſſigned him a penſion, and eſtabliſhed a profeſſorſhip of belles lettres, with which he was honoured at the age of 17 years; and on this occaſion he pronounced ſome orations, which were afterwards publiſhed. When cardinal de Medicis ſucceeded to the popedom, under the name of Pius IV., he ſent for Antoniano to Rome, and made him Latin maſter and ſecretary to his nephew, cardinal Borromeo. He was alſo appointed profeſſor of polite literature in the college at Rome; and diſcharged this office with ſuch reputation, that he had for his auditors not only a prodigious number of people, but even 25 cardinals. He was afterwards choſen rector of the ſame college. At the death of Pius IV., he was choſen ſecretary of the ſacred college by Pius V.; and occupied this poſt for 25 years. Clement VIII. made him ſecretary of the briefs, afterwards his chamberlain, and finally a cardinal. He fell a ſacrifice to intenſe ſtudy, in his 63d year. Antoniano is ſaid to have written with ſuch eaſe and correctneſs, that he never made a blot or eraſure; and his manners were ſo irreproachable, that he is ſaid never to have tranſgreſſed the bounds of the ſtricteſt chaſtity. He left a variety of works both in proſe and verſe; of which the principal are, "De Chriſtiana Puerorum Educatione;" "Diſſertatio de Obſcuritate Solis in Morte Chriſti;" "De Succeſſione Apoſtolica;" "De Stylo Eccleſiaſtico ſeu de conſcribenda Eccleſiaſtica Hiſtoria;" "De Primatu Sancti Petri;" "Lucubrationes in Rhetoricam Ariſtotelis, et in Orationes Ciceronis." It is alſo ſaid that he had a ſhare in the catechiſm of the Council of Trent. Gen. Dict.

ANTONIDES, J. Vander Goes, an eminent Dutch poet, was born of anabaptiſt parents, at Goes in Zealand, in the year 1647. After a tolerable education, he was apprenticed to an apothecary: but the fame of Vondel and ſome other poets of his country, led him to cultivate his natural talent in this way. He began with tranſlations from the beſt Latin writers, and then launched into original compoſition. His tragedy upon the conqueſt of China by the Tartars, intitled "Trazil," was followed by "Bellona in Chains," which was highly applauded by the beſt judges. But his capital work was entitled "Y Stroom," or the River Y, which forms the port of Amſterdam. This recommended him to M. De Buſero, deputy in the college of admiralty, who procured for him the place of ſecretary in that department. Soon after he had been thus raiſed from his obſcure ſituation, he married a clergyman's daughter, who had a taſte for poetry; but abandoning the Muſes, and devoting himſelf to the duties of his office, he ſoon died of a conſumption in the flower of his age, in 1684. He had propoſed, and begun a life of St. Paul, but left only a few fragments of it. His works were publiſhed, in 4to. at Amſterdam, in 1714, under the inſpection of Mr. Hoogſtraten, one of the maſters of the Latin ſchool. Gen. Dict.

ANTONIENBERG, in *Geography*, one of the higheſt points of the Swiſs Alps, in the Valais.

ANTONINE Column, in *Architecture* and *Sculpture*. See Column.

ANTONINUS Pius, or *Titus Aurelius Fulvius Boionius Antoninus*, a Roman Emperor, was born at Lanuvium or Lavinium, in the vicinity of Rome, A. D. 86; and deſcended from virtuous and honourable anceſtors at Niſmes in Gaul. Both his grandfathers, and his father, were conſuls. After the death of his father, his education was completed in the houſe of his maternal grandfather, Arrius Antoninus. At an early age he conciliated the affection of all his relations, ſo that when they died, he was diſtinguiſhed by their bequeſts, and became rich; and as he advanced to maturity, he combined, in a very eminent degree, all the virtues of the heart with a gentle and majeſtic countenance, a cultivated underſtanding, a commanding eloquence, and an exemplary conduct. In his ſentiments and actions he was guided by moderation; and he was perfectly free from affectation and vain glory. Having attained the conſulate A. D. 120, he was afterwards one of the four conſulars appointed by Adrian to govern Italy, and became proconſul of Aſia; where, by the mildneſs of his authority, and the affability of his manners, he engaged the affection and attachment of perſons of all ranks and parties. On his return to Rome, he was admitted into the council of Adrian; nor did the emperor purſue any meaſure of conſequence without his advice. He married Anna Fauſtina, the daughter of Annius Verus; and though he was not very happy in his choice, he behaved with ſingular reſpect to the father, comforting him in his old age, and ſupporting him with his arm when he came into the ſenate; and hence it is ſaid, he obtained the ſurname of *Pius*. By this marriage he had two ſons, who died young; and two daughters, one of whom, named Fauſtina, was married to Marcus Aurelius, afterwards emperor. Upon the death of Ælius Verus, Adrian determined upon the adoption of Antoninus; and having overcome his reluctance to undertake ſo great a charge as that of the Roman empire, he declared his nomination in the preſence of a council of the principal ſenators, on the 25th day of February, A. D. 138, and immediately made him his colleague in the proconſular and tribunitian authorities. He alſo cauſed him to adopt the ſon of Verus, an infant of ſeven years of age; and Marcus Annius, afterwards Aurelius, who was about 17 years old. Upon the death of Adrian, July 10, A. D. 138, or, as ſome ſay, A. D. 139, Antoninus ſucceeded to the throne, amidſt the congratulations of the ſenate, and to the univerſal ſatisfaction of the Roman people. His acceſſion was marked by the uſual titles and honours conferred on the Roman emperors; to which the ſenate added that of *Pius*, either from the circumſtance already mentioned, or on account of the reſpect with which he treated the memory of his predeceſſor. Although the pacific reign of Antoninus affords little variety of incident, it is nevertheleſs to be regretted, that we derive our direct information of this reign from a confuſed and obſcure hiſtorian, Capitolinus; the records of Dio Caſſius having been loſt. From the teſtimony of this hiſtorian, however, it appears, that, after his acceſſion to the empire, he purſued the ſame courſe of conduct which he had done whilſt he was a private perſon; fixing the attachment of his friends, and conciliating his enemies; conſulting the ſenate on every tranſaction of importance, and frequently giving an account to the people of all his actions

and negociations. Such was his general conduct, that M. Aurelius was convinced, by his example, that a prince might lead a private life even in a court. He reduced moſt of the impoſts and tributes, and enjoined his collectors to exact them without ſeverity; obſerving, that he rather choſe to be poor, than that his coffers ſhould be filled at the expence of an oppreſſed people. Soon after his acceſſion, he diſtributed the greateſt part of his private eſtate among the indigent citizens; and when the empreſs Fauſtina repined at his liberality, he told her, that a prince ought to have no private intereſt, no private property, and nothing in view but the public welfare. He was udicious in the choice of the governors of provinces; and, it is ſaid, that he never promoted an undeſerving perſon to any employment or honour. The penſions of uſeleſs perſons were aboliſhed, and he alleged, that he could not bear to ſee the ſtate impoveriſhed by thoſe who did it no ſervice, but lived idly upon the labours of others. But though he was ſparing of the public money, no one ever charged him with avarice, as he was exhibiting daily evidence of an unbounded generoſity. He never would accept legacies from ſuch as had children; and he ordered the eſtates of criminals condemned for extortion to be reſtored to their heirs, after having rendered ſatisfaction to thoſe whom they had pillaged. He alſo extirpated the whole tribe of informers; and upon any misfortune that happened to any city or province, he was ready to leſſen their tribute or taxes. Antoninus every where favoured men of learning, encouraged the education of youth, and ſpent conſiderable ſums in providing for the children of indigent parents. Although he was not addicted to building, he raiſed ſeveral ſtately edifices in Rome and its vicinity. He cauſed a port to be made at Caieta or Gæta; repaired that of Terracina; finiſhed Adrian's magnificent mauſoleum; built a ſtately palace at Lorium in Hetruria, about ten miles from Rome, where he had been educated; and he contributed large ſums towards repairing ſeveral ancient buildings in Greece, Ionia, Syria, and Africa. It is probable that Niſmes was indebted to him for thoſe magnificent decorations that ſtill diſtinguiſh it, the amphitheatre and aqueduct. Having declared at the commencement of his reign, that he would not ſpill the blood of any ſenator, he religiouſly obſerved his engagement; ſo that when one was convicted of parricide, he contented himſelf with baniſhing him, after he had confeſſed his crime. When Attilius Tatianus and Priſcianus were accuſed of conſpiring againſt his life, and after the latter had deſtroyed himſelf, and the former was baniſhed, he took the ſon of the ſurvivor under his care, and brought him up as if he had been his own child; nor would he ſuffer any inquiry to be made after their accomplices, obſerving to the ſenate, who urged him to it, "I do not care the world ſhould know by how many perſons I am hated." In the exerciſe of juriſprudence, he iſſued three decrees which manifeſt a laudable ſpirit of equity. The firſt was, that no one ſhould be again proſecuted on a charge of which he had been once acquitted:—the ſecond, that the children of a perſon become a Roman citizen, who were not ſo themſelves, ſhould not, as in former times, forfeit their inheritance to the treaſury:—and the third, that a woman proſecuted for adultery by her huſband, ſhould have a right to recriminate. He alſo iſſued reſcripts in favour of the Chriſtians, to protect them from popular rage and legal injuſtice. One of theſe, addreſſed to the people of Aſia Minor, is preſerved by Euſebius (E. H. l. iv.), and it bears teſtimony to their character. So pacific was his diſpoſition, that he never engaged in any war which he could avoid; and was often heard to ſay, "that he had rather ſave one citizen than deſtroy a thouſand enemies." Some commotions, however, aroſe in various parts of the empire; but they were ſuppreſſed, without much difficulty, by his lieutenants. In Britain, the incurſions of the Brigantes were ſuppreſſed; and the boundaries of the Roman province were extended, by building a new wall to the north of that of Adrian, from the mouth of the Eſk to that of the Tweed.

Antoninus, by his temper and conduct, gained the affections, not only of his own people, by whom he was revered as their father and protector, but of thoſe who were the avowed enemies of Rome. Such was the influence of his known character, that a letter addreſſed by him to the king of Parthia, induced him to decline a meditated invaſion of Armenia, and to diſband his troops. The kings of Hyrcania, Bactria, and India, ſent ambaſſadors to him, courting his friendſhip and alliance. Pharaſmanes, king of Iberia, paid him a viſit in perſon at Rome; and the Lazi, the Armenians, the Quadi, and ſeveral other nations, readily received ſuch perſons as he was pleaſed to appoint for their rulers, though they were not then ſubject to the empire. Antoninus is by ſome hiſtorians compared, and by others even preferred, to Numa, on account of the tranquillity which Rome enjoyed during the greateſt part of his reign; and his extraordinary care of all things belonging to the worſhip of the gods, and to religion.

Some perſons have thought that he extended his indulgence to the empreſs Fauſtina, whoſe life was diſſolute, to an improper and culpable extreme. After ſhe died, ſhe was honoured with divine worſhip, prieſts, temples, and ſtatues of gold and ſilver; games were alſo inſtituted to her honour; and her ſtatue was carried, by his expreſs order, amongſt thoſe of the other gods, at the Circenſian ſports.

Soon after his advancement to the throne, Marcus Aurelius was diſtinguiſhed by his favour; for he married him to his daughter Fauſtina, and declared him Cæſar; nor had any reaſon to regret the honours he conferred upon him, and the confidence he repoſed in him. In this ſtate of domeſtic and public tranquillity, Antoninus attained his 74th year; and being ſeized with a fever at one of his country ſeats at Lorium, he cloſed his life, in the month of March, A. D. 161. He foreſaw the event, and ſummoned the principal officers of ſtate to attend him; and in their preſence confirmed his choice of Marcus Aurelius as his ſucceſſor, and cauſed the imperial enſigns to be carried to him. In the ſtate of derangement, occaſioned by his fever, his thoughts were evidently directed to the republic; and he deprecated the anger of the kings whom he ſuppoſed hoſtile to it. In a lucid interval, he gave as a watchword to the prætorian tribunes, "Equanimitas;" and then placidly expired, after a reign of 22 years ſeven months and 26 days. His funeral was conducted with pomp and magnificence; his remains were depoſited in the tomb of Adrian; he was ranked by the ſenate among the gods; a temple was built to his honour; and prieſts, ſacrifices, and annual ſports were inſtituted. His death, though at an advanced age, was the ſubject of univerſal lamentation; and ſo highly honoured was his memory, that ſucceeding emperors choſe to bear the name of Antoninus, as the moſt popular appellation they could aſſume. Marcus Aurelius and the ſenate conſecrated to his memory a ſculptured pillar, which ſtill ſubſiſts, as one of the principal ornaments of Rome, under the name of the *Antonine* COLUMN. Anc. Un. Hiſt. vol. xiii. p. 294—309. Crevier's Hiſt. of the Emperors, vol. vii. p. 198—245. Lardner's Works, vol. vii. p. 388—395.

ANTONINUS, MARCUS ANNIUS AURELIUS, one of the moſt illuſtrious of the Roman emperors, was born in the year

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of Rome, 874, A. D. 121, during the ſecond conſulſhip of his grandfather, L. Annius Verus; and deſcended from an honourable family of Succubis or Ucubis, of Betica, ſuppoſed to be related to that of Adrian. He was diſtinguiſhed by the patronage and favour of Adrian in his early years; and at the age of ſix years he advanced him to the rank of knighthood, at eight admitted him into the college of Salii, and at length adopted him into the imperial family, ſo that his ſucceſſion to the empire was ſecure. The Emperor uſed to call him M. Annius Veriſſimus, on account of his great ſincerity. When he was adopted, he took the names of M. Ælius Aurelius Verus, Aurelius being an appellation peculiar to the family of Antoninus, and Ælius belonging to that of Adrian, into which Antoninus had been adopted. Upon his acceſſion to the empire he aſſumed the name of Antoninus; and he is uſually diſtinguiſhed from his predeceſſor by the prenomen of Marcus, or ſurname of Philoſophus, which was given him by the unanimous conſent of hiſtorians, and not by any decree of the ſenate. The care of his education in his infancy was devolved on his paternal grandfather, Annius Verus; and in his maturer years, he was brought up in the palace, and inſtructed under the direction of Adrian, in all the arts that pertain both to the body and mind; eloquence and poetry, however, engaged little of his attention, for his thoughts and time were devoted to philoſophy; and more eſpecially to that kind of philoſophy that tended to regulate the temper and conduct. His principal maſters were Herodes Atticus, and Cornelius Fronto, Greek orators: and above all, Junius Ruſticus, who joined to an illuſtrious birth an hereditary taſte for the ſtoical philoſophy. Such was his proficiency under theſe inſtructors, that at the age of 12 years he aſſumed the philoſophical gown. To his intenſe ſtudy he added the auſterity of the profeſſion to which he was devoted; and by unwearied application and ſtrict regimen he prejudiced his health. With the gravity of a philoſopher, however, he blended no part of the ſeverity; his addreſs was agreeable and engaging to all with whom he had any intercourſe; he was virtuous without pride, modeſt without timidity, and grave without melancholy. To his maſters he was reſpectful and grateful; he honoured them living and dead; and kept their images of gold, with thoſe of his houſehold gods, in his domeſtic chapel; and offered up chaplets of flowers and victims at their tombs. At 15 years of age, he put on the manly gown, and ſoon afterwards was appointed præfect of the city. About this time he manifeſted his diſintereſted generoſity, by ſurrendering to his only ſiſter, Annia Corniſicia, all his father's effects. His adoption into the Aurelian family, by Antoninus Pius, took place in his 17th year; but ſuch was the ſuperiority of his mind to all diſtinctions of this nature, that the honour produced no change in his diſpoſition and mode of life, nor in the courſe of his ſtudies. After his adoption, he was appointed quæſtor; and immediately upon Adrian's death, Antoninus married him to his daughter Fauſtina, advanced him to the dignity of Cæſar, and conferred upon him, in quick ſucceſſion, a variety of civic honours. He was appointed chief of one of the centuries of Roman knights, had a houſehold aſſigned him, was twice conſul, and received the tribunitial and proconſular authorities. Such was the emperor's confidence in him, that he was called to all his public councils, and he gave away no office without his advice and approbation; and ſuch was Aurelius's attachment to the emperor, that, during almoſt 23 years, he never ſlept apart from him more than two nights either in town or country.

Of the diſintereſtedneſs of Aurelius, we have a ſingular inſtance on his firſt acceſſion to the throne. L. Aurelius Commodus, the ſon of that Verus whom Adrian had adopted, had been joined with Marcus Aurelius in the adoption of Antoninus, and equally intended for the ſucceſſion. But Antoninus, on account of the errors and vices of his youth, had excluded him from any ſhare in the ſovereignty, and appointed Aurelius heir to the empire; and, upon the death of Antoninus, the ſenate confirmed his purpoſe. Aurelius, however, procured Commodus to be declared his colleague, promiſed him his daughter Lucilla in marriage, and ordained that he ſhould take his own original name of Verus, by which name he was afterwards known. In the firſt year of Aurelius's reign, Fauſtina was delivered of male twins, one of whom died under age, and the other was Commodus, who ſucceeded his father in the empire, diſgraced his elevation, and became notorious for every kind of profligacy. About the ſame time, the public tranquillity was diſturbed in Germany, Great Britain, and Parthia; but the moſt important events were, the invaſion of Armenia by Vologeſes, king of the latter country, and his irruption into Syria. Verus proceeded to the eaſt, rather making a tour of pleaſure than conducting a military expedition, and took upon him the ſupreme command. After four years the war terminated in a treaty, which reſtored the king of Armenia to the throne; and though Verus was an object of contempt, on account of his luxurious diſpoſition, to foreign nations, and had little perſonal ſhare in the honour of bringing the war to a termination, he was dignified with the title of "Imperator" by the army, and other pompous appellations. During the courſe of this war, he married Lucilla; and, on his return to Rome, both emperors were united in the triumph, and a cordial harmony ſubſiſted between them. The character of theſe two emperors was, however, eſſentially different. Verus was debauched and extravagant; and if we except cruelty, in the exerciſe of which he was reſtrained, he exhibited all the follies and vices of the worſt of his predeceſſors. Aurelius, on the other hand, was a philoſopher on the throne; and exhibited a pattern of every private and public virtue. He diſtinguiſhed himſelf more than any former emperor had done, by his reſpect and deference to the ſenate, and by his attention to the happineſs of the people. He would not touch the money in the treaſury, without the expreſs permiſſion of the ſenate: "Every thing," ſaid he, "belongs to the ſenate and people; we have nothing which we do not hold of you; the very palace we inhabit is your property." When he was under a neceſſity of patiently enduring thoſe vicious habits which he could not reform by gentle means, he uſed to ſay, "We cannot make men as we wiſh them to be: we muſt take them as they are, and do the beſt with them that lies in our power." So determined was Aurelius in reſiſting exactions, that he checked the rapacity of his ſoldiers at a moment of victory, by telling them, "All that is given you beyond your due muſt come from the blood of your parents and relations." In a time of public diſtreſs, he preferred ſelling the furniture of his palace, and the rich wardrobe of his wife, to increaſing the burden of the provinces. Although he did not wholly aboliſh, he reſtrained the expence of public exhibitions: and he ſoftened the cruelty of the combats of the gladiators, by ſubſtituting leſs hurtful arms in the room of thoſe that were deſtructive. Lenity was the chief foible of his character; and yet he ever manifeſted a ſtrict regard to juſtice. He expedited the deciſion of legal proceſſes, increaſed the number of days on which the courts were to ſit for the diſpatch of buſineſs, and followed the example of his predeceſſor in his improvement of juriſprudence. The right of ſucceſſion of children to their mothers was made by him

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a part of the Roman law, and he appointed a particular prætor for the guardianſhip of minors.

The cloſe of the life and reign of this tranquil prince was diſturbed by the hoſtilities of the Marcomanni and other German tribes; and when a peace had been concluded with the Parthians, theſe hoſtilities, which had become formidable, demanded attention. In the year 169, the two emperors having levied an army, left Rome together, and wintered at Aquileia. Antoninus had prepared for the conflict that was expected, by a variety of religious ceremonies, which he thought might tend to render the deities propitious, while they manifeſted his own attachment to the forms of religion which ſuperſtition had deviſed and ſanctioned. Till the death of Verus, in the year 169, nothing deciſive ſeems to have occurred. Worthleſs as his character was, Antoninus proſtituted upon him divine honours; and in his memoirs, he ſpeaks of him with undue reſpect, and in a manner that is not very compatible with the reproach which he caſt upon him in his addreſs to the ſenate. In the following year, the emperor, who was now ſole poſſeſſor of power, returned to Pannonia, and vigorouſly oppoſed the Marcomanni, who had advanced as far as Aquileia. During a conteſt which detained Antoninus in theſe parts for five years, he had many opportunities for the exerciſe of fortitude and patience, and for the practice of thoſe leſſons which he had ſtudied in his youth. The moſt celebrated event which occurred in this period, was a victory obtained by the emperor in perſon over the Quadi, the conſequence of a ſudden ſtorm of rain, hail, and lightning, which diſconcerted the barbarians, and was regarded as miraculous. Antoninus and the Romans aſcribed it to an interpoſition of Jupiter and Mercury, but the Chriſtians attributed it to the effectual prayers of a legion of Chriſtians who ſerved in the army, hence called the *thundering legion*. See a more particular account under that article. Pannonia was at length delivered from the incurſions of the barbarians; to whom territories were aſſigned on the confines of the empire. The ſubjugation of the Marcomanni was delayed by the revolt of Avidius Caſſius, who aſſumed the purple in Syria; and who obtained ſupport in conſequence of a rumour of the emperor's death, which he contrived to circulate. This rebellion was ſoon quelled by the officers of Caſſius, who conſpired againſt him, and killed both himſelf and his ſon. Such was the magnanimity of the emperor on this occaſion, that, having obtained the papers of Caſſius, he committed them to the flames without reading them. After the ſuppreſſion of this inſurrection, Antoninus made a progreſs through the eaſt, and was accompained by Fauſtina, who died in this journey, after a ſhort illneſs. In her licentious conduct ſhe rivalled the infamous Meſſalina; and yet, ſuch was the ſtoical inſenſibility of her huſband, that he paid her divine honours after her death. This conduct on the part of the emperor, either betrays great want of penetration, or offers an inexcuſable inſult to decorum and good morals. Whilſt the emperor viſited Syria, Egypt, and Greece, in the year 176, he was initiated at Athens, in the Eleuſinian myſteries, and he conferred various privileges on this ſeat of philoſophy. On his return to Rome, after an abſence of eight years, he obtained a triumph on account of his conqueſt of the Marcomanni, and profuſely diſtributed largeſſes among the people. After two years, he marched again towards the Danube, where the war with the Marcomanni was renewed; and in this expedition he was accompained by his ſon. Before his departure, it is ſaid that, in compliance with the requeſt of the people, who wiſhed him to inſtruct them in the ſecrets of philoſophy, he gave public lectures for three days; and the report of adulation adds, that he delivered ſimilar lectures in ſome of the capitals of the provinces. In this new war Antoninus was ſucceſsful, and was for the 10th time honoured with the title of "Imperator." After an abſence of two years, he fell ill at Vindobona, now Vienna, in Auſtria, apparently of a peſtilential diſeaſe which prevailed in the army, and died on the 7th day, March 17th, A. D. 180, U. C. 933, at the age of 59 years, and after a reign of ſomewhat more than 19 years. His death was univerſally lamented; he was deified by the acclamation of the ſenate and people; his image was kept in the private houſes of the Romans among their deities, and he who had not one was deemed impious; this worſhip of him continued above 100 years; and Dioclefian gloried in honouring him as one of the principal deities.

Marcus Aurelius, notwithſtanding all the good qualities by which he was diſtinguiſhed, and the mildneſs and clemency which perhaps on ſome occaſions he carried to a blameable exceſs, perſecuted the Chriſtians. He was undoubtedly prejudiced againſt them, and in his own book, (xi. 3.), cenſures very unreaſonably what he ought to have approved (as the excellent Dr. Jortin remarks, Diſcourſes concerning the Truth of the Chriſtian Religion, p. 57)—their readineſs and reſolution to die for their religion. The ground of this cenſure is particularly examined by Dr. Lardner; and he aſcribes it partly to the Chriſtians refuſing to join in the common worſhip of the Heathen deities, and to the freedom of their reflections upon the philoſophers; partly to their ſurpaſſing even the ſtoics in patience under all kinds of ſufferings; and partly to the emperor's bigotry, both in religion and philoſophy, which often miſleads the judgment, and induces perſons of the beſt diſpoſition to act contrary to the laws of equity on ſome occaſions. Of the perſecutions in this reign, which were numerous and ſevere, and which have led the ancients to reckon Aurelius among the perſecuting emperors, we muſt ſeek the cauſe in the ſtoical and hard-hearted philoſophy which he had embraced; in his attachment, real or diſſembled, to the religion of his country, and to the eſtabliſhed worſhip of the gods againſt which Chriſtianity militated; and perhaps principally to the inſtructions and inſtigations of the philoſophers, who frequented his court, and who cherithed in his mind an enmity againſt the Chriſtians. Whatever motives influenced the conduct of Aurelius, the Chriſtians were under great diſcouragements during his reign. In that period were publiſhed many apologies, as the ſecond of Juſtin Martyr, thoſe of Tatian, Athenagoras, Apollinaris of Hierapolis, Melito of Sardis, and Theophilus of Antioch. In this period were alſo many martyrs; ſome of great diſtinction, as Juſtin, Polycarp, and the martyrs of Lyons, with their aged biſhop Pothinus.

Aurelius was a writer; and his "Meditations," written in Greek, have reached our time. The moſt valued editions are thoſe with Gataker's notes, particularly that of Cambridge, 4to., 1652; of London, 4to., 1697; and of Utrecht, folio, 1698. In order to form a true judgment of theſe meditations, with reſpect to their meaning and ſpirit, they ſhould be read, not as detached moral maxims or reflections, but as connected with, and founded upon, the principles of ſtoiciſm. The leading feature in the character of Aurelius was goodneſs of heart: but it was not accompanied with a comprehenſive underſtanding and ſound judgment. "His philoſophy was not free from pedantry and oſtentation. We want in him the manly ſenſe of Trajan, and the ſimple virtue of Antoninus Pius; yet he will ever ſtand high among the friends and benefactors of mankind; and will afford a memorable example of philoſophy ſtrictly maintained upon a throne." Anc. Un. Hiſt. vol. xiii. p. 310—341. Crevier's Hiſt. Emp. vol. viii. Gibbon's Hiſt. Brucker's Phil.

Phil. by Enfield, vol. ii. p. 134, &c. Lardner's Works, vol. vii. p. 395—459.

ANTONIO, Nicholas, was born at Seville in Spain, in 1617; and having ſtudied law in the univerſity of Salamanca, became agent-general for the king of Spain, at Rome. He is known as the author of a celebrated work in Spaniſh literature, intitled "A Catalogue of Spaniſh Authors," to the compilation of which he devoted ſeveral years in the royal monaſtery of Benedictines at Salamanca; and for the completion of which, as well as the gratification of his taſte for letters, he purchaſed 30,000 volumes. The work was completed in four volumes folio, and printed at Rome in 1696. It is copious, correct, and methodical; and is now ſcarce. He alſo wrote in Latin a treatiſe "On Exile," which was publiſhed at Antwerp in 1659. Antonio died in the year 1684. Gen. Biog.

Antonio, *Port*, in *Geography*, a bay or harbour on the north-eaſt coaſt of the iſland of Jamaica, two leagues weſt-north-weſt from north-eaſt point.

Antonio *Iſland*. See St. Anthony's *iſland*.

Antonio, St. *Cape*, lies in a ſmall deep bay, about two leagues north-weſt from Cape St. Martin's, on the coaſt of Valencia, in the Mediterranean, belonging to Spain.

Antonio, St. *Port*, lies in the iſland of Lemnos, in the Archipelago, between two hills, appearing at ſea like two iſlands; 12 leagues north-weſt from Mitylene, or Leſbos.

Antonio *Viana*, is a ſhoal due weſt of Cape Negro, on the coaſt of Africa, 80 or 90 leagues from the ſhore, which is very dangerous, and ſhould be carefully avoided.

Antonio, St. *Cape*, is the extreme weſtern point of the iſland of Cuba, in the Weſt Indies. N. lat. 21° 45′. W. long. 84° 10′.

Antonio, St. *Fort*, lies on the coaſt of Brazil, within the north point of the river Paraba. S. lat. 21° 25′: called Point Lucena, and the rendezvous of the Brazil ſhips for Europe.

Antonio De Suchitepec, St., a town in Mexico, or New Spain, on the coaſt of the Pacific Ocean. N. lat. 15°. W. long. 93° 5′.

Antonio, St, the capital of the province of Apachiera, in New Mexico.

Antonio, a town in the province of Navarre, in North America, on a river which runs ſouth-weſt into the gulf of California.

Antonio De Cabo, St. a town of Brazil, in South America, near Cape St. Auguſtine, ſubject to the Portugueſe, where they manufacture a conſiderable quantity of ſugar. S. lat. 8° 34′. W. long. 35° 22′.

Antonio, St. a town of New Mexico, on the weſt ſide of Rio Bravo river, below St. Gregoria. It is alſo the name of a town on the river Hondo, which falls into the gulf of Mexico, north-eaſt of Rio de Brava.

ANTONIOTTO, Giorgio, in *Muſical Biography*. See Giorgio.

ANTONIUS, Marcus, the *Orator*, in *Biography*, was the greateſt ornament of the Antonian family. Having obtained the quæſtorſhip of the province of Aſia, he had proceeded to Brunduſium, when he was informed that he was accuſed of inceſt; and that the cauſe lay before Caſſius the prætor, who was a very ſevere judge. Declining to avail himſelf of the privilege belonging to thoſe who were abſent in the ſervice of the commonwealth, againſt whom no accuſation could be preferred, he haſtened back to Rome, and ſubmitted to a trial, in which he was honourably acquitted. Whilſt he was prætor, Sicily fell to his lot, and he cleared the ſeas of the pirates which infeſted thoſe coaſts. He was conſul in the year of Rome 653, before Chriſt 101, and was very active in ſuppreſſing the tumults excited by the tribune Sextus Titus. His conduct, whilſt he was governor of Cilicia, obtained for him the honour of a triumph. In order to improve his talents for eloquence, he put himſelf under the inſtruction of the principal teachers of rhetoric, both at Athens and Rome. On his return to Rome, he performed the office of cenſor, and gained a cauſe againſt Duronius, who had from revenge preferred an accuſation of bribery againſt him. He was highly admired and eſteemed on account of both his talents and conduct; but unfortunately fell a ſacrifice in the tumults occaſioned at Rome by the factions of Marius and Cinna. The ſoldiers who were diſpatched to diſcover his retirement and to kill him, were ſo overpowered by his addreſs that they were unable to execute their commiſſion; and the commanding officer, obſerving that they heſitated, and enraged that his orders were not complied with, became himſelf the aſſaſſin. His head was afterwards expoſed before the roſtrum, which he had adorned with his triumphal ſpoils. This happened in the year of Rome 667, before Chriſt 87. Marcus Antonius was one of the greateſt orators of Rome; and in the judgment of Cicero, it was owing to him and to Craſſus, that Italy was the rival of Greece in the art of eloquence. He makes him one of the principal interlocutors in his "Dialogue on Oratory;" and in his "Treatiſe on famous Orators," deſcribes at length his character as a ſpeaker. His diſtinguiſhing qualities were force, earneſtneſs, acuteneſs, variety, readineſs, and copiouſneſs, and he excelled as much in action as in language. His memory was ſingularly retentive; and though he began to ſpeak without any ſeeming preparation, he was always ſo much maſter of his ſubject, that the judges ſeemed not ſufficiently prepared to anſwer him. In his defence of Marcus Aquilius and others, he moved the judges, by the tears he ſhed, and by exhibiting the ſcars on the breaſt of his client, to ſuch a degree, that he gained his cauſe. Although a tract of his on oratory had got abroad ſurreptitiouſly, he never ſuffered any of his pleadings to be publiſhed; alleging that whenever it would have been better that any thing had not been ſaid, it might not be proved againſt him. Cicero, de Oratore, lib. ii. c. 47. &c. Apud Oper. tom. i. p. 254, ed. Olivet.—De Claris Oratoribus, c. 30, 31, &c. Oper. tom. i. p. 416, &c. Pro Cluentio, c. 50. Oper. tom. v. p. 88. Valer. Max. lib. vii. c. 3. Gen. Dict.

Antonius, Musa, phyſician to the emperor Auguſtus. Having had the good fortune to reſtore the emperor to health, from a tedious and dangerous complaint, which his other phyſicians had attempted in vain, he was loaded with riches, and was allowed the liberty of wearing a gold ring, a privilege only granted to perſonages of the firſt rank. This privilege was afterwards granted to other phyſicians at Rome, in compliment to Antonius.—The medicines he uſed in the cure of Auguſtus are ſaid to have been principally cooling herbs, to which he added the uſe of the cold bath, at that time but little known. He was ſkilful, Haller ſays, in the knowledge of medicine, and many of his compoſitions continued to be uſed to a very late period. Bib. Med. Pract.

Antonne, in *Geography*, a town of France, in the department of the Dordogne, and chief place of a canton, in the diſtrict of Perigueux, on the Ille; five miles eaſt of Perigueux.

ANTONOMASIA, compounded of ἀντι, *for*, and ὀνομα, *name*, a figure in *Rhetoric*, whereby a noun appellative is uſed inſtead of a proper name, or *vice verſa*. Thus we ſay, the Philoſopher, inſtead of Ariſtotle; the Orator, for Cicero; the Apoſtle, for St. Paul; the Prophet,

for Moſes, &c.—Thus alſo we call a voluptuous perſon, a Sardanapalus, &c. And thus the French ſay, Henry the Great, meaning Henry IV. of France.

ANTONOW, in *Geography*, a town of Poland, in the palatinate of Minſk, 16 miles ſouth-ſouth-eaſt of Mozyr.

ANTONY, a town of France, two leagues S. of Paris.

ANTONY, MARK, MARCUS ANTONIUS, the *triumvir*, in *Biography* and *Hiſtory*, was grandſon of the celebrated orator of that name, and ſon of Antonius, ſurnamed *Creteſis*. His mother's name was Julia, of the Cæſarian family, a lady of diſtinguiſhed merit. He was born in the year before Chriſt 86, and educated under his mother's direction. But, following the example of his father, he launched out at an early age into the exceſs of riot and debauchery. His comely perſon, lively wit, and inſinuating addreſs, recommended him to Curio, who encouraged and ſupported his licentiouſneſs, and involved himſelf on his account in a debt of 50,000 pounds. On this occaſion Cicero was requeſted to appeaſe the anger of Curio's father; and having prevailed with him to pay his ſon's debts, he adviſed him to enjoin on his ſon the ſurrender of all intercourſe with Antony. This laid the foundation of an early averſion in Antony to Cicero, which was increaſed by his forming intimate connection with the enemies of Rome. He afterwards attached himſelf to the profligate Clodius; but conceiving a diſlike of him, and dreading the termination of the meaſures he was purſuing, he went to Greece with a view of improving himſelf in eloquence and the military art. Here he was invited to ſerve under the proconſul Gabinius, and obtained the command of the cavalry in his expedition into Syria, where he ſignalized himſelf by his valour in a complete victory over the Jews, and in his attempts to reſtore Ptolemy to the throne of Egypt. When Peluſium was taken, Ptolemy ordered the inhabitants to be put to death; but Antony interpoſed, and by his influence ſaved their lives. He afterwards performed ſeveral glorious actions, by which he gained the reputation of a great general. Upon the breaking out of the civil war, he joined Cæſar's party, and was created augur and tribune of the people; but becoming obnoxious to the ſenators, he was driven out of Rome, and ſought an aſylum in the camp of Cæſar, in Gaul. Having complained, that the tribunes of the people were not permitted to ſpeak freely, and that thoſe who appeared in favour of equitable meaſures were in danger of loſing their lives, Cæſar marched immediately into Italy; and on this account Antony as been conſidered as the promoter of the civil war among the Romans. When Cæſar had made himſelf maſter of Rome, he aſſigned to Antony the government of Italy and the ſupreme command of the army, whoſe attachment he engaged, whilſt he incurred the charge of oppreſſing the people. Such was the reputation he acquired by the effectual aſſiſtance which he gave to Cæſar, that he was appointed to the command of the left wing in the battle of Pharſalia, whilſt Cæſar himſelf led the right. When Cæſar, after the victory over Pompey, was made dictator, Antony was appointed general of the horſe, which office he retained for a whole year, though the uſual period of it was only ſix months. In the exerciſe of this office he was tyrannical and intolerant; and his general conduct was ſo diſſolute and licentious, that Cæſar treated him with coldneſs, and did not admit him to be his colleague in the conſulſhip at this time; as he died two years after, in the year before Chriſt 44, when he himſelf was conſul the fifth time. His reſtoration to favour was the recompence of the moſt profligate adulation and ſervility, and his conduct in office was ſo baſe as to accelerate the fall of his patron. At the feſtival of the Lupercalia, he thrice tempted Cæſar with the offer of a regal diadem, which was as often refuſed by Cæſar, to the great ſatisfaction of the multitude. This attempt at royalty was ſoon ſucceeded by the conſpiracy which deprived Cæſar of his life. Antony eſcaped by the interpoſition of Brutus; and afterwards contrived, by his art and eloquence, to procure a confirmation of Cæſar's acts, and to oblige the conſpirators to fly from Rome. The government of Antony, after Cæſar's death, was for ſome time abſolute; and he ſeemed to aſpire to the ſovereign power which Cæſar had poſſeſſed. His contemptuous treatment of Octavianus, the heir of Cæſar, however, threw him into the arms of the ſenate, and defeated his own ambitious projects. Having failed in his various attempts for regaining him, Antony levied forces and retired to Ciſalpine Gaul, of which he had been appointed governor, and laid ſiege to Mutina, now Modena, which was occupied by Decimus Brutus. For this conduct he was declared a public enemy; and the two conſuls, Hirtius and Panſa, accompanied by Octavianus, were ſent againſt him. In the battle which enſued, the two conſuls loſt their lives, but Antony was defeated, and the whole republican army was at the diſpoſal of Octavianus. Antony was compelled to leave Italy, and to march his troops over the Alps, which he conducted with a fortitude that did him honour. Having arrived in Gaul, he attached the ſoldiers of Lepidus to his intereſt; and they induced Lepidus to join him. Strengthened alſo by the troops of Plancus and Pollio, he returned to Italy with a large army. At Bologna, Antony and Lepidus had an interview with Octavianus, who abandoned the ſenate; and here they agreed on the partition of the Roman empire. They alſo concurred in that deteſtable proſcription, of which the firſt ſanguinary meaſure was the death of Cicero, againſt whom Antony had conceived an inveterate hatred on account of the condemnation of Lentulus the ſecond huſband of his mother, and the Philippics which he had pronounced againſt himſelf. The uſurpers proceeded to Rome, and filled the city with rapine and murder; and Antony enjoyed the baſe ſatisfaction of fixing the head and right hand of the illuſtrious Roman orator upon the roſtra, which had ſo often witneſſed the triumphs of his eloquence.

After having completed the deſtruction of their enemies in Rome, Antony and Octavianus marched into Macedonia, againſt Brutus and Caſſius; the latter of whom, after a defeat at Philippi, put an end to his own life; and, in a ſecond battle, Brutus fell in the ſame manner. It is recorded, as an inſtance of generoſity on the part of Antony, that when Lucilius, who was miſtaken by the Thracians for Brutus, ſurrendered himſelf in order to give his friend an opportunity of eſcaping, Antony commended his fidelity, and embraced him as a friend; and alſo, on viewing the dead body of Brutus, his ſenſibility was affected, he threw over it his own rich mantle, and ordered it an honourable funeral. At Athens in Greece, whither Antony next proceeded, he endeavoured to ingratiate himſelf with that city, by expreſſions of regard, and he frequented its public ſchools and gymnaſia. In Aſia, he indulged his taſte for ſplendour and voluptuouſneſs; and, though he ſhewed ſome lenity to the friends of Brutus who fell into his hands, he plundered ſeveral cities, and beſtowed the wealth he thus collected on his paraſites and buffoons. In Cilicia he ſummoned the famous Cleopatra, queen of Egypt, to give an account of her conduct, which had given offence to the triumvirs. The interview was ſingularly ſplendid; and the queen advanced with confidence, not doubting that, as in her youth ſhe had enſlaved Cæſar and Pompey, ſhe would be able, by her charms and the art which experience had taught her, to captivate the heart of Antony. The intercourſe terminated as ſhe expected. The triumvir was completely ſubdued, took the queen with him to Alexandria, and

and indulged in diſſipation and luxury, which made him regardleſs of every important concern. In the mean while, Fulvia, the widow of Clodius, whom Antony had married before the death of Cæſar, quarrelled with Octavianus, and aſſembling ſome legions at Prænesſte, commenced hoſtilities. Before Antony could reach Italy, the war had terminated in favour of Octavianus; and the death of Fulvia, who is thought to have concerted this war for the purpoſe of detaching Antony from Cleopatra, made way for completing a reconciliation with Octavianus, by the marriage of Antony with his ſiſter Octavia, to whom the brother was affectionately attached, and who was a lady of an excellent and amiable character. On this occaſion, Antony and Octavianus, the two principal of the triumvirate, agreed on a new partition of the Roman empire; and by virtue of this partition, Codropolis, a town of Illyricum, being fixed as the boundary of their dominions, the whole that lay weſt of this place was allotted to Octavianus, and the whole that was ſituated to the eaſt belonged to Antony; ſo that the former had Dalmatia, the two Gauls, Spain, and Sardinia, and the latter all the eaſtern provinces as far as the Euphrates. Africa was aſſigned to Lepidus. It was alſo agreed that Antony ſhould make war upon the Parthians; and Octavianus reduce Pompey, if he refuſed to ſubmit to reaſonable conditions. Antony, after this buſineſs was amicably ſettled, ſpent the winter at Athens with Octavia, and diſpatched his lieutenant Ventidius into Aſia, to check the incurſions of the Parthians. The ſucceſs of Ventidius rouſed the jealouſy of Antony, and he determined to leave Athens and to march into the eaſt. When he arrived, he diſmiſſed his lieutenant, who was beſieging Samoſata, and ſent him to Rome to demand of the ſenate and people the honours of a triumph. Antony, having offended his ſoldiers by diſmiſſing Ventidius, and raiſing the ſiege without much honour, returned to Octavia at Athens, and ſoon afterwards ſailed to Italy, at the requeſt and for the aſſiſtance of Octavianus, in order to overpower by their united counſels and forces their rival, Pompey. Antony came as far as Brunduſium; and not finding Octavianus there at the time appointed, he returned to Athens. However, when Octavianus was reduced by Pompey to great danger, Antony aſſembled a large fleet, and ſailed for Italy. But the two ambitious triumvirs, jealous of each other, diſagreed; and Octavia, by a conference with her brother, in the preſence of Mæcenas and Agrippa, and by earneſt entreaties, prevailed with him to meet Antony, and to compromiſe the differences that ſubſiſted between them. In this office of prudence and affection ſhe ſucceeded; and after an accommodation, Antony departed once more for Syria. Octavia accompanied him to Corcyra, but from thence returned to Italy. Upon Antony's arrival in Syria, he invited Cleopatra, and beſtowed upon her all Phœnicia, Cœloſyria, Cyprus, and a great part of Arabia and Judæa. His profuſion offended the Roman people, and they cenſured his conduct on account of his ſcandalous connection with Cleopatra. After theſe extravagant grants, he marched with a large army againſt the Parthians, which only ſerved to render his retreat the more ignominious. The Romans juſtly attributed the misfortunes of this fatal expedition to his paſſion for Cleopatra, and they were alſo particularly incenſed by his conduct towards Artabazes, king of Armenia, whom he ſeized in a treacherous manner, and led in triumph to Alexandria. Having been induced by the crafty queen to order Octavia not to purſue her journey into Syria, but to return to Rome; he accompanied Cleopatra to Alexandria, and paſſed the winter with her in every kind of pomp, luxury, and voluptuouſneſs. Octavianus availed himſelf of the general reſentment againſt Antony, and preferred to the ſenate and people ſeveral articles of accuſation againſt him. A war between theſe two triumvirs became inevitable: but Antony, inſtead of making neceſſary preparations, appointed the iſle of Samos for the place of general rendezvous; and ſummoned thither players and muſicians, and all the miniſters of riotous luxury. From Samos he afterwards ſailed for Athens, where he purſued the ſame courſe of luxury and diſſipation: and in order to teſtify his reſentment againſt Octavianus, he ſolemnly divorced Octavia, and ordered her to be expelled from his houſe at Rome. Many of his friends abandoned him. War was declared againſt the Egyptian queen; and Antony was deprived of his conſulate and government; and the reaſon aſſigned for it was, that he ſuffered himſelf to be ruled by a woman. Each party collected its forces; and the Ambrazian gulf, between the iſlands of Corcyra and Cephalonia, became the ſcene of conteſt. The famous battle of Actium enſued: and this was fought at ſea, againſt the advice of Antony's beſt officers, and chiefly through the perſuaſion of Cleopatra, who was proud of her naval force. In the midſt of the action, Cleopatra, with her 50 gallies, took to flight, and Antony followed her in a ſmall veſſel, and thus overwhelmed his character in perpetual ignominy. After an obſtinate reſiſtance on the part of the ſoldiers, though abandoned by Antony, and at length by their principal officers, they ſurrendered to Octavianus, and were incorporated in his legions. Antony, thus defeated and diſgraced, vented his reſentment againſt Cleopatra; but they were ſoon reconciled; and he purſued his courſe to Libya, where he had ſtationed a conſiderable body of troops: but on his arrival, he found that they had deſerted to Octavianus. Diſtracted with diſappointment and vexation, he returned to Egypt, and lived for ſome time in gloomy ſolitude: but Cleopatra by her arts drew him to her palace, and he reſumed his former voluptuous life. Hither he was purſued by Octavianus: and though on his approach to Alexandria, Antony made a ſucceſsful ſally againſt the invader; yet, deſerted by the Egyptian fleet, by his own army, and betrayed, as he ſuſpected, even by Cleopatra, he ſunk down in deſpair. His firſt frantic effort was directed againſt the queen, who had been the cauſe of all his misfortunes: but ſhe fled from her palace and eſcaped: he then deſired one of his own ſervants to diſpatch him; but the faithful Eros ſtabbed himſelf, and fell down at the feet of his maſter. Antony, emboldened by this act of heroiſm, fell on his own ſword: but as the wound did not immediately prove mortal, he ſought Cleopatra in her place of retirement and ſafety; and being drawn up to the tower in which ſhe lodged, by ropes, he expired in her arms, in the 56th year of his age, and in the year before Chriſt 30. He was magnificently interred by Cleopatra; but at Rome his ſtatues were demoliſhed, and his memory was declared infamous.

Antony left ſeven children by his three wives; two ſons by Fulvia; two daughters by Octavia, who by their alliances gave three emperors to Rome; and two ſons and a daughter by Cleopatra, whom he had lawfully married after his divorce from Octavia. Of theſe children Octavia took the moſt laudable care; and at length the daughter of Cleopatra was married to Juba king of Mauritania.

Antony was neither a great nor a good man: he wanted that vigour of underſtanding which entitled him to a place in the firſt claſs; and his love of pleaſure, his want of principle, as well as his meanneſs and cruelty, exclude him from the ſecond denomination. He has had, however, his partiſans and admirers; and, it muſt be allowed, poſſeſſed a generoſity of diſpoſition which raiſed him above his rival, the cold and crafty Octavianus. Plutarch in Anton. apud. oper. tom. i. p. 915—957. ed. Francf. Anc. Un. Hiſt. vol. xi. and vol. xii. Gen. Dict.

ANTONY, St. *the hermit*. See ANTHONY.

ANTONY *of Lebrixa*, or *Antonius Nebriſſenſis*, a Spaniſh writer, was born at Lebrixa in Andaluſia, in 1444, and contributed to the revival of literature in Spain. He firſt ſtudied at Salamanca; and acquired farther knowledge in the univerſity of Bologna. Beſides claſſics and polite literature, he was acquainted with the mathematics, law, medicine, and theology, and might have been juſtly claſſed among the moſt learned men of his age. After his return to Spain, he taught grammar at Salamanca for 28 years; and at Alçala, under the patronage of cardinal Ximenes, he taught till his death. Here he employed himſelf in publiſhing a polyglot edition of the bible. As hiſtoriographer to the king, he publiſhed, in 1509, two decades of the hiſtory of Ferdinand and Iſabella, which are to be found in the work intitled "Hiſpania Illuſtrata." His dictionary of the Latin, Greek, and Hebrew languages, was printed at Grenada in 1545. He alſo wrote notes upon ſeveral Latin claſſics, and upon Ariſtotle's Rhetoric; a Treatiſe on Weights and Meaſures; a coſmography; a law dictionary; a medical dictionary; Commentaries on the Scriptures, &c. He died in 1522. Cave, Hiſt. Lit. Appendix, vol. ii. p. 209. Nouv. Dict. Hiſtor.

ANTONY *of Meſſina*. See ANTONELLO.

ANTONY *of Padua*, a monk of the order of St. Francis, was born at Liſbon, in 1195. A deſire of obtaining the crown of martyrdom induced him to ſail for Africa; but being driven on the coaſt of Italy, he devoted himſelf in that country to the ſtudy of theology, and became an eminent preacher. The fraternity of Flagellants is ſaid to have owed its origin to his ſermons. Pope Gregory XI. uſed to call him "the Ark of the Covenant, and the Depoſitary of ſacred Learning." He was ſucceſſively a teacher at Montpelier, Toulouſe, and Padua; where he died, in 1231, at the age of 36 years. His works, conſiſting of ſermons, commentaries, and a moral concordance to the bible, were publiſhed at the Hague, in 1641. Nouv. Dict. Hiſtor.

ANTONY *of Pratovecchio*, in Tuſcany, was educated at Florence, and diſtinguiſhed himſelf in the 15th century, by his attempt to form a new code of feudal law. The emperor Sigiſmund created him count and counſellor of the empire, and charged him with the execution of this undertaking. The reſult was a treatiſe, entitled "A Courſe of Feudal Law," and publiſhed in the year 1428. Although the emperor, under the influence of the lawyers, who envied the reputation of Antony, refuſed his imperial approbation of this new code, it was afterwards granted by Frederic III. Antony alſo wrote "Commentaries on the Decree of Gratian," and a "General Repertory" or Lexicon of Juriſprudence. He died at Bologna about the year 1464. Gen. Biog.

ANTOSIANDRIANS, in *Eccleſiaſtical Hiſtory*, a ſect of rigid Lutherans, who oppoſe the doctrine of Oſiander, relating to juſtification. Theſe are otherwiſe denominated *Oſiandro-maſtiges*.

The Antoſiandrians deny that man is made juſt, with that juſtice wherewith God himſelf is juſt; that is, they aſſert, that he is not made eſſentially, but only imputatively, juſt; or, that he is not really made juſt, but only pronounced ſo.

ANTRAIGUE, in *Geography*, a town of France, in the department of the Ardeche, and chief place of a canton, in the diſtrict of Privas, ten miles weſt of Privas. The place contains 1521 and the canton 7401 inhabitants: the territory includes 187½ kiliometres and 8 communes.

ANTRAIN, a town of France, in the department of the Ille and Villaine, and chief place of a canton, in the diſtrict of Fougeres, ſeven leagues north-north-eaſt of Rennes, and four ſouth-eaſt of Dol. The place contains 1375 and the canton 14,252 inhabitants: the territory includes 220 kiliometres and 10 communes.

ANTRIM, a county of Ireland, in the province of Ulſter, lying at the north-eaſtern extremity of the iſland, and being one of the moſt reſpectable in point of culture and population. It is waſhed on its northern and eaſtern ſides by the north channel, which divides Ireland from Scotland. On the weſt, Lough Neagh and the river Bann form a natural boundary, except for about five or ſix miles near the ſea. On the ſouth-eaſt, it has a large eſtuary, called Carrickfergus Bay, or the Lough of Belfaſt; and on the ſouth lies the county of Down, from which it is partly ſeparated by the river Lagan. Its greateſt length from north to ſouth is 44 miles (56 Engliſh), and its greateſt breadth 24 (30½ Engliſh), containing 387,200 Iriſh plantation acres (622,059 Engliſh), and being about 605 (or 972 Engliſh) ſquare miles. The number of houſes, according to an official return made to the Houſe of Commons, in 1791, is 30,314, from which we may eſtimate the population at about 170,000. The number of pariſhes is 74, of which 42 only have churches, all of them, except one, in the dioceſe of Down and Connor. This county returns five members to the Imperial parliament; namely, two knights of the ſhire, and one each for the towns of Carrickfergus, Belfaſt, and Liſburn. The face of the country, eſpecially in the northern and eaſtern parts of it, is very mountainous, and there are ſeveral extenſive bogs, ſome of which have been improved, and others are very improveable. There is alſo a tract of very rough and high hills on the weſt of Belfaſt; of which Mr. Arthur Young obſerves, that to their ſummits they conſiſt of exceedingly good loam, and ſuch as might be improved into good meadow. Of the mountains, Devis near Belfaſt, Sleniſh in the middle, and Knocklayd in the northern part of the county, are the moſt conſiderable. The richer and more fertile parts of it are well cultivated, producing fine crops, eſpecially the ſouthern extremity, which is in a high ſtate of beauty and improvement. The linen buſineſs extends throughout the whole county, in a manner which ſeems peculiarly favourable to the morals and happineſs of the people. The farms are generally very ſmall, and chiefly in the hands of weavers, who make the web at their own houſes, and on their own account, and then carry it to the neareſt market-town, where it is purchaſed by the bleacher. They grow their own flax, and generally have a patch of oats, ſome potatoes, and a cow, which ſupply them with their uſual diet. The rivers of this county are generally ſmall, but very numerous: the principal ones are, the Lower Bann, a broad and rapid ſtream, by which all the waters of Lough Neagh are diſcharged into the ſea; and the Lagan, which paſſes by Liſburn, and a little below Belfaſt flows into Belfaſt Lough. The northern coaſt of this county is remarkable for its baſaltic pillars, an account of which will be found in the article relating to the Giants' Cauſeway, where they are moſt conſpicuous. The ſtupendous promontories of Bengore and Fairhead (the *Robogdium* of Ptolemy), in particular, are in a great meaſure compoſed of theſe pillars. The eaſtern coaſt has many little bays, on which are villages inhabited by fiſhermen. At the ſouth eaſt is a little peninſula, called Iſland Magee, which is improperly repreſented in moſt maps as an iſland, though connected with the main land by an iſthmus of more than a mile broad. The inhabitants of this county had from an early period a conſiderable intercourſe with the adjoining parts of Scotland; and ſome Scotch families ſettled in it, previouſly to the encouragement given by James I. The counteſs of Antrim, of the family of M'Donnell, deſcended from one of theſe, has in her poſſeſſion, according to Mr. Young, 173,000 acres in

this county, which are let on very long leaſes for 8000l. per annum, and relet for 64,000l.

At preſent the greater part of the inhabitants are of Scotch extraction, and moſt of them continue attached to the Preſbyterian form of worſhip. The aſſizes, elections, &c. for the county are held at Carrickfergus, but the quarter-ſeſſions at Antrim. Dr. Beaufort's Memoir; Mr. Young's Travels in Ireland; Dr. Hamilton's Letters reſpecting the Coaſt of Antrim.

ANTRIM, a town in the county of the ſame name in Ireland, pleaſantly ſituate on a ſmall ſtream, called the Sixmile-Water, which a little below the town empties itſelf into the north-eaſtern extremity of Lough Neagh. This was a populous, thriving place, but was injured ſome years ago by the deſire of the proprietor to increaſe his influence in the election of members of parliament. It ſtill partakes the benefits of the linen manufacture; and the fine yard-wides are chiefly bleached and finiſhed in the neighbourhood of this town, Liſburn, and Belfaſt. Amongſt the diſſenting miniſters of this town were Mr. Abernethy and Dr. Duchal, ſo well known by their writings, both of whom afterwards removed to Dublin; and from it that preſbytery took its name, which firſt advocated the cauſe of religious toleration in the north of Ireland. At a place called Steeple, near Antrim, is one of thoſe round towers peculiar to Ireland. See ROUND TOWERS. In the ſtreets of this town, a ſmart engagement took place on the 7th of June, 1798, between 6000 inſurgents, and ſome detachments of the regular troops and yeomanry, in which the former were defeated with conſiderable loſs. Lord O'Neil, a nobleman much reſpected, received a wound from a pike, of which he ſoon after died. Diſtance from Dublin 84 miles. W. long. 6° 6′ N. lat. 45° 42′.

ANTRIM, or ANTERIM, a townſhip of Hilliſborough county, New Hampſhire, in America, having 528 inhabitants, incorporated in 1777, 75 miles weſt from Portſmouth, and as many north-weſt from Boſton.

ANTRODOCO, a ſmall town of Italy, in the kingdom of Naples, ſituate in Abruzzo Ulterior, on the ſmall river Velino, between Aquila and Rieti.

ANTRON, in *Ancient Geography*, a town of Greece, in that part of Theſſaly, called Phthiotis, ſituate at the entrance of the Pelaſgic gulf. It was famous for furniſhing apes of a large ſize. This town exiſted in the time of the Romans; and in the war againſt Perſeus, the conſul Licinius, in the year before Chriſt 171, obtained it by treaty.

ANTROS, a ſmall iſland of France, at the mouth of the Garonne, where was erected the tower of Cordouan, which ſerved as a light-houſe to veſſels that entered this river, in paſſing to Bourdeaux.

ANTRUM *Genæ*, in *Anatomy*, a large cavity in the bone of the upper jaw, which communicates with the noſtrils. It was thus called by Caſſerius, but by Dr. Highmore *antrum maxillæ ſuperioris*. It is alſo frequently called *antrum Highmorianum*. For a further account of this cavity, ſee the deſcription of the ſuperior *maxillary-bone*.

ANTRUM *Pylori*, is a term which has been employed to expreſs the concavity in the great curvature of the ſtomach, as it approaches the pylorus.

ANTRUM *Maxillare, Diſeaſes of the*, in *Surgery*. The cavity of the cheek bone is liable to inflammation and abſceſs. The bone itſelf may become carious, and be followed with very diſtreſſing conſequences. Inſects will ſometimes be generated within this ſinus, and produce the moſt excruciating pain for years together.

We have already had occaſion to notice the treatment of abſceſſes in the maxillary ſinus, to which we therefore refer our readers. See ABSCESS, INFLAMMATION, CARIES, and DISEASES of the TEETH.

ANTRUM, in *Geography*, a mountain of Switzerland, in the Valais, which is a part of the Alps, that may be paſſed from the Valais into the Milaneſe.

ANTRUSTIO, in *Antiquity*, q. d. *qui in truſte dominica eſt*, a name given in the Salic law to the king's vaſſals, for whoſe death that law impoſed a compoſition of 600 ſous. Monteſq. Sp. of Laws, vol. ii. p. 406.

ANTULLY, in *Geography*, a town of France, in the department of the Saone and Loire, and chief place of a canton, in the diſtrict of Autun, five miles ſouth-eaſt of Autun.

ANTWERP, or ANTORFF, in French *Anvers*, and in Spaniſh *Amberes*, the capital of a marquiſate in Brabant, called the Marquiſate of Antwerp, and alſo the Marquiſate of the Holy Roman Empire; ſituate in a large plain on the eaſtern ſide of the Scheld, which is ſufficiently deep and wide for admitting veſſels of great burthen to the quay; and veſſels may be brought by means of canals cut through the town to unload at the doors of the warehouſes. It ranks the third city in Brabant; it is large and well built, and contains 22 ſquares, and more than 200 ſtreets, which are ſtraight and broad; and one of them, called the Mere, is ſo wide, that ſix carriages may paſs it abreaſt. At the head of this ſtreet is a crucifix of braſs 33 feet high. The cathedral church is a beautiful and elegant building; but in the courſe of the laſt war it was robbed of its richeſt ornaments, or the pictures of Rubens, which are now placed in the Louvre gallery at Paris. The Stadt-houſe and the Exchange are alſo magnificent ſtructures. The latter built in 1531, is the firſt building of that kind in Europe, and on the model of this were built the exchanges of London and Amſterdam. Its pillars are of blue marble, and carved, but every one of them in a different ſtyle. Antwerp, towards the end of the 15th century, when the commerce of Bruges declined, and the Engliſh fixed their ſtaple in it, became one of the moſt celebrated trading towns that ever exiſted. There were two circumſtances in particular, that contributed to the great increaſe of its commerce and riches; one was the grant of free fairs for commerce, two of which laſted ſix weeks, and hither merchants reſorted from all parts of Chriſtendom, with their merchandiſe, cuſtom free; and at theſe fairs great concerns were managed, not only in merchandiſe, but in bills of exchange with all parts of Europe: the other was, Portugal's bringing over in immenſe quantities, the rich produce of India, firſt to Liſbon, and thence to Antwerp, as to a kind of half-way port between the northern and ſouthern parts of Europe. This drew the German and other merchants to ſettle at Antwerp; and after the archduke Maximilian had, about the year 1499, brought Bruges into ſubjection, the merchants of that city removed to Antwerp. In 1543, it was enlarged for the third and laſt time, and encompaſſed with new walls, built of fine hewn ſtone, and beautifully adorned. At this time it contained, according to the computation of Guicciardin, 100,000 inhabitants. When the emperor Charles V. wiſhed to introduce the infernal tribunal of the inquiſition into this city, about the year 1550, he was awed by the information, that the Engliſh merchants would leave the city and country; and this remonſtrance proved effectual; for upon inquiry the emperor found, that the Engliſh merchant adventurers maintained or employed at leaſt about 20,000 perſons in Antwerp alone, beſides 30,000 more in other parts of the Netherlands. At this time this city, and Hamburgh, poſſeſſed the principal commerce of the northern and middle parts of Europe; but after the Union of the ſeven United Provinces, in 1579, the commerce of Antwerp began to decline; and this misfortune was accelerated by the perſecutions of the duke d'Alva, and the ſack of the town by the duke of Parma, in

1585,

1585, which forced its inhabitants to ſeek an aſylum in Holland, and particularly at Amſterdam, whither its trade, in conſequence of the entire command of the Scheld, was transferred. The loſs of their trade led them to direct their attention to painting, jewelling, or banking, which they have proſecuted with ſucceſs and reputation; and they have alſo had a conſiderable manufactory of tapeſtry and lace. The future trade and proſperity of this city muſt depend on the reſtrictions or enlargements to which the navigation of the Scheld ſhall be ſubject. This city is the ſee of a biſhop; and beſides the cathedral, it has ſeveral other fine churches. As to the fortifications of the city, it is encompaſſed by a wall, planted with rows of trees on each ſide, and of ſuch breadth as to admit two carriages abreaſt; and it is alſo defended by a pentagonal citadel, erected by the duke d'Alva, in 1568, which commands the town and the neighbouring country. The magiſtracy of this city is elected out of the ſeven patrician families, and conſiſts of two burgo-maſters and 18 echevins, beſides inferior magiſtrates. Among its privileges, there is one, by which every perſon born in it becomes a citizen, though both his father and mother were foreigners.

One of the moſt remarkable ſieges which hiſtory records, was that of Antwerp by the duke of Parma in 1585. In later times, after the battle of Ramillies, it ſurrendered to the duke of Marlborough. In 1746, it was taken by the French, but reſtored to the houſe of Auſtria at the treaty of Aix-la-Chapelle. It was taken by the French in 1792, and evacuated in the beginning of 1794; but in July of the ſame year it ſurrendered again to the republican troops. The navigation of the Scheld was declared free in Auguſt 1794. This city is 25 miles north of Bruſſels, and 75 ſouth of Amſterdam. By the new arrangement ſince the revolution, it is the principal place of a diſtrict in the department of the Deux Neuthes; the place contains 61,800, and the canton 66,480 inhabitants; the territory includes 10 kilometres, and five communes. N. lat. 51° 13′ 15″. E. long. 4° 22′ 45″.

ANTYX, from *ἀντυξ*, in *Antiquity*, the outermoſt round or circumference of a ſhield.

ANUA, in *Ancient Geography*, a town of Paleſtine, in the tribe of Zebulon, mentioned by Euſebius and Jerom. This was alſo the name of a town in the tribe of Ephraim, on the borders of that of Benjamin.

ANVARI, or Anveri, in *Biography*, one of the moſt famous of the Perſian poets, was born in a village of Khoraſan, in the 12th century. He ſtudied as a poor ſcholar, at the city of Thous, in the college called Manſuriah. As the equipages of ſultan Sanjiar chanced to paſs by, he inquired into the name and condition of a perſon who appeared ſo well dreſſed and mounted, and being told that he was one of the ſultan's poets, he became deſirous of excelling in an art that was ſo much honoured and encouraged, and the next day preſented to the ſultan a poem in praiſe of him. The prince approved it, and immediately attached the author to his perſon. To him belongs the reputation of having been the firſt who reſcued the Perſian poetry from impurity and licentiouſneſs; and he acquired ſuch renown, that the ſurname of the king of Khoraſan was conferred upon him. Between him and the poet Raſchidi there was carried on a ſingular kind of conteſt; as they were in oppoſite intereſts, and the latter was ſhut up in a fortreſs beſieged by Sanjiar, they made war upon each other by means of miſſile pieces of verſe, faſtened to the points of arrows. Anvari was much addicted to aſtrology; and he predicted a ſtorm which was to happen on the day of the conjunction of the ſeven planets in the year 1185, but the day proved ſingularly ſerene. His enemies took this occaſion to ridicule him, and the ſultan reprimanded him. Thus mortified and abuſed, he retired firſt to Meru, and then to Balk, where he wrote a poem in which he renounced aſtrology, and all its predictions. He died at Balk about 1200. D'Herbelot Bibl. Orient. p. 110.

ANVAT, in *Ancient Geography*, a town in the iſland of Taprobana, according to Ptolemy.

ANUBINGARA, a town alſo in the ſame iſland.

ANUBIS, in *Mythology*, a deity worſhipped among the Egyptians, the Greeks, and the Romans. Ovid mentions this deity, when he ſays to Iſis, (Amor. lib. ii. eleg. 13.)

"Per tua ſiſtra precor, per Anubidis ora verenda."

The head of this deity was that of a dog, and in Egypt eſpecially he was regarded as the faithful companion of Oſiris and Iſis, and received divine honours. Temples and prieſts were conſecrated to him; and his image was borne in all religious ceremonies. His temples were denominated *Anubidea*. This kind of worſhip ſeems to have commenced in Egypt, by conſecrating an animal to Anubis, as was the cuſtom with regard to other deities. Soon afterwards they ſubſtituted the figure of a dog for that of Anubis himſelf, and then annexed the head of this animal to a human body, as an emblem of the new deity. Thus he is repreſented in the ruins of the ancient temples of Egypt, as well as on bronzes and marbles in the collections of antiques. Diodorus Siculus (lib. i.) ſays alſo, that the god called Anubis is repreſented with the head of a dog. Virgil, Ovid, Lucian, and the ancient fathers of the church repreſent him under this form, and Virgil (*Æn.* lib. viii.) and Ovid (Metamorph. lib. ix. v. 692.) denominate him the "Barker Anubis." Cynopolis, the preſent Minieh, ſituated in the lower Thebais, was built in honour of Anubis. The prieſts celebrated his feſtivals there with great pomp, and conſecrated the dog to him, as a living repreſentation of him. This city of dogs, ſays Strabo, (lib. xvii. tom. ii. p. 1116) is the capital of the Cynopolitan prefecturate. Theſe animals are fed there with ſacred aliments, and religion has decreed them a worſhip. The medals of this city bear upon them the figure of a man with a dog's head. But though Cynopolis was the centre of the worſhip of Anubis, the whole of Egypt adopted it; and to this purpoſe Juvenal ſays, Sat. xv. v. 8.

"Oppida tota canem venerantur."

From the univerſality of the worſhip of this deity proceeded the reſpect which the Egyptians manifeſted for dogs. This ſtrange worſhip, however, was not confined to the banks of the Nile. The Greeks adopted it not only in the time when the Ptolemies blended the worſhip of Greece with that of their new ſubjects, but in the more remote periods of the Greek hiſtory. When Rome had adopted the ceremonies of Egypt, the emperor Commodus, in celebrating the Iſiac feaſts, ſhaved his head, and carried the god Anubis. His ſtatue was either of maſſive gold or gilt, as well as the attributes that accompanied it. Even the name of Anubis, derived according to Jablonſki (Panthæon Ægypt.) from *nub*, *gold*, and *annub*, *gilt*, ſignifies gilded.

But what was the ſignification of this emblematical deity? What is the natural meaning concealed under it? Plutarch, in his Treatiſe of Iſis and Oſiris (Oper. tom. ii. p. 368), explains this. "The circle which touches and ſeparates the two hemiſpheres, receiving the name of horizon, is called Anubis. He is repreſented under the form of a dog, becauſe that animal watches night and day." St. Clement of Alexandria, well informed concerning the myſtic theology of the Egyptians, favours this explication. The two dogs, ſays he, (Strom. v. tom. ii. p. 671), the two Anubis are the ſymbols of two hemiſpheres, which environ the terreſtrial globe. He adds in another place; others pretend, that

that theſe animals, the faithful guardians of men, indicate the tropics, which guard the ſun on the north and the ſouth, like porters. According to the former of theſe interpretations, the prieſts, regarding Anubis as the horizon, gilded his ſtatue, to denote that this circle, receiving the firſt rays of the ſun, appears ſparkling with brightneſs on his riſing; and that at his ſetting he reflects his laſt rays upon the earth. In their ſacred fables they ſaid, that Anubis was the illegitimate ſon of Oſiris. In fact, he only gives to the earth a borrowed light, and never can be eſteemed like Horus, as the father of the day, or as the legitimate offspring of Oſiris. We may add, that the viſible horizon turning with the ſun, is his inſeparable companion. According to the latter explication, which makes Anubis to repreſent the tropics, he is alſo the faithful guardian of Iſis and Oſiris. In reality, the courſe of the ſun and of the moon is contained between the circles in which the ſolſtices occur, without deviating from them. Theſe limits aſſigned by the author of nature, might therefore, in hieroglyphic language, be repreſented by a divinity with the head of a dog, who ſeemed to oppoſe their paſſage on the ſide of the two poles. The other opinion, however, ſeems to be more natural, and more analogous to the ideas of the prieſts. Upon the whole it is not unreaſonable to imagine, that Anubis was, at firſt, only a ſymbolical image, invented by aſtronomers, to convey a ſenſible expreſſion of their diſcoveries; that afterwards the people, accuſtomed to ſee it in their temples, which were the depoſitaries of ſcience, adored it as a deity; and that the prieſts favoured their ignorance by connecting it with their religion. The worſhip of Anubis introduced that of the dog, which became his emblem. Almoſt all the gods of the Gentiles have originated in this manner. Before the invention of writing, men made uſe of hieroglyphics or imitative figures to convey their ideas; thoſe hieroglyphics remained in their ſanctuaries, and the prieſts alone preſerved the knowledge of them. In the end, theſe allegorical ſigns no longer repreſented the real meaning of things to vulgar underſtandings, but the exterior forms and figures only, which became the objects of ſuperſtition. Savary's Letters, vol. ii. p. 488—495.

Siris or Oſiris (ſays Bruce, Travels into Abyſſinia, vol. i. p. 412.) was not the ſun, but Syrius or the dog-ſtar, repreſented under the figure of a dog, becauſe of the warning he gave to Atbara, where the firſt obſervations were made at his heliacal riſing, or his diſengaging himſelf from the rays of the ſun, ſo as to be viſible to the naked eye. He was the "Latrator Anubis," and his firſt appearance was figuratively compared to the barking of a dog by the warning it gave to prepare for the approaching inundation of the Nile. This, he thinks, was the firſt hieroglyphic; and Iſis, Oſiris, and Tot, were ſubſequent inventions relating to it. In this opinion he is confirmed by conſidering, that in the city of Axum, once a large city, there is not any other hieroglyphic beſides that of the dog-ſtar.

At Rome they had many ſtatues of Anubis, the principal of which are two in the Villa Albani, and one in the Barbarini palace. Anubis is frequently repreſented in pictures, &c. with a dog's head, holding in one hand a branch of palm, and in the other a caduceum, or Mercury's wand.

ANUBUS, in *Entomology*, a ſpecies of SPHINX that inhabits Surinam, and is figured by Cramer. The anterior wings are ſub-ferruginous, poſterior wings black with a row of whitiſh ſpots. Fabricius. A black ſpot in the middle, and a large brown ſpot with a few ſtreaks near the margin of the anterior wings.

ANUCHTA, in *Ancient Geography*, a town of Aſia, in Suſiana, according to Ptolemy.

ANVERS, D', HENRY, earl of Danby, in *Biography*, is here introduced, as being founder of the botanic garden at Oxford. In the year 1622, he purchaſed five acres of land in the vicinity of Oxford, which he took care to ſtock with numerous foreign as well as indigenous plants; and having erected hot-houſes and other neceſſary buildings, gave it to the univerſity in 1631. He alſo endowed it with an annual rental, for the ſupport of a gardener and proper aſſiſtants; and of a botanical profeſſor, to teach the ſcience to the ſtudents of the univerſity. Dr. Sherard augmented the eſtate of the garden, by a donation of 500l., to enable the curators to enlarge the conſervatory; and preſented them with a large number of exotic plants, and a handſome collection of books on the ſubject of botany.

ANVERSA, in *Geography*, a town of Italy in Naples, five miles weſt of Solmona.

ANUI BOLSCHE, a river of Siberia, which runs into the Kolima, eight leagues eaſt of Niznei Novimſkoi.

ANUI *Sachoi*, a river of Siberia, which runs into the Kolima, nine leagues eaſt of Niznei Novimſkoi.

ANVIL, a ſmith's utenſil, ſerving to place the work on, to be hammered or forged.

The face, or uppermoſt ſurface of the anvil muſt be very flat and ſmooth, without flaws; and ſo hard, that a file will not touch it. At one end there is ſometimes a pike, bickern, or beak-iron, for the rounding of hollow work. The whole is uſually mounted on a firm wooden block.

Forged anvils are better than thoſe of caſt work; and the beſt have the upper part made of ſteel. Lockſmiths have a ſmaller kind of anvil, called the *ſtake*, which is moveable, and placed ordinarily on their work bench. Its uſe is for ſetting ſmall cold work ſtraight, or to cut or punch on with the cold chiſel or cold punch.

ANVIL *Iſland*, in *Geography*, an iſland of the Pacific Ocean, on the north-weſt coaſt of America, ſo called from the ſhape of the mountain that compoſes it, and lying in N. lat. 49° 30'. W. long. 237° 3'.

ANVILLE, JEAN BAPTISTE BOURGUIGNON D', in *Biography*, geographer to the king of France, and adjunct-geographer to the Academy of Sciences, was born at Paris, July the 11th, 1697. D'Anville poſſeſſed a peculiar talent and diſpoſition for geographical reſearches; and the principal part of his time was devoted to this kind of employment. Accordingly he collected, from the peruſal of ancient and modern authors of various deſcriptions, ſuch as geographers, hiſtorians, travellers, and even poets, materials for his main purpoſe, which was, the conſtruction of charts, and the accurate adjuſtment of the ſituation of different places. At the age of 22, he began to publiſh ſome of thoſe charts which have given celebrity to his name. To every chart of importance he annexed an account of the authorities upon which he depended, and of the means by which he obtained neceſſary information; and this he did not with ſelfiſh views, or for the purpoſes of oſtentation, but from a conſciouſneſs of the aſſiduity and extent of his inquiries, and in order to enable others to form a competent judgment for themſelves. The ſucceſs of his inveſtigations, and the reputation he acquired, were owing partly to the natural vigour of his mind, and perhaps principally to his indefatigable ſtudy; for he is ſaid to have devoted, for 50 years of his life, 15 hours of every day to ſtudy. To this recluſe mode of life it was probably owing, that though he was cheerful, modeſt, and unaſſuming, his deciſions on the peculiar objects of his ſtudy were more poſitive and dogmatical than they would have been if he had accuſtomed himſelf more to the ſociety and converſation of literary men. In the year 1773, the Academy of Sciences appointed him adjunct-

junft-geographer; and though he was then near 80 years of age, he prefented ſeveral memoirs to that learned body. His known talents for geographical reſearch, and the eſteem in which he was held by the learned of all Europe, enabled him to collect an immenſe and valuable maſs of charts of various deſcriptions, which was purchaſed by the king of France a few years before his death. Having completed the favourite work of his life, he reſigned himſelf to that decay of his faculties, which might naturally be expected at the cloſe of ſuch a life as his; and after an interval of two years, during which his infirmities increaſed, he died on the 28th of January 1782, in the 85th year of his age. He married in 1738, and two daughters ſurvived him. His principal works are as follow: "Geographie ancienne abrégée," 1768, 3 vols. 12mo.; to which are annexed the author's maps of ancient geography, and a complete ſyſtem of this ſcience: "Traité des Meſures Itineraires Anciennes et Modernes," 1769, 8vo.; "Diſſertation ſur l'étendue de l'ancienne Jeruſalem," 1747, 8vo.; "Memoire ſur l'Egypte ancienne et moderne, avec une Deſcription du Golphe Arabique," 1766, 4to.; "Etats formés in Europe après la chute de l'Empire Romain en Occident," 1771, 4to. "Notice de l'ancienne Gaule, tirée des monumens Romains," 1761, 4to. To theſe may be added, a work intitled, "Meſure de la Terre ſous l'Equateur," occaſioned by the diſcuſſion of the oblate figure of the earth, and founded on erroneous principles. Hiſt. de l'Acad. Royal Paris, 1782. Nouv. Dict. Hiſt.

ANVILLE, or MILLER'S TOWN, in *Geography*, a town of America, in Dauphine county, Pennſylvania, at the head of Tulphehocken Creek; eighteen miles north-eaſt by eaſt from Harriſburgh, and 65 north-weſt from Philadelphia.

ANUISKAIA, a fortreſs of Siberia, 50 miles weſt-north-weſt of Biiſk. N. lat. 52°. E. long. 93°.

ANUROGRAMMUM, in *Ancient Geography*, a town in the iſland of Taprobana, according to Ptolemy.

ANUS, in *Anatomy*, is the termination of the inteſtinum rectum. It is kept contracted and cloſed by a ſphincter muſcle, and ſupported in its ſituation by two muſcles named *levatores ani*.

ANUS is a name which was abſurdly applied to a ſmall hole leading from the third to the fourth ventricle of the brain. It is now called *foramen commune poſterius*.

ANUS, *Diſeaſes of the*, in *Surgery*. The complaints which moſt commonly affect this part of the body, are, EXCRESCENCES, ABSCESSES, FISTULÆ, PILES or HEMORRHOIDS, PROLAPSES, and IMPERFORATION. Each of theſe diſorders is deſcribed in its proper place. It will be only neceſſary at preſent to treat of the *artificial anus*.

Artificial anus is a preternatural paſſage through the abdominal ring, occaſioned by an adheſion being formed, after gangrenous herniæ, between the upper end of the inteſtine and the abdominal ring, leaving an orifice, through which, inſtead of through the natural paſſage of the anus, the excrements are continually voided. This circumſtance occurs when, after a gangrenous hernia has been opened, the gangrenous part cut away, and the excrements evacuated, the inteſtine does not re-unite. Sometimes it occurs without the aſſiſtance, nay, even againſt the wiſh of the ſurgeon, when, for example, his attempt to produce the re-union of the inteſtine does not ſucceed; ſometimes he muſt endeavour to promote it, namely, when for a conſiderable time before he was called in, the fæces have been voided ſolely through the abdominal ring, whilſt nothing has paſſed through the anus; and conſequently there is reaſon to believe that the lower portion of the inteſtine is already contracted, or even cloſed, ſo that the natural paſſage for the fæces can no more be reſtored. Sometimes the ſurgeon muſt do all in his power to prevent its production, and endeavour to promote the re-union of the inteſtine. This is particularly neceſſary when the inteſtinal canal has been opened, in conſequence of gangrene, at no great diſtance from the ſtomach; for example, in the jejunum, as in that caſe the patient would die from inanition. Sometimes it is arbitrary, whether the ſurgeon ſhall promote the formation of an artificial anus, or endeavour to make the inteſtine re-unite; as when the caſe is a recent one, and a contraction of the lower portion of the inteſtine is not yet to be apprehended; and when the gangrenous part is ſituated at the middle or inferior part of the ileum, or even at the beginning of the colon, ſo that there is no reaſon to fear that the patient will fall into a maraſmus or waſting, in conſequence of the formation of an artificial anus.

When the ſurgeon wiſhes to promote the formation of an artificial anus, he muſt firſt carefully examine which is the ſuperior portion of the inteſtine; and this he may, in general, know, by obſerving through which the excrements are diſcharged. However, as this is not always a certain mark of diſtinction, he may let the patient ſwallow a few ſpoonfuls of oil, after which he may diſtinguiſh the ſuperior portion of the inteſtine with certainty, by obſerving from whence the oily diſcharge proceeds. Through this end of the inteſtine he then paſſes a thread, which he faſtens with adheſive plaſter to the external ſkin, in order that it may not be drawn back into the cavity of the abdomen. This operation, however, is not often neceſſary, as both ends of the inteſtine generally adhere within and behind the abdominal ring. The lower portion of the inteſtine muſt then be cleared by glyſters and purgative injections; and it may be ſuffered to lie in the wound, in order to avoid the inconveniences which might ariſe from returning it into the abdominal cavity. At the end of the cure, a plug of ſponge ſhould be introduced into the upper orifice, to prevent its contracting, and occaſioning an impediment to the diſcharge of the fæces.

With reſpect to the formation of an artificial anus, however, the moſt rational practice is to leave the whole to nature. The ſurgeon, in general, has done all that he can when he has opened the gangrenous hernia, ſeparated the gangrenous portion, and evacuated the excrements from the inteſtines; after which nature either re-unites the inteſtine, or does not re-unite it, in which caſe an artificial anus is formed, with regard to which the ſurgeon has nothing to do beſides what has already been mentioned. If the ſurgeon wiſhes from the very firſt to form an artificial anus, he ſhould immediately introduce pledgits into the ſuperior extremity of the inteſtine, whereby the re-union of the two ends will be prevented.

His next buſineſs muſt be to endeavour to obviate the inconveniences ariſing from the involuntary diſcharge of the excrements through an unuſual paſſage, and to keep the parts clean. For receiving the matters diſcharged, he may faſten a receptacle of horn or ſtrong leather to the body by means of a ſtrap, in ſuch a manner that its orifice reſts upon the artificial anus. Dr. Richter (Abhandlung von den Bruechen. neue Aufg. Goettingen, 1785, page 458.) propoſes, for the ſame purpoſe, an elaſtic rupture-bandage, having a piece of ſponge faſtened under its head, which covers and cloſes the artificial anus in ſuch a manner as to prevent both the acceſs of the air and the diſcharge of the fæces; and to ſupply the place of a ſphincter, without either irritating or rubbing the orifice. Whenever the patient wiſhes to diſcharge either fæces or wind, he muſt take it off. M. Loeffler (Archiv. der practiſchen Arzneykunſt, &c.

&c. Leipzig, 1785. b. i. p. 115.), however, has found the uſe of this bandage to be attended with ſome inconveniencies, which, he thinks, may be avoided by one of a different conſtruction. In the pelotte of the bandage he directed a hole to be made, an inch in diameter, and a varniſhed leathern receptacle to be adapted to its outer margin.

As the ſphincter is wanting, a prolapſus of the inteſtine may more eaſily be produced through an artificial anus than through the natural one. Such a prolapſed inteſtine may ſometimes be eaſily reduced with the hand; ſometimes it is reduced ſpontaneouſly, merely by the patient lying down upon his back. When this is not the caſe, the patient ſhould conſtantly lie on his back, every exertion of the body ſhould be carefully avoided, and gentle preſſure permanently applied, by which means the prolapſus will generally be effected in a longer or ſhorter ſpace of time: force ought never to be applied, as by too haſty and forcible reduction of the inteſtine the iliac paſſion might eaſily be excited. A prolapſus of the lower portion of the inteſtine is in general far more difficult to be reduced than that of the upper portion; and frequently it cannot be reduced at all, the inteſtine being contracted, or even entirely cloſed, behind the prolapſed part. Such herniæ ought never to be ſuffered to attain too large a ſize, as in that caſe it may become impoſſible to reduce them; they may particularly alſo prevent the diſcharge of the excrements, and occaſion the death of the patient. By uſing an elaſtic bandage, the head of which is provided on its inner ſide with a ſponge, which covers and gently compreſſes the artificial anus, both the production of ſuch a prolapſus, and its recurrence after having been reduced, may be prevented. Mr. Lange (Schmuckers vermiſchte chirurgiſche Schriften, &c. b. ii. p. 298.) has ſhewn that ſuch a hernia may actually become ſtrangulated. He mentions an inſtance in which the inteſtine hung down a foot in length, and was ſo turgid with blood, that it was impoſſible to reduce it. He was, therefore, obliged to enlarge the artificial anus and abdominal ring by an inciſion, after which the reduction was eaſily performed.

It is always a dubious undertaking to attempt to cloſe up an artificial anus of a pretty long ſtanding, and reſtore the diſcharge of the excrements by the natural paſſage. However, when ſtill ſome part of the excrements is diſcharged by the natural anus, when clyſters can be thrown in by that paſſage, eſpecially when the artificial anus is of no long ſtanding, and we can be aſſured that the lower portion of the inteſtine is ſtill open, we may make the attempt to cloſe the artificial anus. That even where the artificial anus is already of long ſtanding, the cure is ſtill poſſible, has been proved by a caſe related by Mr. Deſſault. The diſeaſe had already continued for the ſpace of four years, the inteſtine was protruded out of the body, in the form of a cylinder, nine inches in length; and its membranes were ſo much thickened and hardened, that it appeared more than temerity to attempt the reduction of ſo conſiderable a maſs. The patient had diſcharged nothing from the rectum ſince he had received his wound; every two or three months, however, he had a ſtool, by which he voided a whitiſh hard kind of ſubſtance. Mr. Deſſault applied a ſimple bandage over the whole tumor from the top to the bottom, in ſuch a manner that the turns of the bandage applied cloſe over each other, leaving only a ſmall opening at the point, for the purpoſe of diſcharging the feculent matter, which conſiſted of half-digeſted aliments. When by this means the inteſtine had been reſtored to its natural ſize, on the fourth day, he directed it to be raiſed up into a perpendicular direction: and having introduced his finger into the orifice of the inteſtine, whilſt he preſſed the inteſtine itſelf with his other hand, in order to prevent the protruſion of the parts, he extricated the inteſtine, ſo that it now contracted into itſelf, and conſequently the hernia was reduced. The orifice of the inteſtine, through which the excrements were voided, was cloſed by means of a plug three inches long, and made of a piece of linen rolled up, which was introduced into the orifice, and ſecured by means of the common inguinal bandage. His intention with this plug was, that it ſhould be withdrawn twice a day, in order to afford a paſſage to the fæces; but ſoon after the reduction of the inteſtine, flatus were ſeveral times diſcharged through the anus; and ſoon afterwards fluids; which, in the courſe of the following days, acquired more conſiſtence, ſo that on the eighth day the plug was no longer uſed, but the external orifice merely covered and ſecured with pledgits of lint, compreſſes, and the cuſhion of an elaſtic bandage: by this means the diſcharge of the excrements through the preternatural orifice was prevented, and its natural paſſage by the rectum permanently re-eſtabliſhed.

But, in general, the attempt to cloſe up an artificial anus is not unattended with difficulty and danger; and it ought never to be riſked, unleſs when the vicinity of the orifice to the ſtomach gives riſe to inanition, or a conſumption, or ſome other material inconvenience. But even in theſe circumſtances, Prof. Richter thinks we ought to uſe gentler means of alleviating the ſymptoms, and with a view to the cure. He recommends to keep the orifice of the artificial anus conſtantly cloſed, by means of the bandage above mentioned, whereby the chylous fluids will be detained longer in the alimentary canal, and a greater abſorption of the nutritive parts take place; to let the patient take only eaſily digeſtible, very nouriſhing, and fluid aliments; and to avoid whatever might tend to accelerate the paſſage of the aliments through the inteſtinal canal. By theſe means he thinks that the above mentioned inconveniencies may generally be remedied.

ANUS, in *Botany*, denotes the poſterior opening of a monopetalous flower.

ANUS, in *Conchology*, a ſpecies of MUREX in the order of *teſtacea vermes*, having a veiny ſhell with membranaceous dilated lips, gibbous reticulate-tuberculate aperture, ſinuous and erect at the end. It is the auris hirſuta of Rumpf. Muſ. t. 24; found in the Mediterranean, and the ocean contiguous to the ſouthern part of Aſia: the ſhell is about three inches long, for the moſt part brown, with white bands, and an almoſt triangular aperture. Gmelin.

ANWEILLER, in *Geography*, a town ſituate in the duchy of Deux Ponts, ceded to France by the treaty of Weſtphalia; eight miles weſt of Landau. It is the chief place of a canton in the diſtrict of Deux Ponts, and department of Mont-Tonerre: the place contains 1,841, and the canton 12,690, inhabitants; the territory includes 24 communes.

ANXA, in *Ancient Geography*, the name given by the Romans to CALLIPOLIS.

ANXANUM, LANCIANO, or ANCIANO, a conſiderable town of Italy, which was the capital of the people called Frentani. It was ſituate in Latium, near the mouth of the Sagrus.

ANXI, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Baſilicata, eight miles ſouth-eaſt of Potenza.

ANXUR, in *Ancient Geography*, a town of the Volſci, called by the Greeks and Latins Tarracina, ſituate at the lower extremity of a ſmall gulf to the eaſt of the Circean promontory. In alluſion to its ſituation on a mountain,

Martial calls it "ſuperbus Anxur." Jupiter ἀξυρος, or the beardleſs Jupiter, was worſhipped in this town; and at the diſtance of three miles from it were a grove and waters conſecrated to the goddeſs Feronia, mentioned by Horace, lib. i. ſat. 5.

ANYM, a town of Paleſtine, placed by Joſhua in the tribe of Judah; and ſuppoſed by Calmet to be the ſame with Anam or Anem.

ANZABAS, a river of Aſia, which, according to Ammianus Marcellinus, was not far from the Tigris.

ANZA, in *Geography*, a river of Italy, which runs into the Toſa near Ugogna, in the principality of Piedmont.

ANZAR, a town of Turqueſtan, in the vicinity of the northern part of China, where Tamerlane died.

ANZERMA, a town and province of Popayan in South America, ſituate on the river Coca, and having mines of gold. N. lat. 4° 58'.

ANZIKO. See ANSIKO.

ANZITA, in *Ancient Geography*, a town of Aſia, ſituate on a ſmall river, near the eaſt of the Euphrates.

ANZUQUI, in *Geography*, a town of Japan, in the iſland of Niphon, upon the eaſtern ſide of the gulf of Macao.

ANZUQUIAMA, a town of the kingdom of Mino: the territory ſo called was the paradiſe of Nubunanga, who went from the ſovereignty of Mino to that of Japan.

AOAYS, a town of Spain, in Navarre, on the river Yrate, ſeven leagues from Pampeluna.

AOBRIGA, or AOBRICA, in *Ancient Geography*, a town of Spain, called alſo Abobrica and Abobriga.

AOCHARA, a town of Africa, in the kingdom of Algiers, between Tenez and Sercelles.

AONÆ, or AONIANS, in *Ancient Geography*, a people of Bœotia, who jointly with the Hyantes ſucceeded the Ectenes. At the arrival of Cadmus, according to Pauſanias (in Bœot. c. 5.), the Hyantes took up arms to oppoſe him; but the Aonians ſubmitted, and were afterwards incorporated with the Phœnicians. The Aonians derived their name from Aonia.

AONIA, an ancient name given to Bœotia.

AONIDES, in *Mythology*, the appellation of the Muſes, derived from the mountains of Bœotia, where they were particularly honoured, called the Aonian mountains.

AONIS, in *Entomology*, a ſpecies of PAPILIO (Nymp. Gem.) found in India. The wings are angulated, grey, anterior pair clouded with yellow: a large and ſmall eye-ſhaped ſpot above. Cramer, Gmelin, &c.

AORASIA, formed of α, *priv.* and ὁραω, *I ſee*, denotes inviſibility, and was applied by the ancients to the gods; for they apprehended that, in their intercourſe with man, they never ſhewed themſelves face to face, but were diſtinguiſhed, as they retired, by their backs. Thus Neptune, as Homer repreſents him (Iliad ii.), aſſumed the form of Calchas in converſing with the two Ajaxes, and was known merely as he withdrew by his majeſtic gait and ſtep. Venus alſo, according to Virgil, appeared to Æneas under the form of an huntreſs; but ſhe diſcovered herſelf in her retreat by her radiant head, flowing robe, and dignified movement.

AORISTIA, in the *Sceptic Philoſophy*, denotes that ſtate of the mind, where we neither aſſert nor deny any thing poſitively, but only ſpeak of things as ſeeming or appearing to us in ſuch a manner.

The aoriſtia is one of the great points or terms of ſcepticiſm, to which the philoſophers of that denomination had continual recourſe by way of explication or ſubterfuge. Their adverſaries, the dogmatiſts, charged them with dogmatiſing, and aſſerting the principles and poſitions of their ſect to be true and certain.

AORISTUS, compounded of α, *privative*, and ὁριζω, *to limit*, in the Greek *Grammar*, an indefinite and indeterminate kind of tenſe, which ſometimes expreſſes the preſent, ſometimes the future, but moſt frequently the paſt time.

The Greeks have two aoriſti; the Latins have none.

Dr. Beattie, in his "Theory of Language," (Part ii. ch. 2.), giving an account of the Greek tenſes, omits the ſecond aoriſt as well as the ſecond future; becauſe he conſiders them as unneceſſary. Some grammarians, he ſays, are of opinion, that the firſt aoriſt ſignifies time paſt in general; and the ſecond, indefinite time paſt; and that the firſt future denotes a nearer, and the ſecond a more remote futurity. But this he apprehends to be mere conjecture, unſupported by proof; and he inclines rather to the ſentiments of thoſe who teach, that the ſecond future and ſecond aoriſt have no meaning different from the firſt future and the firſt aoriſt; and that they are the preſent and imperfect of ſome obſolete theme of the verb; and, when the other theme came into uſe, were retained for the ſake of variety, or, by accident, with a preterite and future ſignification. In this opinion Lord Monboddo concurs; and he has endeavoured to ſtrengthen it by the teſtimony of ſome ancient grammarians. Dr. Browne, in his "Brief Strictures on certain Obſervations of Lord Monboddo reſpecting the Greek Tenſes" (See Tranſactions of the Royal Iriſh Academy for 1789, or vol. iii. part ii. p. 11, &c.), has controverted this opinion. Aoriſts, or indefinites, he obſerves, are ſometimes ſo called, becauſe they are uſed for many tenſes indifferently, paſts, preſents, and futures: ſometimes, becauſe they do not mark any preciſe point of time when an action happened, but only expreſs that it did happen: ſometimes, becauſe the verb, when uſed in theſe tenſes, doth not expreſs whether the action ſignified be perfected or imperfect. In this laſt ſenſe he uſes the term aoriſt; and by definite, he means the ſenſe in which the verb expreſſes the perfection of the action. Having thus defined the meaning which he annexes to the term aoriſt, he allows that both the aoriſts are often uſed, without diſcrimination, as mere paſt indefinites; but he maintains, that the firſt aoriſt has much more frequently a definite meaning than the ſecond; whereas the ſecond appears in nine inſtances out of ten to be uſed indefinitely. Grammarians have obſerved, that the firſt aoriſt is oftener introduced to denote the paſt perfect time, than their preterperfect tenſe itſelf; and hence he argues, that its proper meaning is of a definite nature, and that it is not *properly* an aoriſt. Sanctius, he alleges, ſeems to have been of this opinion, when he calls the ſecond only by the name of aoriſt. He then proceeds to ſhew, that ſuch a definite, as he conceives the firſt aoriſt to be, was wanting in the Greek language, and is not ſupplied by the preterperfect; which implies, that the action has been done, and ſtill continues to be done. In the Greek language there muſt be ſome other tenſe for expreſſing the time of the performance of an action which was perfected at a time paſt, and has ceaſed to continue. Dr. Clarke has aſſigned to this office the tenſe uſually called the preterpluperfect; but in Dr. Browne's opinion, without ſufficient authority, as that tenſe expreſſes ſomething more. He has recourſe, therefore, for this purpoſe, to the firſt aoriſt, the original intention of which was to expreſs the real preterperfect time of philoſophical grammar. In the Latin and Engliſh languages we have no diverſity of tenſes, or of ſingle words, to expreſs whether a paſt action has been done lately, or a long time ſince. It is only from the tone of the ſpeaker, from the circumſtances of the event, or from the context, that we can find out the difference. To ſupply the defect which theſe languages labour under, in their *active* voice, in not diſtinguiſhing, by

different ſounds or words, the difference between what was lately perfected, and that which was perfected ſome time ago; and in the *paſſive*, in not making this diſtinction except by the help of auxiliary verbs; the Greeks, according to Dr. Browne, invented their firſt aoriſt; and intended by it to indicate the latter, as the preterperfect indicated the former. When Archimedes ruſhes out of the bath, after having made his celebrated diſcovery, he exclaims εὕρηκα, becauſe he had juſt at that moment found out and ſolved the difficulty. But when Neſtor (Homer Il. i. v. 260, 261.) ſpeaks of ancient days and ancient heroes with whom he had been converſant, he ſpeaks in the aoriſt, ἀριστόν ἠπτερ ὑμῖν Ανδρασιν ὡμίλησα. When Demoſthenes ſuppoſes the queſtion τεθνηκε Φιλιππος; it follows, that if it had been ſo, and any perſon had ſuddenly announced it, he would have replied τεθνηκε. But when Chryſis (Il. i. v. 40.) alludes to actions formerly and frequently performed by him, he uſes the aoriſt, "if I have ever crowned your altars or burnt victims," ἐρεψα and ἑκηα.

Moreover, the probability that the Greek language had a diſtinct tenſe to denote what had lately, or what had long ſince happened, is augmented by the conſideration that they had a tenſe to expreſs what was ſoon to come. As they had a "paulo-poſt future," they might alſo have had a "paulo ante preterit."

If an action be ſpoken of which has been often done, the Greeks generally uſe the firſt aoriſt. Thus, in the beginning of the "Cyropedia," where Xenophon reflects how many democracies have been reduced, and how many oligarchies ſubverted, caſes frequent in human affairs, he uſes the firſt aoriſt: thus alſo he expreſſes, in the beginning of the "Memorabilia," his frequent ſurpriſe at the errors reſpecting Socrates; "I have often wondered," in the firſt aoriſt. This is alſo the caſe in the example of Neſtor above mentioned; and in ſimiles, where a compariſon is made with ſomething frequently occurring, the firſt aoriſt is generally uſed. In ſuch caſes, no particular time at which the action happened is ſpecified, but an action which has often paſſed is mentioned, without determining any preciſe time. The ſecond aoriſt, on the other hand, which generally refers to a particular time, is ſeldom if ever uſed to denote a frequentative; although lord Monboddo has aſſigned this office to this as well as to the firſt aoriſt.

To cloſe this article, we may obſerve, that definite tenſes are thoſe which limit both the times of the perſon and of the action: whereas thoſe tenſes which leave the nature of the action wholly undecided, and take no notice whether it be finiſhed or unfiniſhed, are indefinite, or aoriſts; *e. g.* "I write," is the aoriſt of the preſent tenſe, "I wrote," is the aoriſt of the paſt; and "I ſhall write," is the aoriſt of the future.

AORNUS, in *Ancient Geography*, a town of Bactriana, ſituate to the eaſt of Bactra.

Aornus was alſo a place of Epirus, according to Pliny; belonging to the Threſprotiæ, according to Pauſanias; whence iſſued an exhalation that was fatal to birds which flew over it; and where, it is ſaid, they invoked the dead to predict future events. In this place were a temple and grove conſecrated to the Manes.

Aornus, *Rock of*, a name given to a high mountain of India, ſituate in the modern diſtrict of Bijore, and deriving its name from α, *priv.* and ορνις, *bird*, expreſſing its great elevation, which was ſuppoſed to be above the flight of a bird. The circuit of it was, according to Arrian, 200 ſtadia or about 18 or 20 miles; its height about 11 furlongs; and the acceſs to it was only by one narrow path, cut out of the rock. On the ſummit was a great extent of arable and paſture land, with ſprings of water; ſo that a garriſon of 1000 men might ſubſiſt, without any extraneous ſupply. It may be ſuppoſed to be ſomewhat ſimilar to Gwalier, or Rotas Gur, in Bahar. Some have ſaid, that the Indus paſſed by Aornus; but this, ſays Mr. Rennell (Memoir, &c. p. 174.), could not be the caſe; becauſe the diſtrict of Sowhad Proper lies between the Indus and Bijore, according to the Ayeen Acbaree. The ſiege and capture of this fort were among the moſt celebrated exploits of Alexander in his Indian expedition. Hercules was ſaid to have attempted it in vain; but Arrian informs us, that this was a groundleſs report; and that it was a fable, probably invented by ſome of Alexander's flatterers to magnify his enterpriſe. Whilſt he was preparing for the ſiege, an old man and his two ſons, who had long lived in a cavern of the mountain, offered to ſhew him a private way of aſcending it; and a deputation of light-armed troops, under the command of Ptolemy, was ſent to accompany them. As ſoon as they were ſafely lodged, they cauſed a lighted torch to be erected on a pole in their camp, as a ſignal to Alexander. Alexander, attempting the ordinary paſſage with a body of troops, was repulſed with great ſlaughter. But Ptolemy attacking the Indians in the rear, whilſt Alexander renewed the aſſault, a ſecond repulſe took place. Upon this Alexander, perceiving that the ſtrength of the Indians depended on the narrowneſs and declivity of the paſſage, gave orders to fell a quantity of trees, and to fill the cavities between the plain on which the Indians were encamped, and the higheſt of his own advanced poſts. Theſe meaſures were at firſt derided by the Indians; but as ſoon as they began to feel the effects of the miſſile weapons of the Macedonians, they propoſed terms of ſurrender. Alexander, ſuſpecting that they merely wanted to gain time, and to make their eſcape, took the advantage of their deſcent; and having gained poſſeſſion of the deſerted rock, he then made a ſignal for the forces to fall upon the flying Indians. The fugitives, hearing their loud ſhout, were ſo terrified, that many of them fell from the rocks and precipices, and were daſhed to pieces, and the reſt were cut off in the roads. Anc. Un. Hiſt. vol. vii. p. 398.

AORSI, a people who, according to Strabo, inhabited the banks of the Tanais. They afterwards extended themſelves along the northern parts bordering on the Caſpian ſea, and carried on a commerce in gold and other articles of merchandiſe between India and Babylon.

AORTA, formed of αειρω, which ſignifies a *bag*, *cheſt*, &c. in *Anatomy*, the great artery proceeding from the left ventricle of the heart; from which all the other arteries either mediately or immediately proceed, and by which the whole maſs of blood is conveyed to all parts of the body.

The ſtructure, diviſions, courſe and branches of this veſſel, are explained under the article Artery.

Aorta, *diſeaſes of the*, in *Surgery*. The moſt common local diſorders of this veſſel are, aneurism, oſſification, or a thickening and opacity of the ſemilunar valves of the aorta, interrupting their proper action, and ſometimes producing fatal conſequences. This artery is likewiſe ſubject to inflammation and ulceration, like other parts of the body; but in all theſe complaints the art of healing affords only palliative means of relief. See Polypus of the heart and blood veſſels.

AOUS, in *Ancient Geography*, a river of the iſle of Cyprus.

Aous is alſo a name given to the river Æas, near Apol-

lonia, which rose in the south-east, and discharged itself towards the west into the Ionian sea.

AOUSTA, or Aost, in *Geography*, formerly *Augusta prætoria*, a city of Piedmont, situate at the foot of the Alps, on the river Doria, is so called probably from its ancient name, which was given it by Augustus, who sent thither a colony of 3000 of the Prætorian legion. It is the see of a bishop, has several Roman antiquities, such as a triumphal arch, an amphitheatre, &c., and was the birth-place of Anselm, archbishop of Canterbury. It is distant 25 miles north-west from Ivrea, and 50 north-north-west from Turin; N. lat. 45° 38′. E. long. 7° 33′.

Aousta, a district of Piedmont, with the title of a duchy, is a valley about 30 miles long, and fertile in pasturage and fruit; extending from the pass of St. Martin's, near the frontiers of Yvrée, to St. Bernard. Its capital is Aoustа, and most of the inhabitants are Goitres.

Aouste, a town of France, in the department of the Drome, and chief place of a canton in the district of Crest, situate on the Drome; 15 miles south-east from Valence, and two south-east from Crest.

AOUTA, the name of the paper mulberry-tree at Otaheite, in the South Sea, from which a cloth is manufactured that is worn by the principal inhabitants. The bark of the trees is stripped off, and deposited to soak in running water; when it is sufficiently softened, the fibres of the inner coat are carefully separated from the rest of the bark; they are then placed in lengths of about 11 or 12 yards, one by the side of another, till they are about a foot broad; and two or three layers are laid one upon the other. This is done in the evening; and by the next morning the water is drained off, and the several fibres adhere together in one piece. It is afterwards beaten on a smooth piece of wood, with instruments, marked lengthways with small grooves of different degrees of fineness; and by means of this operation becomes as thin as muslin; and after bleaching it in the air in order to whiten it, it is fit for use. If the cloth breaks in the beating, it is easily repaired by patting on a patch with a gluten that is prepared from the root of the *pea*, which is done so nicely that it cannot be discovered. This cloth is cool and soft, but as liable to be rent as paper. The colours with which it is dyed are principally red and yellow. The red is a beautiful scarlet, and produced by mixing the juices of two vegetables, *viz.* the fruit of the fig called *matle*, and the leaves of the *cordia sebastina* or *etou*. The yellow is made of the bark of the root of the *marinda citrifolia* called *nono*, by scraping and infusing it in water. The inhabitants of the island also dye yellow with the fruit of the *tamanu*. Hawkesworth's Voyages, &c. vol. ii. p. 210, &c.

AOUTOS, in *Geography*, a town of European Turkey, in the province of Romania, 44 miles west-north-west from Burgas.

AOYCA, a town of Spain, in Navarre, four leagues from St. Estevan, and five from Pampeluna.

APACHES, a people of North America, in New Mexico, who occupy an extensive country under the appellations of Apaches de Parillo, to the south; Apaches de Xilla and de Navaio, to the north; and Apaches Vaqueros, to the east. They are brave, and resolute, fond of liberty, and the inveterate enemies of tyranny and oppression. Ever since their revolt from the catholic king towards the close of the 17th century, they have been the allies, but not the subjects of the Spaniards.

APACHIERA, an audience and province of New Mexico, whose capital is St. Fe, in N. lat. 36° 30′. W. long. 104°.

APACTIS, (Απακτος; *abductus*, from απαγω), in *Botany*, Thunberg, Jap. 11. Schreb. gen. 808. Juss. 432. Class, *dodecandria monogynia*. Generic Character: *calyx*, none; *corolla* four-petalled; *petals* roundish crenate, concave, unequal, two opposite broader; *stam.* filaments from 16 to 20; *pist.* germen superior; *style* one. Essential character: *cor.* four-petalled; *cal.* none. *Apactis japonica*, the only species of this genus, is a tree growing erect, with numerous branches, which are alternate, round, scabrous, dotted, erect. Leaves alternate, petiolate, ovate, acute, serrate, entire at the base, nerved, smooth, paler underneath, an inch long. Petioles half round, furrowed a quarter of an inch in length. Flowers in racemes, at the ends of the branchlets. Racemes usually ovate, as they advance becoming more oblong. Peduncles villose-scabrous.

APÆDUSIA, from α and παιδευω, *instruction*, denotes ignorance or unskilfulness in what relates to learning and the sciences. Hence also persons uninstructed and illiterate are called *apædeutæ*. The term apædeutæ was particularly used among the French in the time of Huet; when the men of wit at Paris were divided into two factions, one called by way of reproach apædeutæ, and the other *eruditi*.

The apædeutæ are represented by Huet as persons who finding themselves either incapable or unwilling to undergo a severe course of study, in order to become truly learned, conspired to decry learning, and turn the knowledge of antiquity into ridicule, thus making a merit of their own incapacity.

The apædeutæ, in effect, were the men of pleasure; the eruditi, the men of study.

APAGMA, a term used, by some writers, in *Surgery*, for the thrusting of a bone or other part out of its proper place. But it is more properly used for a fracture of a bone at or near the part whereby it is articulated with another.

APAGOGE, from απο and αγω, *I draw*, or *bear*, in the *Athenian Law*, the carrying of a criminal, taken in the fact, to the magistrate. If the accuser was not able to bring him to the magistrate, it was usual to take the magistrate along with him to the house where the criminal lay concealed, or defended himself.

Apagoge, in *Logic*. See Abduction.

Apagoge, in *Mathematics*, is something used to denote a progress or passage from one proposition to another; when the first, having been once demonstrated, is afterwards employed in the proving of others.

APAGOGICAL *demonstration*, is such as does not prove the thing directly, but shews the impossibility and absurdity which arises from denying it.

Hence it is also called, *reductio ad impossibile*, or *ad absurdum*.

APALACHES, or St. Mark's River, in *Geography*, rises in the country of the Seminole Indians, in East Florida, in N. lat. 31° 30′, and runs south-west, through the Apalachy country, into the bay of Apalachy, situate N. lat. 30°. W. long. 83° 53′, in the gulf of Mexico, about 15 miles below St. Mark's. After a course of about 135 miles, it falls into the bay, near the mouth of Apalachicola river.

Apalachian *Mountains*, sometimes called the *Allegany Mountains*, pass through the territory of the United States, from the south west to the north-east. According to the best maps, they commence on the north of Georgia, where they give rise to many rivers that run south to the gulf of Mexico,

Mexico, and to the Tenaſſee, and others that have their courſe to the north. The Apalachian chain, from which proceed ſeveral collateral ridges, as the Iron, or Bald mountains, the White Oak mountains, and others, extends from thence through the weſtern territory of Virginia, together with its collateral ridges, the breadth of the whole being often 70 miles, and advancing through Pennſylvania, paſſes Hudſon's river, and afterwards riſes to a greater elevation, and ſeems to terminate in the country of New Brunſwick. Accordingly, this chain may extend about 900 geographical miles, which is a length unrivalled by any European mountains, except the Norwegian Alps. The collateral ridges are ſingularly diſtinct; and a naturaliſt would at once pronounce that the central or higheſt muſt be granitic, the next ſchiſtoſe, and the exterior belts calcareous. The granite ſeems commonly to conſiſt of white feltſpar, bluiſh or rather pellucid quartz, and black mica. The ſchiſtoſe band preſents copper ore; and in Canada, lead and ſilver are ſaid to have been diſcovered. The limeſtone contains, as uſual, many petrifactions, particularly the cornu ammonis, a ſmall ſcallop ſhell, and ſeveral ſorts of corals. The height of the chief ſummits, which appear to be in the province of New Hampſhire, has not been accurately aſcertained, but does not probably exceed 3000 feet above the ſea; and they are often clothed with foreſts. Mr. Weld conjectures, that the Peaks of Otter, the higheſt of the Blue Mountains, are little more than 2000 feet high, and at any rate their height is much inferior to that of Snowdon. Morſe's Amer. Geog. p. 292. Pinkerton's Mod. Geog. vol. ii. p. 552.

APALACHICOLA, a river of America, between Eaſt and Weſt Florida, riſes in the Apalachian Mountains, in the Cherokee country, within 10 miles of Tuguloo, the upper branch of Savannah river, and from its ſource to the mouth of Flint river, in a courſe of 300 miles, bears the name of Chata-Uche, or Chatuhooche river. Flint river falls into it from the north-eaſt below the lower Creek towns, in N. lat. 31°. From thence it runs near 80 miles, and falls into the bay of Apalachy, or Apalachicola, in the gulf of Mexico, at Cape Blaize. From its ſource to N. lat. 33° its courſe is ſouth-weſt, and thence to its mouth nearly ſouth.

Apalachicola is alſo the name of the mother town, or capital of the Creek or Muſcogulge confederacy, called Apalachicola by Bertram; who deſcribes it as ſacred to peace, no captives being put to death or blood ſhed there; and when a general peace is propoſed, deputies from all the towns in the confederacy meet here to deliberate. Whereas the great Coweta town, 12 miles higher up the Chata-Uche river, is called the "Bloody Town," where the Micos chiefs and warriors aſſemble, when a general war is propoſed; and here captives and ſtate malefactors are put to death. Apalachicola is ſituated one mile and a half above the ancient town of that name, which lay on a peninſula, formed by the doubling of the river, but deſerted on account of inundations. The town is about three days journey from Talaſſee, a town on the Tallapooſe river, a branch of the Mobile river.

APALACHY Country extends acroſs Flint and Apalaches rivers in Eaſt Florida, having the Seminole country on the north-eaſt. Apalachy, or Apalachya, is alſo a name applied by ſome writers to a town and harbour in Florida, 90 miles eaſt of Penſacola, and at the ſame diſtance weſt from Del Spiritu Santo river. The tribes of the Apalachian Indians lie around it.

APALATOA, in *Botany*. See Cyclas.

APALHAO, in *Geography*, a town of Portugal in Alentejo, containing about 1200 inhabitants.

APALIORIA, an iſland that lies on the eaſtern coaſt of the peninſula of India, in S. lat. 9° 8′. E. long. 79° 40′.

APALUS, in *Entomology*, a genus of the COLEOPTERA inſects, with filiform antennæ, equal and filiform palpi, maxilla horny and unidentated, and lip membranaceous, truncated and entire. There is one ſpecies, the *ap. bimaculatus*, pyrochroa bimaculata of Degeer; found early in the ſpring in the ſandy parts of Sweden.

APAM, in *Geography*, a village of Africa, in the kingdom of Acron, on the Gold Coaſt, inhabited by fiſhermen, and fortified by the Dutch in 1697. See Acron.

APAMA, in *Botany*, a genus of the *polyadelphia polyandria* claſs and order: the characters of which are, that the *calyx* is trifid, no *corolla*, and the filaments diſtributed in three ranks. Gmelin mentions one ſpecies, *viz.* A. *dubia*, the *alpany* of Rheed, Malab. vi. p. 51. This is a tree in the Eaſt Indies, with aſh-green bark and white wood. It is an ever-green, and bears fruit twice a year. With its juice and oil are formed an ointment which cures the itch, and deterges old ulcers. La Mark. Encycl. t. i. p. 91.

APAMATUCK, in *Geography*, a river of North America, in Virginia, runs into the Powhatan.

APAMÆA, or Apamia, in *Ancient Geography*, a town of Syria, ſituate in a marſhy country, at the confluence of the Orontes and Marſyas, which form a kind of lake, that has no communication with the land but by a ſmall iſthmus. It is about 60 miles almoſt ſouth of Antioch, and about 90 from Aleppo, in N. lat. 35° 6′. E. long. 37° 18′. Its former name was Pharnaſca, and the Macedonians called it Pella; and as it was almoſt wholly ſurrounded by water, it was denominated Cherſoneſus. According to Strabo, it was founded by Seleucus Nicator; and derived its name from his wife Apamea, the daughter of Artabazus the Perſian. It had its own kings till the arrival of Pompey in Syria; and afterwards the whole country became a Roman province. It was there, ſays Strabo, that the Seleucidæ had eſtabliſhed the ſchool and nurſery of their cavalry. The ſoil of the vicinity, abounding in paſturage, fed no leſs than 30,000 mares, 300 ſtallions, and 500 elephants. It is now called *Famia*; and its marſhes ſcarcely afford ſupply for a few buffaloes and ſheep. To the veteran ſoldiers of Alexander, who here repoſed after their victories, have ſucceeded wretched peaſants, who live in perpetual dread of the oppreſſions of the Turks, and the inroads of the Arabs. Some have ſuppoſed this city to have been the preſent *Hama*. Volney's Travels, vol. ii. p. 298.

APAMEA is alſo a town of Aſia Minor, in Bithynia. It was originally called Myrlea, but deſtroyed by Philip, king of Macedon, the ſon of Demetrius, and the father of Perſeus; and given to his ally Pruſias the Bithynian, who rebuilt it, and called it after his wife's name, Apamea. Such is the account of Strabo. But Steph. Byz. ſays, that it was founded by Myrlus, general of the Colophonians; and that Nicomedes Epiphanes, ſon of king Pruſias, called it Apamea in honour of his mother. Others ſay, that it derived its name from Myrlea, an Amazon. The Romans fixed a colony there called *Colonia Apamena*.

Apamea *Cibotos*, ſo called, according to Salmaſius, from κιβωτος, an *ark* or coffer, becauſe it was the mart or common treaſury of thoſe who traded from Italy and Greece to Aſia Minor, was the metropolis of Phrygia, till Conſtantine's diviſion of the empire. It was ſituated at the confluence of the Marſyas and Mæander. It was built, according to Strabo, by Antiochus Soter, and ſo called from his mother Apamea, the wife of Seleucus Nicator. He alſo removed

removed the inhabitants of the ancient Celenæ, the ſituation of which is confounded by ſome writers with that of Apamea, to this city. It is now called *Iſphion Kara Hiſar*, or the black caſtle of Opium, which drug is collected in its environs.

APAMEA was alſo a city on the confines of Media and Parthia, not far from Rage, and ſurnamed *Raphanæ*, or probably as it ſhould have been, *Ragianæ*.

APAMEA, *Meſene*, is a town of Aſia, in Meſopotamia, ſituate to the ſouth-eaſt upon the Tigris, in a diſtrict which lay between the canal and the river, whence the epithet Meſene, becauſe it was in the midſt of that ſmall territory now called *Dilgel*.

APAMEA, *Koma*, a town ſituate at the confluence of the Tigris and Euphrates, to the ſouth of the preceding.

APAMEA, *Cebene*, a town of Aſia, on the left bank of the Euphrates, oppoſite to Zeugma; both founded by Seleucus, and connected by a bridge.

APAMIS, a name anciently given, according to Steph. Byz. to Lampſacus.

APAMIS is now the name of the Ancient Apamea, on the Mæander, called Mindra, a town of Aſiatic Turkey, and the ſee of a Greek biſhop; 100 miles weſt of Eſki-hiſſar.

APAMMARIS, a town of Aſia in Syria, on the banks of the Euphrates, ſouth-eaſt of Hierapolis.

APAN, in *Conchology*, a name given by Adanſon to the ſame ſhell as Linnæus has ſince called PINNA RUDIS; which ſee.

APANAGE, APENAGE, APPANAGE, APANNAGE, or APENNAGE, in the *French Laws*, the fortune of a king's younger ſon; or a ſettled portion of land, &c. aſſigned for the ſubſiſtence of the cadets or younger ſons of a ſovereign prince. Nicod and Menage derive the word from *panis*, *bread*, which frequently includes all other ſorts of proviſion neceſſary for ſubſiſtence. Some will have the apanages, at the firſt inſtitution, to have been only penſions, or annual payments, of a certain ſum of money.

During the firſt and ſecond races of kings, the right of primogeniture and apanages were unknown; but the domains were divided pretty equally among all the children.

Great inconveniencies ariſing hence, it was at length found proper to put off the younger-born with counties, duchies, or other diſtricts; on condition of their paying homage and fealty for the ſame, and of their reverting, in defect of heirs male, to the crown.

This has happened, accordingly, to the firſt and ſecond branch of the dukes of Bergundy. The duchy of Orleans was the apanage of the ſecond ſon of France. The apanage was unalienable: collateral branches did not inherit it. The eldeſt ſon alone was heir to the whole apanage: but bound to allow the younger an honourable maintenance.

In France, apanages were of two kinds, *royal* and *cuſtomary*; the firſt only granted to males the king's brothers, excluſive of the females. Theſe are not ſo properly alienations of the king's demeſnes, as diſmembering of them. *Cuſtomary apanages* were thoſe granted to women, the king's ſiſters. Joach. Mierus has publiſhed a body of all the writers on *apanage* and *parage*, in one volume in folio.

APANORMIA, in *Geography*, a town in the iſland of Santorin, in the Archipelago; it has a ſpacious port, in the form of a half-moon; but the ſea is ſo deep as to afford no anchorage.

APANTA, or APANTE, a province of Terra Firma, in South America, between the lake Parima and the river of the Amazons; to the weſt of the province of Caropa.

APANTHROPY, in *Medicine*, a term ſometimes uſed to denote a love of ſolitude, or an averſion from the company of mankind; and is reckoned by ſome a ſymptom, and by others a ſpecies or degree of melancholy; and it is a bad indication in leucophlegmatic caſes.

APANTORA, in *Entomology*, a ſpecies of CANCER that inhabits Chili. The thorax is ovate, ſides denticulated, tail triangular. Molin, and Gmelin.—Obſ. legs hairy, tail rather long.

APARA, in *Zoology*, a ſpecies of armadillo or daſypus. See DASYPUS.

APARGIA, in *Botany*. See HEDYPNOIS.

APARIA, in *Geography*, a province of South America, in Peru, near the river of the Amazons, where it receives the Curavaya.

APARINE, in *Botany*. See ASPERUGO, GALIUM, SHERARDIA, VALANTIA, and UTRICULARIA.

APARINES. See AMMANNIA.

APARITHMESIS, from απαριθμεω, *I number*, or *enumeration*, in *Rhetoric*, is a figure, whereby that which might be expreſſed in few words is branched out into ſeveral particulars, to enlarge the idea and render it the more affecting; and ſometimes it denotes the anſwer to the protaſis or propoſition itſelf. Thus if the protaſis be "appellandi tempus non erat," the aparithmeſis is "ac tecum anno plus vixi."

APARTISMENUS, in the *Ancient Poetry*, an appellation given to a verſe, which comprehended an entire ſenſe or ſentence in itſelf.

This is ſometimes alſo written *apartemenus*, *i. e.* ſuſpended, as not needing any following verſe.

APARTMENT, a portion of a large houſe, wherein a perſon may lodge ſeparately; having all the conveniences requiſite to make a complete habitation.

The word comes from *apartimentum*, of the verb *partiri*, *to divide*; or, as ſome imagine, *a parte manſionis*, *making part of a dwelling*.

A complete apartment muſt conſiſt of a hall, a chamber, an antechamber, a cloſet, and a cabinet or wardrobe.

APATE, in *Botany*. See LACTUCA.

APATE, in *Entomology*, a genus of coleopterous inſects in the Fabrician ſyſtem (Ent. Syſt.); the character of which is, feelers filiform; jaws, one tooth in each; lip membranaceous and truncated; and the antennæ perfoliated. This genus includes ſome of the Linnæan dermeſtes, as capucinus and domeſticus; boſtrichus of Geoffroy and Olivier, as cornutus & bimaculatus; and ligniperda of Pallas, as terebans & cornuta.

Gmelin makes a ſubdiviſion of the Linnæan DERMESTES, in his edition of the Syſtema Naturæ, according to the number of teeth in the jaws, maxilla biſida, and maxilla unidentata; the latter he calls *apate*, and it includes ſeveral of the ſpecies deſcribed by Fabricius in his genus of the ſame name.

APATHY, formed of the privative, α, and παθος, *paſſion*, denotes an inſenſibility; or a privation of all paſſion, all emotion, or perturbation of mind.

The Stoics affected an entire apathy; their wiſdom was to enjoy a perfect calmneſs or tranquillity of mind, incapable of being ruffled, and above the reach of any ſenſe either of pleaſure or pain.

Whilſt Epicurus taught his followers to ſeek happineſs in a kind of indolent eaſe or freedom from labour and pain; Zeno imagined his wiſe man, not only free from all ſenſe of pleaſure,

pleaſure, but void of all paſſions and emotions, and capable of being happy in the midſt of torture. That he might avoid the torpid indolence of the Epicureans, he had recourſe to a moral inſtitution, which bore indeed the loſty front of wiſdom, but which was elevated far above the condition and powers of human nature.

In the firſt ages of the church, the chriſtians adopted the term apathy to expreſs a contempt of all earthly concerns; a ſtate of mortification, ſuch as the goſpel preſcribes. Clemens Alexandrinus, in particular, brought it exceedingly in vogue; thinking, hereby, to draw the philoſophers to Chriſtianity, who aſpired after ſuch a ſublime pitch of virtue.

Quietiſm is only apathy diſguiſed under the appearance of devotion.

APATI, in *Geography*, a ſmall town of Hungary in the county of Jarmat, ſituate on the river Caraſna or Tibiſer, eaſt of the leſſer Varadin, and north-weſt of Samos. Its territory is fertile in grain and paſturage.

APATIT. *Phoſpholite* of Kirwan. *Calcareus apatites* of Werner.

This mineral is divided by the German mineralogiſts into two varieties, the cryſtallized, and earthy.

I. Cryſtalized apatit. *Gemeiner apatit*, Germ. *L'Apatite commune*, Brochant. *Chaux phoſphatée*, Hauy. *Fosforite lamellare*, Napione.

The uſual colours of this ſubſtance are greeniſh-white, mountain green, olive green, violet blue, roſe-red, and clove brown; more rarely pearl grey, greeniſh grey, ſky blue, Pruſſian blue, or fleſh red. In ſome cryſtals ſeveral of the colours are combined, other ſpecimens are irideſcent.

It is generally found cryſtallized, but occaſionally diſſeminated; the forms of its cryſtals are the following:

1. A ſhort regular hexahedral priſm, (Chaux phoſphatée primitive of Hauy), Cryſtallography (*Pl.* xxx. *fig.* 90), but this is of rare occurrence.

2. The ſame priſm truncated on its prependicular edges (Ch. phoſph. péridodecaedre of Hauy), Cryſtallography (*fig.* 91). Incidence of *e* on M = 150°. The ſides *e* are often ſtriated longitudinally.

3. The ſame priſm bevelled on its lateral edges (Ch. phoſph. annulaire of Hauy, Cryſtallography (*fig.* 92). Incidence of *r* on M = 112° 12′ 28″, and on P = 157° 47′ 32″.

4. The ſame priſm exhibiting a combination of the truncatures and bevellings of the two preceding varieties (Ch. phoſph, emarginée of Hauy), Cryſtallography (*fig.* 93).

5. The ſame priſm bevelled on the edges as N° 3, and having a quadrangular facet on each of the ſolid angles of the original priſm. (Ch. phoſph. unibinaire of Hauy). Incidence of *s* on P = 125° 15′ 52″. Cryſtallography (*fig.* 94).

Theſe cryſtals, &c. are commonly ſmall, or very ſmall, being rarely of a middling ſize; they are almoſt always grouped one upon the other in an irregular manner, being ſeldom found ſingle. The ſurfaces are uſually ſmooth, except the lateral faces of the priſms which are ſometimes furrowed with ſtrong longitudinal ſtriæ. Their external luſtre is ſhining, and often brilliant. Internally they are ſhining, with a vitreous luſtre.

The croſs fracture (or parallel to the baſe of the priſm) is ſtraight lamellar: in the oppoſite direction it is uneven fine-granular, ſometimes imperfectly conchoidal.

Its fragments are indeterminate, with ſomewhat ſharp edges.

It is uſually ſemitranſparent, paſſing, however, on one hand to tranſparent, and on the other to tranſlucid.

Its hardneſs is a little inferior to that of fluor ſpar; it is brittle, eaſily broken; ſp. grav. = 3.218.

When thrown on hot coals, the apatit gives a greeniſh phoſphoric light. It is infuſible, without addition, by the flame of the blowpipe, only loſing its colour. It diſſolves almoſt totally in nitric acid. It has been erroneouſly ſuppoſed to become electric by mere heat, not acquiring this property without friction.

According to the analyſis of Klaproth, its conſtituent parts are 55 lime and 45 phoſphoric acid, with a little manganeſe.

It is met with in the tin-mines of Ehrenfriedersdorf and Schneeberg in Saxony, and at Kuttenberg and Schlackenwald in Bohemia, accompanied by fluor ſpar, quartz, brown ſpar, wolfram, molybdena, lithomarga, ſteatite, and cupreous and arſenical pyrites.

This mineral was formerly conſidered as a ſchorl by ſome authors, as a flour ſpar by others; it was alſo not unfrequently ranked among the beryls and aquamarines; hence its old German names of aquamarinfluſs, chryſolithfluſs, baſaltamethyſt, &c. The analyſis of Klaproth however, in 1788, eſtabliſhed its chemical nature; and Werner made a particular ſpecies of it, to which he appropriated the name apatit from the Greek *απαταω*, *to deceive*, on account of its reſemblance to ſubſtances from which it is eſſentially different. See SPARGELSTEIN.

II. Earthy apatit. *Erdiger apatit*. Germ. *L'Apatite terreuſe*, Brochant. *Chaux phoſphatée terreuſe*, Hauy. *Fosforite compatta*, Napione.

Its colour is yelloviſh or greyiſh white. It occurs maſſive or earthy, amorphous.

Its fracture is earthy, paſſing into the fine grained uneven. The fragments are indeterminate, blunt-edged, ſometimes wedge-ſhaped.

It is opaque; half hard, ſometimes friable; brittle; eaſily broken; meagre and harſh to the touch: ſp. grav.= 2.824.

On expoſure to the blowpipe it yields a phoſphoric light and fuſes into a white glaſs; it is alſo phoſphoreſcent when pulverized and thrown on hot coals; it diſſolves in nitric acid, and gives out white vapours when treated with the ſulphuric acid.

Its conſtituent parts, according to the analyſis of Bertrand, Pelletier, and Donadei, are,

Lime	59
Silex	2
Phoſphoric acid	34
Fluoric acid	2.5
Carbonic acid	1.
Muriatic acid	0.5
Oxyd of iron	1.
	100.0

This mineral is found in beds mixed with quartz, in great abundance in Spain, near Truxillo, in the province of Eſtremadura. It is uſed by the inhabitants of the country for building ſtone, who appear to have been long acquainted with its phoſphoreſcent property. It is to Prouſt however that the public is indebted for the firſt ſcientific account of it. (See his Letter to Darcet, Journal de Phyſique for April 1788.)

Widenmann's Handbuch der Mineralogie, p. 528. Emmerling,

merling, vol. i. p. 302. Lenz. Verſuch, &c. vol. i. p. 426. Brochant, vol. i. p. 579. Hauy, Traité de Mineralogie, vol. ii. p. 134. Kirwan's Min. vol. i. p. 128.

APATURIA, in *Antiquity*, a ſolemn feaſt celebrated by the Athenians in honour of Bacchus.

The word is uſually derived from απατη, *fraud*.

It is ſaid to have been inſtituted in memory of a fraudulent victory obtained by Melanthus, king of Athens, over Xanthus, king of Bœotia, in a ſingle combat, which they agreed upon, to put an end to a debate between them relating to the frontiers of their countries.—Hence Budæus calls it "feſtum deceptionis, the feaſt of deceit."

Other authors give a different etymology of this feaſt; they tell us, that the young Athenians were not admitted into the tribes on the third day of the Apaturia, till their fathers had firſt ſworn, that they were their own children; and that till that time, they were ſuppoſed in ſome meaſure to be without fathers, απατορες: whence the feaſt, they ſay, took its name.

Xenophon, on the other hand, informs us, that the relations and friends met on this occaſion, and joined with the fathers of the young people who were to be received into the tribes; and that from this aſſembly the feaſt took its name; that in απατορια, the α, far from being a privative, being here a conjunctive, ſignifies the ſame thing with αμα, *together*.

This feaſt laſted four days: the firſt day, thoſe of the ſame tribe made merry together; and this they called δορπια: the ſecond day, which they called αναρρυσεις, they ſacrificed to Jupiter and Minerva: the third day, which they called κουρεωτις, ſuch of their young men and maids as were of age were admitted into their tribes: the fourth day they called [illegible].

APATURIAN, a denomination given by Strabo to a temple conſecrated to Venus. It was built at Corocondoma, a peninſula between the Euxine ſea and the Palus Mæotis. The ſurname *deceitful*, from απατη, was given to Venus, becauſe this deity uſed artifice in the war of the gods againſt the giants.

APAULIA, in *Antiquity*, the third day of a marriage ſolemnity.

It was thus called, becauſe the bride, returning to her father's houſe, did απαυλιζεσθαι τω νυμφιω, lodge apart from the bridegroom. Some will have the apaulia to have been the ſecond day of the marriage, *viz.* that whereon the chief ceremony was performed; thus called by way of contradiſtinction from the firſt day, which was called προαυλια. On the day called απαυλια (whenever that was), the bride preſented her bridegroom with a garment called απαυλιζια.

APAUMEE', in *Heraldry*. The French heralds uſe this term to expreſs a hand open and extended, ſo that the full palm appears, as is ſeen by the hand of Ulſter, borne by the baronets of England.

APAVORTEN, in *Geography*, a pleaſant and fertile country of Aſia, in Mawaralnahra, to the eaſt of the Caſpian ſea. In this country, Arſaces, the reſtorer of the Parthian empire, built *Dara* or *Daraum*.

APE, in *Zoology*, one of the four ſections into which the numerous race comprehended under the genus, *Simia*, is divided; including ſuch as are deſtitute of a tail. The other three are *baboons*, *monkies*, and *ſapajous*; to which ſome have added a fifth, called *jagoins*. For the Linnæan generic characters and diſtribution of the genus *Simia*, ſee Simia.

It is the diſtinguiſhing character of the *apes*, that they have no tails. Beſides, their viſage is flat; the teeth, hands, fingers, feet, toes, and nails, reſemble thoſe of man; and they walk naturally erect. This diviſion includes the ſimiæ or apes, properly ſo called, of the ancients, which are not found in America. Dr. Gmelin, in his edition of the Syſtema Naturæ, refers to this diviſion the following ſpecies, *viz.* 1. S. *Troglodytes*, or Chimpanzee, which Dr. Shaw conſiders as a ſmaller variety of the Jocko, in its leſs ſhaggy or more naked ſtate. 2. S. *Satyrus*, or Oran-Otan, with the varieties, or two diſtinct ſpecies of this animal, as Dr. Shaw denominates them, the Pongo and the Jocko. 3. S *Lar*, long armed ape of Pennant, and grand Gibbon of Buffon, with the varieties of the leſſer gibbon and ſilvery gibbon. 4. S. *Sylvanus*, or Pygmy. 5. S. *Innuus*, Barbary ape, or Magot of Buffon. See the ſeveral articles.

Ape, *Sea*, in *Ichthyology*, the long tailed ſhark, a ſpecies of Squalus.

Ape, *Sea*, in *Zoology*, is alſo a name given to a very ſingular animal ſeen by Mr. Steller on the coaſt of America, and which is thus deſcribed. It was five feet long, with a head like a dog's, erect and ſharp ears, large eyes, a ſort of beard on both lips, round body, thickeſt near the head and tapering to the tail, which was bifurcated, the upper lobe the longeſt: its body was covered with thick hair, grey on the back, and red on the belly. Mr. Steller could diſcover neither feet nor paws. It was full of frolic, and played a thouſand tricks, ſometimes ſwimming on one ſide, ſometimes on the other ſide of the ſhip, and looking out with ſeeming aſtoniſhment. It would come ſo near the ſhip that it might be touched with a pole; but if any perſon ſtirred, it would immediately retire. It often raiſed one third of its body above the water, and ſtood erect for a conſiderable time; then ſuddenly darted under the ſhip, and appeared in the ſame attitude on the other ſide; and it would repeat this 30 times together. It would frequently bring up a ſea-plant, not unlike the bottle-gourd, which it would toſs about and catch again in its mouth, playing with it numberleſs fantaſtic tricks. Nat. Hiſt. of Quadrupeds, &c. vol. i. p. 573.

APECHEMA, Απεχημα, in *Surgery*, the ſame with Contrafiſſure.

APEDIA, in *Zoology*, *ſimia apedia*, little baboon, with ſhort tail, thumbs of the hands cloſe to the fingers, oblong nails on the fingers, and rounded nails on the thumbs, and hairy buttocks. This is ſaid by Linnæus to be of the ſize of a ſquirrel; but in a deſcription given in the Amoenitates Academicæ, it is ſaid to be as large as a cat. Its general colour is yelloviſh, the hairs being tipped with black; face brown, with a few ſcattered hairs; head roundiſh; ears roundiſh and naked; tail ſcarce an inch long. No bare ſpaces on each ſide. A native of India, and ſaid to be a lively ſpecies. Gmelin queries whether this animal be not a variety of the ſimia ſciurea.

APEE, in *Geography*, an iſland, one of the new Hebudes, about 20 leagues in circumference, ſituate in the South Pacific ocean. S. lat. 16° 45'. E. long. 168° 31'.

A-PEEK. See Anchor.

A-PEIBA, in *Botany*. See Aubletia.

APELCHE, or Apelscheduel, in *Geography*, a town of the United Netherlands, in the country of Frieſland, 12 leagues ſouth of Lewarden.

APELINA, in *Conchology*, a ſpecies of Tellina, figured by Chemnitz. It is oval, pellucid, colours changeable, with a white rib in each valve that extends from the hinge to the exterior margin. Gmelin. A variety (β) tellina papyracea alba ſpengleri is deſcribed by Schroet; this papyraceous white kind, is found with the other in Nicobar.

APELLA,

APELLA, among *Phyſicians*, a name given to thoſe whoſe prepuce is either wanting or ſhrunk, ſo that it can no longer cover the glans. Some have ſuppoſed that Horace uſes the word in this ſenſe, when he ſays, "Credat Judæus Apella, non ego," but Salmaſius and others maintain, that Apella was the proper name of a Jew, and not an adjective, ſignifying "circumciſed."

Apella, Simia, in *Zoology*, a ſpecies of ſimia or monkey in the claſs of ſapajous, ſai a gorge blanche of Buffon, and weeper monkey of Pennant; is the long-tailed beardleſs monkey, with prehenſile tail, brown body, black feet, and without calloſities. It is of the ſize of a very ſmall cat; face round, ſwarthy, and fleſh-coloured; general colour of the animal ferruginous brown, deepeſt on the back and outſides of the limbs; tail blackiſh, or in Schreber's figure, annulated with black and whitiſh, and well covered with hair; hands and feet duſky; nails flat and round. Shaw. It inhabits Surinam and Braſil, appears as if always weeping, and of a melancholy diſpoſition, but prone to imitation. Pennant ſuggeſts that this was one of the ſpecies of monkies which Dampier ſaw in the bay of All Saints, and which were ugly and ſmelled ſtrongly of muſk, kept in large companies, and made a great chattering, eſpecially in ſtormy weather, and reſiding in a ſpecies of tree, bearing a podded fruit, on which they feed.

APELLES, in *Biography*, the moſt famous painter of Antiquity, was born in the iſland of Cos, and flouriſhed in the time of Alexander the Great, in the fourth century. Having been inſtructed in his art by Pamphilus of Amphipolis, he diſtinguiſhed himſelf by his aſſiduity; and from this circumſtance aroſe the proverb; "No day without a line." It was his wiſh, in the exerciſe of his art, to approve himſelf even to the vulgar; accordingly when a ſhoemaker pointed out a defect in a ſhoe which he had painted, he corrected it; but when the ſame artiſan was proceeding to criticiſe the leg of his picture, he came forth from his hiding place, and reproved him in thoſe words, which are become proverbial, "ne ſutor ultra crepidam." Such was his idea of excellence, that he uſed to write under his pictures, in the imperfect tenſe, "Apelles εποιει, faciebat, and not πεποιηκε, fecit." Nevertheleſs he cenſured Protogenes for not knowing when "to take his hand from his work," an expreſſion which is become proverbial. The characteriſtic excellence of Apelles in all his performances was "grace," and in this he claimed the pre-eminence. His colouring was chaſte and ſimple; and, according to Pliny, he uſed only four colours. The varniſh with which he covered his pictures was of a peculiar kind, and ſerved to ſoften and harmonize his tints. It is recorded of him, that when he ſaw a Helen painted by one of his pupils with a profuſion of gold and jewels, he ſaid jocoſely to him; "not knowing how to make her handſome, you have made her rich." Apelles was a great favourite of Alexander, and was admitted into very intimate familiarity with him. Alexander would not allow any other painter to take his portrait; and it is related by Pliny, that when he had painted one of the moſt beautiful and beloved of his concubines, Campaſpe, naked, Alexander finding that Apelles had fallen in love with her, generouſly ſurrendered her to him. Apelles was permitted to uſe freedoms with Alexander, the reality of which has been diſputed on account of their ſingularity. When Alexander was one day in his ſhop talking very ignorantly of his art, it is ſaid that Apelles requeſted him to be ſilent, leſt the boys who ground his colours ſhould laugh at him. Apelles painted many pictures of Alexander, but the moſt famous was one, in the character of a thundering Jove, in the temple at Epheſus. The hand which held the thunderbolt ſeemed to come out of the canvas, and excite horror in thoſe who beheld it. But the moſt celebrated of all the pictures of Apelles was his "Venus Anadnomené," or riſing from the ſea, and preſſing her wet locks with her hands. The lower part of it was injured by time; but no one ventured to repair it. Another unfiniſhed Venus, of which the head and neck only were executed, was very much admired. Several of his other works were the ornaments of the temples and other edifices in which they were placed. Of the volumes which he wrote on the art, and inſcribed to one of his ſcholars, nothing is extant. Apelles was fond of ſociety, pleaſant in converſation, addicted to pleaſure, and devoted to the fair ſex. It is ſaid that the courteſan Lais was initiated by him into her profeſſion. The time and place of his death are not known. Gen. Dict.

Apelles was the name alſo of one of the ſect of Marcionites, who flouriſhed about the year 160. Tertullian and ſome others charge him with criminality in his connection with Philomene, a fanatical virgin who pretended to prophetic illuminations; but Rhodon, in Euſebius, bears teſtimony to his character, as a perſon venerable for his age and abſtemious courſe of life. Beauſobre and Lardner vindicate him from this aſperſion. Apelles, however, ſeparated from his maſter, and adopted different ſentiments. Whilſt he taught that there is one God, perfectly good, he maintained that this holy and good God, who is over all, created an inferior deity, who was a fiery being, and who made heaven and earth, and all things in this world. He alſo believed that ſouls have ſexes, or at leaſt that bodies derived their ſexes from the ſouls that animated them. Concerning Chriſt, he taught that he aſſumed fleſh, not from the Virgin Mary, but that he formed for himſelf a body out of the four elements; and believing the reality of his crucifixion and reſurrection, it was his opinion, that when Chriſt aſcended, he ſurrendered his body to the elements from which he took it, and returned to heaven. Theſe peculiarities of Apelles are aſcribed to his conferences with Philomene. As he rejected Moſes and the ancient prophets, he maintained that Jeſus was the only perſon who ever came from God. He alſo denied the reſurrection of the body. In other matters he generally agreed with Marcion, and concurred with him in condemning marriage. As to his opinion concerning the ſcriptures of the Old Teſtament, it appears by his writings, as they are cited by Euſebius, Origen and others, that if he did not abſolutely reject the Old Teſtament, he charged upon it contrarieties and contradictions, and he laboured to evince the difficulties that occur in it, if not totally to overthrow its authority. His ſentiments concerning the New Teſtament were probably not different from thoſe of Marcion; as he denied the miraculous conception of Chriſt, it is likely that he rejected at leaſt the beginning of the goſpels of St. Matthew and St. Luke. It appears, upon the whole, that he treated the ſcriptures as Marcion did, by receiving part, and rejecting what did not ſuit his purpoſe. And to this purpoſe Epiphanius accuſes him with acting, in this reſpect, like a judge, and not like an interpreter of ſcripture. None of Apelles's writings are preſerved, and therefore we muſt depend altogether upon the report of others with regard to his ſentiments. Lardner's Works, vol. ix. p. 437—448. Cave's Hiſt. Lit. tom. i. p. 85.

Apelles, in *Entomology*, a ſpecies of scarabæus, found at the Cape of Good Hope. The head is furniſhed with a very ſhort horn; and the wing-caſes are cinereous, with elevated black dots. Fabricius, and Gmelin. This is a ſmall inſect: the legs are yellow and ſpotted with black.

Apelles is alſo a ſpecies of Hesperia *rurales*, in the Fabrician ſyſtem. (Ent. Syſt.) The wings are dentated, fulvous, border brown. Underſide of the poſterior pair marked with rufous ſilvery-marginated bands. Inhabits New Holland. Obſ. In the Linnæan ſyſtem, this is one of the Papilio *Pilæ rurel.*

APELLICON, in *Biography*, a peripatetic, was a native of Teos, and lived about 90 years before Chriſt. He was extremely rich and avaricious; but his peculiar propenſity led him to expend his wealth in the purchaſe of books. This propenſity he indulged to ſuch a degree, that his collection conſiſted of all the moſt ſcarce and valuable books that could be purchaſed or procured by any means, however illicit and diſhonourable. Amongſt other literary treaſures, he at length obtained poſſeſſion of the libraries of Ariſtotle and Theophraſtus. Theſe libraries had paſſed, by bequeſt, into the hands of Neleus of Scepſis, and from him they deſcended to his heirs. When they were informed that the king of Pergamus, to whoſe juriſdiction Scepſis was ſubject, eagerly ſought after books, they buried their collection in a cavern, where they lay for more than 100 years, and ſuffered great damage. Apellicon diſcovered this treaſure, and purchaſed it at a great price. Upon removing his library to Athens, he cauſed the writings of Ariſtotle and Theophraſtus to be copied; but the chaſms occaſioned by the depredation of time were ſupplied by the tranſcribers, ſo that though the copies were made from the originals, they were of courſe in many reſpects erroneous and faulty. After Apellicon's death, Sylla ſeized on all his books, and took them with him to Rome to enrich his own library, and hence erroneous tranſcripts were communicated to the world. Apellicon himſelf was more pleaſed with having the poſſeſſion of valuable books than with the peruſal and ſtudy of them; ſo that Strabo juſtly calls him a lover of books rather than a lover of wiſdom; φιλοβιβλος μαλλον η φιλοσοφος. Strabo Geog. lib. xiii. tom. ii p. 906, &c.

APELLITÆ, in the *Primitive Church*, denote thoſe who taught in the ſecond century, that Chriſt left his body diſſolved in the air; and ſo aſcended into heaven without it. See Apelles.

APENE, απηνη, *chariot*, in *Antiquity*, a kind of chariot wherein the images of the gods were carried in proceſſion on certain days, attended with a ſolemn pomp, ſongs, hymns, dancing, &c.

The *apene*, or ſacred chariot of the Greeks, is called *tenſa*.

It was very rich, made ſometimes of ivory, or of ſilver itſelf, and variouſly decorated.

APENNAGE. See Apanage.

APENNINES, in *Geography*, a chain of mountains or hills of Italy, extending from the Alps to the ſouthern extremity of the kingdom of Naples. At firſt they are a branch of the Alps, which ſeparates the plains of Piedmont from the ſea; ſo that they commence near Ormea, in the high ridge which now forms the boundary of the French department of the Maritime Alps, and ſtretch without interruption along both ſides of the gulf of Genoa, at no great diſtance from the ſea, giving ſource to many rivers that flow to the eaſt. In the ſouth of the former teritory of Modena, after giving riſe to the Panaro, and Reno, they proceed almoſt due eaſt to the centre of Italy, where they afford ſources to the Arno and the Tiber, and thence paſs ſouth-eaſt to the extremities of Italy, generally approaching nearer to the Adriatic than to the Mediterranean. Theſe mountains conſiſt, to the ſouth of Bologna, of ſtratified grey hard limeſtone, with a few petrifactions. Yet in the Genoeſe territory and Tuſcany, appear not only the beautiful marble of Carrara, but rich ſerpentine, here called Gabbro, with ſteatite and aſbeſtos. Granitone, conſiſting of white felſpar and green mica, is alſo found here. Among the animals of the Apennines we may reckon the marmot and the ibex. Pinkerton's Geog. vol. i. p. 631. The Apennines derive their name from Alpen, a Celtic word, ſignifying a high mountain.

APENNIS, in *Ancient Law*, a deed or inſtrument made in favour of a perſon, who has loſt the title-deeds to his houſe or land by fire. Du-Cange.

In ſuch caſe, an aſſembly of the people of the neighbourhood being called, and an exact inquiry made before the judge, another inſtrument was framed to confirm and ſecure the unhappy perſon's right.

APENRADE, in *Geography*, a ſea port town of Denmark, in the duchy of Sleſwick, ſituate at the bottom of a bay in the Baltic ſea, ſurrounded with hills, which form a harbour, both deep and ſecure. The inhabitants are much employed in fiſhing, and it is beſides a place of conſiderable trade. N. lat. 54° 52′. E. long. 10° 7′.

APEPSY, in *Medicine*, denotes crudity, or a want of digeſtion.

The word is formed from the privative particle α, and πεπτω, *I concoct.*

Apepſia may be defined a defect in the ſtomach, which prevents the aliment taken in from affording a proper chyle for ſupplying the blood and nouriſhing the body. Abſtemiouſneſs and exceſs are alike cauſes of indigeſtion. The method of treatment in the *apepſy* is the ſame as in the *anorexy*. The columbo root is particularly uſeful, when the ſtomach is languid, and digeſtion difficult, &c. It may be given in ſubſtance with any grateful aromatic, or in Madeira wine, now and then interpoſing gentle doſes of rhubarb in tincture. A mixture of muſtard-ſeed with the *columbo* root is of great utility in caſes of this nature, where acidity and flatulence prevail much in the *primæ viæ*. See Percival's Eſſays, &c.

APER, Marcus, in *Biography*, a Roman orator in the firſt century, was a native of Gaul, who diſtinguiſhed himſelf by his genius and eloquence, and occupied ſeveral important poſts in the empire. He was probably the author of the dialogue "On the Corruption of Eloquence," ſometimes aſcribed to Tacitus or Quinctilian, and placed at the end of their works. He died at Rome about the year 85. Gen. Biog.

Aper, in *Zoology*, a name given to ſeveral ſpecies of the Sus; as the variety *ferus* of the *ſus ſcrofa*, the *ſus tajaſſu*, the *ſus æthiopicus*, and the *ſus babyruſſa*. See theſe articles, and Boar, and Hog.

Aper, in *Ichthyology*, a ſpecies of Zeus that inhabits the ſeas about Rome and Genoa. The tail is even, and the body reddiſh. Linn. and Gmel. Some deſcribe it as having the tail even, body entirely red or reddiſh, and the beak reflected.

APERÆ, in *Ancient Geography*, a town of Lycia, which became an epiſcopal ſee.

APERANTES, a people who inhabited *Aperantia*, which was a diſtrict of Theſſaly, ſituate towards the ſouth-weſt, and abounding with mountains, in which was the ſource of the river Achelous.

APEREA, in *Zoology*, a ſpecies of Cavia or Cavy, having no tail, and the upper parts of the body being of a reddiſh aſh-colour. This is the cuniculus braſilienſis, having

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no tail, &c. of Briſſon and Ray; the aperea of the Braſilians, ſo called by Marcgrave, &c.; the cuniculus indicus femina of Aldrovand. This animal inhabits Brazil, in the holes of the rocks, from which it is driven out and taken by little dogs; the colour of the upper part of the body reſembles that of the hare; its belly is white; the upper lip divided; the ears ſhort and rounded like thoſe of a rat. It moves like the hare, the fore legs being ſhorter than the hind; it has four toes with ſhort ſmall claws on the fore feet, which are black and naked, and only three on the hind, of which the middle is the longeſt; its length is about 12 inches; its fleſh is like that of the rabbit, but reckoned of a ſuperior flavour; and its manner of living is alſo very ſimilar. There is a variety, which is the rock cavy of Pennant, of a black colour, mottled with tawny on the back, belly and throat white. It is exactly ſimilar in every reſpect, except in colour, to the former. The animal called *cori* by Oviedo, Charlevoix, &c. is thought by Buffon to be the ſame with the aperea. There are many varieties of the cori with reſpect to colour; and they are found in various parts of the Weſt Indies, and on the continent of America.

APERIENS *Os*, in *Anatomy*, a name given by ſome writers to a muſcle of the mouth, called by Albinus *biventer maxillæ inferioris*, and by others DIGASTRICUS.

APERIENS *palpebram rectus*, is a name that has been given to the muſcle more commonly called LEVATOR *Palpebræ*.

APERIENTS, or APERITIVE *medicines*, from *aperio, I open*, are ſuch as are ſuited to open obſtructed paſſages; and particularly to reſtore ſuppreſſed excretions or evacuations; and the term is moſt commonly applied to thoſe that are adapted to open the veſſels of the uterus, and thereby to excite the retained, or to reſtore the ſuppreſſed, menſtrual flux. The term, however, as variouſly employed, both with reſpect to different caſes and to different modes of operation, is, without ſpecifying the particular caſe and operations, extremely improper. Cullen's Mat. Med. vol. i. p. 171. The term aperients in its preſent uſe is ſynonymous with *laxatives* or *purgatives*, which ſee.

APERISTATON, from *α*, *without*, and *περιστασις*, *unfavourable circumſtance*, in the *Ancient Phyſic*, denotes an ulcer of a mild or benign kind, and not attended with any ſevere ſymptom.

APEROPIA, in *Ancient Geography*, a ſmall iſland of the Ægean ſea, oppoſite to the promontory of Buporthmos in the Argolide. It was ſo called by Pliny.

APERTIONS, in *Architecture*, are the openings in a building; as doors, windows, ſtair-caſes, chimneys, outlets and inlets for light, ſmoke, &c.

The apertions ſhould be as few as may be; it being a rule, that all openings are weakenings: and they ſhould not approach too near the angles of the walls.

APERTO, *Ital.* in *Muſic*, open, oppoſed to *Chiuſo*, cloſe.

APERTOR *oculi*, in *Anatomy*, a name given by Spigelius and others to the muſcle called the APERIENS *palpebram*, and LEVATOR *palpebræ ſuperioris* by others.

APERTURE, the opening of any thing; or hole, cleft, or vacant place, in ſome otherwiſe ſolid or continuous ſubject. It comes from *aperire, to open*.

In *Geometry*, *aperture* is uſed for the ſpace left between two lines, which mutually incline towards each other to form an angle.

In *Optics*, *aperture* is the hole next the object-glaſs of a teleſcope or microſcope, through which the light and image of the object come into the tube, and are thence carried to the eye.

APERTURE is alſo underſtood of that part of the object-glaſs itſelf which covers the former, and which is left pervious to the rays. See TELESCOPE.

A great deal depends on having a juſt aperture. To find it experimentally, apply ſeveral circles of black ſmutted paper, each bigger than the other, upon the face of the glaſs, from the breadth of a ſtraw to ſuch as leave only a ſmall hole in the glaſs; and with each of theſe ſeparately view ſeveral diſtinct objects, as the moon, ſtars, &c.; that through which they appear the moſt diſtinctly is to be choſen.

M. Auzout affirms, that he found that the apertures of teleſcopes ought to be nearly in the ſubduplicate ratio of their lengths: but Huygens, who firſt found that the uſe of apertures conduced very much to one perfection of teleſcopes, aſſures us he found by experience, that the aperture of an object-glaſs, e. gr. of 30 feet, is to be determined by this proportion; as 30 to 3, that is, as 10 to 1, ſo is the ſquare root of the diſtance of the focus of any glaſs multiplied by 30, to its proper aperture; and the focal diſtances of the eye-glaſſes are to be proportional to the apertures. A table of apertures for teleſcopes of various lengths, &c. ſee under the article TELESCOPE.

The greater or leſs aperture of an object-glaſs, it is to be noted, does not increaſe or diminiſh the viſible area of the object; all that is effected by this is, the admittance of more or fewer rays, and, conſequently, the more bright or obſcure appearance of the object; but the largeneſs of the aperture or focal diſtance cauſes the irregularity of its refractions. See ABERRATION.

Hence in viewing Venus through a teleſcope, a much leſs aperture is to be uſed than for the Moon, Jupiter, or Saturn, becauſe her light is ſo vivid and glaring. This circumſtance does a little invalidate and diſturb M. Auzout's proportion, as is ſhewn by Dr. Hook. Phil. Tranſ. N° 4.

APERTURA *tabularum*, in *Ancient Law Books*, ſignifies the breaking open a laſt WILL and TESTAMENT.

APERTURA *feudi* denotes the loſs of a feudal tenure, by default of iſſue to him to whom the feud or FEE was firſt granted.

APESAS, or APESANTUS, in *Ancient Geography*, a mountain of Peloponneſus, in the territory of Nemea.

APETALOUS, or APETALOSE *plants*, are ſuch as are without, or have an imperfect or ſtamineous flower. They are ſo called becauſe they are deſtitute of thoſe tender fugacious coloured leaves, called *petals*; but conſiſt only of a calyx or cup, and of ſtamina, or capillaments, or ſtyles. Phil. Tranſ. N° 186.

The word comes from the privative particle *α*, and *πεταλον*, *folium, a leaf*.

The apetalous kind is ſubdivided by Ray, 1. Into ſuch whoſe fruits are not contiguous to their flowers; as in hops, hemp, nettles, ſpinach, mercury, *palma Chriſti*, the American phyſic-nut, &c. 2. Such as have a triquetrous or triangular ſeed, as the docks, ſorrels, arſmarts, knot-graſs, ſnake-weeds. 3. Thoſe which have round, compreſſed, and otherwiſe figured ſeeds, as the pond-weeds, oraches, ſea purſlane, the blites, the amaranthi, the beets, ſome kalies, &c.

APETNA, in *Ancient Geography*, a town of Bœtica, near Corduba.

APETOUS, or APETUBES, in *Geography*, a people of South America, in Braſil, occupying the parts in the vicinity of the government of Puerto Saguro.

APEUCTIC, from *απευχομαι*, *I deprecate*, in the *Ancient Poetry*,

Poetry, denotes a kind of poem or prayer preferred to God for averting ſome evil.

In which ſenſe *apotheum* ſtands contradiſtinguiſhed from *profectitium carmen*, which begs for ſome good, e. gr. *di prohibete minas, dii talem avertite caſum, et placidi ſervate ſoos.*

APEX, the vertex or ſummit of any thing.

APEX is peculiarly uſed in *Antiquity*, for a kind of conical cap or covering of the head, wore by the flamens or prieſts of Jupiter; and alſo by the Salii, or prieſts of Mars. This was otherwiſe denominated *filum apicis ficus*, or *albanus*.

The apex is deſcribed as a ſtitched cap in form of a helmet, with the addition of a little ſtick fixed on the top, and wound about with white wool.

The ordinary flamens only wore the apex in the time of performing divine ſervice; the flamen dialis always wore it out of doors; for within it was allowed him to be bareheaded. See APICULUM.

APEX was alſo uſed among the Romans for the creſt of a helmet.

APEX, in *Botany*, denotes the point, end, or termination of a leaf, &c. Leaves, with reſpect to their apices, are called *truncate*, or lopped, when they end in a tranſverſe line; *præmorſe*, or bitten in the fore-part, when they are very obtuſe, and are terminated by unequal notches or inciſions; *retuſe*, or blunted, when they terminate in an obtuſe ſinus; *emarginate*, or nicked, when they terminate in a notch; *obtuſe*, or blunt, when they terminate as it were within a ſegment of a circle; *acute*, or ſharp, when they terminate in an acute angle; *acuminate*, or pointed, when they terminate in a ſubulate apex; and *cirrhoſe*, or claſpered, when they terminate in a claſper or tendril. See LEAF.

APEX is alſo uſed, by *Grammarians*, for a long accent or mark, to denote that a ſyllable is to be pronounced long. Quinctilian condemns the practice of putting the apex on all long ſyllables; yet in ſome caſes he allows the apex neceſſary, e. gr. where the different lengths of a ſyllable diſtinguiſh the different ſenſes of a word, as in *malus*, which, as long or ſhort, denotes an *ill man*, or an *apple tree*. See ACCENT.

APHACA, in *Botany*. See LATHYRUS.

APHACA, in *Ancient Geography*, a town of Syria, between Heliopolis and Biblos, near mount Lebanon. Zoſimus (lib. i. c. 58.) informs us, that in this town was a temple of Venus called *Aphacitis*; and near the temple there was a lake, in which the gifts that were preſented to the goddeſs, however light in themſelves, ſunk to the bottom, if acceptable; but if diſpleaſing, they floated, however heavy, on the ſurface of the water. Euſebius (in Vit. Conſt. lib. iii.. c. 55.) ſtyles his temple a ſchool of wickedneſs, in which men proſtituted themſelves like women, in order to render the goddeſs propitious by their infamy. The temple was raſed to the ground by Conſtantine the Great, and all its ſtatues deſtroyed. The name is of Syriac origin, and denotes *embrace*, or *ſalute*: and hence this Venus was denominated "The Goddeſs of embraces."

APHÆREMA, one of the three toparchies added to Judæa by the kings of Syria.

APHÆRESIS, from ἀφαιρέω, *I take away*, in *Grammar*, a figure whereby ſomething is taken away from the beginning of a word.

Thus *ciconia*, by aphæreſis, is written *conia*; *contemnere*, *temnere*; *omittere*, *mittere*, &c.

A like retrenchment at the end of a word is called *apocope*.

APHÆRESIS, in *Medicine*, denotes a neceſſary taking away or removing of ſomething that is noxious.

In *Surgery*, it ſignifies an operation whereby ſomething ſuperfluous is taken away.

APHANES (Aφανής, *not apparent* from its diminutive ſize), in *Botany*, parſley-piert. Linn. Gen. 166. Schreb. 223. Juſſ. 337. Claſs, *tetrandria digynia*, or *monandria monogynia*; natural order, *ſenticoſæ*; *roſaceæ* of Juſſieu.

Generic Character. *Calyx*, perianth one-leafed, tubular, permanent; mouth flat, eight-parted; *corolla* none; *ſtamina*, filaments four, or one, erect, ſubulate, very ſmall, placed at the mouth of the calyx; authers roundiſh, or one twin; *piſtillum*, germ ovate; *ſtyle* filiform, inſerted into the baſe of the germen; *ſtigma* headed; *perianthium* none; *ſeeds* ovate, acuminate, compreſſed, contained in the bottom of the calyx. This plant is by Dr. Smith removed to the genus *alchemilla*. Flor. Brit. vol. i. 190. 1. A. *arvenſis*, parſley-piert. Hudſ. Ang. 72. With. 143. Flor. Dan. 973. A ſmall annual plant, with ſpreading branched leafy ſtems; leaves alternate, petiolate, palmato-tripartite, crenate and indented, hairy; calyx eight-toothed, alternately very minute; ſeeds one or two; it is a common Britiſh plant, growing in fallow fields. In moſt of the old Herbals, it is called parſley break-ſtone, from its ſuppoſed lithontriptic qualities.

APHAR, in *Ancient Geography*, the metropolis of Arabia Felix, ſituate near a bay on the ſea-ſhore, and not far north from the Promontorium Aromatum. Aphar, according to ſome authors, was the capital of the Homerites, where the king kept his court. In the Notitia Imperii, Aphar is a river. This place, now called *Al-Fara*, is ſituated on a river between Mecca and Medina.

APHARA, or APHERA, a town of Paleſtine, in the tribe of Benjamin.

APHARANTES, a people of Libya, who had no fixed habitation.

APHARSATHKITES, a people who were transferred together with the *Apharſites* into Samaria, by Eſarhaddon, king of the Aſſyrians, and who oppoſed the Jews in rebuilding their temple. Ezra, iv. 9.

APHAS, called by D'Anville *Avas*, a river of Epirus, which ran from north to ſouth in the eaſtern part of the country, and diſcharged itſelf into the Ambracian gulf, at ſome diſtance to the eaſt of the Araćthus.

APHASIA, from α, and φημι, *I ſpeak*, in the *Sceptic Philoſophy*, denotes a ſtate of doubt, wherein a perſon not knowing what to determine on, it is beſt for him to be ſilent. In this ſenſe *aphaſia* ſtands oppoſed to *phaſis*, under which are included both aſſertion and negation.

APHEA, in *Mythology*, a goddeſs worſhipped by the Eginetæ and Cretans. Pindar wrote an ode in honour of her, and ſhe had a temple in the iſland of Crete. The Cretans confounded her with Diana.

APHEK, in *Scripture Geography*, a name given to ſeveral cities. 1. Aphek in the tribe of Judah, was the place where the Philiſtines encamped, when the ark was brought from Shiloh, which they had taken in battle. 1 Sam. iv. 1, 2, 3, &c. 2. Aphek in the valley of Jezreel, where the Philiſtines encamped, while Saul and his army were near Jezreel, on the mountains of Gilboa. 1 Sam. xxix. 1, &c. 3. Aphek, a city belonging to the tribe of Aſher, near the country of the Sidonians. Joſh. xix. 30. xiii. 4. This was probably the ſame with Aphek of Syria, in Benhadad's kingdom, near which the Syrians were defeated in a battle between Ahab and Benhadad. 1 Kings, xx. 26, &c. It was, perhaps, the APHACA near Lebanon.

APHELIA,

APHELIA, from ἀφελης, *ſimple*, in *Rhetoric*, is uſed to denote ſimplicity of DICTION.

APHELION, from ἀπο, *from*, and ἡλιος, *ſun*, in *Aſtronomy*, that point of the earth's or any planet's orbit, in which it is at the greateſt diſtance from the ſun.

Thus, a planet being in A (*Plate* I. *Aſtron. fig.* 9.) its utmoſt diſtance from the ſun S, at the extremity of the greater or tranſverſe axis of the elliptic orbit, is ſaid to be in its aphelion. In the ſyſtem or ſuppoſition of the ſun's moving round the earth, the point in which he appears when the planet is in its aphelion, is called *apogee*. The aphelion ſtands oppoſed to the perihelion.

The times of the aphelia of the primary planets may be known by their diameters appearing the ſmalleſt, and by their moving with the leaſt velocity in a given time. Methods for calculating them, with the reſults of the computations, have been given by many aſtronomers; ſuch as Riccioli, Almag. Nov. lib. vii. § 2 and 3.; Wolfius, Elem. Aſtron. § 659; Dr. Halley, Phil. Tranſ. N° 128; ſir Iſaac Newton, Princip. lib. iii. prop. 14; Dr. Gregory, Aſtron. lib. iii. prop. 14; Keill's Introd. to Aſtron. lect. xxii–xxiv. De la Lande, Mem. de l'Acad. 1755, 1757, and 1766; and Aſtron. lib. xxii.: and alſo in the writings of M. Euler, M. D' Alembert, M. Clairaut, &c. upon Attraction. See alſo Vince's Aſtron. vol. i. p. 130, &c.; and the article PLANET in this Dictionary. The places of the aphelia are ſtated by different authors as in the following tables.

For the Year 1700, *according to* KEPLER *and* DE LA HIRE.

PLANETS.	KEPLER.	DE LA HIRE.
Mercury	♑ 8°. 25′. 30″	13°. 3′. 40″
Venus	♒ 3. 24. 27	6. 56. 10
Earth	♋ 8. 25. 30	* * *
Mars	♏ 0. 51. 29	0. 35. 25
Jupiter	♎ 8. 10. 40	10. 17. 14
Saturn	♐ 28. 3. 48	29. 14. 41

Place of the Aphelia for the Beginning of 1750.

PLANETS.	M. CASSINI.	DR. HALLEY.	M. DE LA LANDE.
Mercury	8ˢ. 13°. 41′. 18″	8ˢ. 13°. 27′. 12″	8ˢ. 13°. 33′. 58″
Venus	10. 7. 38. 0	10. 7. 18. 31	10. 7. 46. 42
Earth	3. 8. 27. 23	3. 8. 28. 43	3. 8. 37. 16
Mars	5. 1. 36. 9	5. 1. 31. 38	5. 1. 28. 14
Jupiter	6. 10. 14. 33	6. 10. 33. 46	6. 10. 21. 4
Saturn	8. 29. 13. 31	8. 29. 39. 58	8. 28. 9. 7

N. B. The place of the aphelion of Herſchel, or Georgium Sidus, in 1788, was 11ˢ. 16°. 19′. 30″; and in 1790, 11ˢ. 3°. 29′. 42″.

Kepler makes the earth's apogee to have coincided with the equinoctial point ♈, on July 24, in the year 3993 before the Chriſtian æra, which, according to ſome authors, is about the time of the creation. At the ſame time, he makes the aphelion of Saturn to be ♐ 24°. 28′. 0″; of Jupiter ♋ 23°. 34′. 18″.; of Mars ♐ 15°; of Venus ♎ 0°. 0′. 0″; of Mercury ♋ 0°. 0′. 0″; and the apogee of the Moon ♎ 0°. 0′. 0″.

None of the aphelia of the planets are at reſt; for their mutual actions upon one another keep thoſe points of their orbits in a continual motion; and this is greater or leſs in the different planets. The courſe of this motion is in conſequentia, or according to the order of the ſigns; and ſir Iſaac Newton ſhews, that it is in the ſeſquiplicate ratio of the reſpective diſtances of the planets from the ſun, or as the ſquare root of the cube of the diſtances. This motion, ariſing from their mutual attraction, is aſcertained by comparing the places ſettled by the ancient and modern obſervations; or by comparing the length of an anomaliſtic with that of a tropical or ſidereal revolution.

To find the Motion of the Earth's Apogee. Hipparchus, 140 years before Chriſt, determined its place to be 2ˢ. 5½°; and by the obſervations of Waltherus, in 1496, it was found to be 3ˢ. 3°. 57′. 57″; whence the motion of the apogee is 1′. 2¾″ in a year, with reſpect to the equinoctial points. M. de la Caille determined the place of the apogee for the beginning of the year 1749, to be 3ˢ. 8°. 39′; which compared with the obſervation of Waltherus, gives 1′. 6″ for the yearly motion. In the year 1588, Tycho determined the place of the apogee to be 3ˢ. 5°. 30′; and Kepler, in the ſame year, determined its place to be 3ˢ. 5°. 32′. Theſe compared with the obſervation of Caſſini, in the year 1738, who determined its place to be then in 3ˢ. 8°. 19′. 8″, give about 1′. 7″ for the annual motion. M. de la Caille determined the length of the anomaliſtic year to be 26′. 35″ longer than the tropical year, which makes the motion of the apogee to be 1′. 5″,5 in a year. Kepler made it 1′. 2″; Ricciolus 1′. 2″. 4‴. 4⁗. in a year. Mayer in his Tables makes it 1′. 6″. Dr. Halley makes it 1′. 1″; and Caſſini about 1′. 1″,25. M. de la Lande, in his Tables, makes it 1′. 2″ as computed by M. de Lambre, from Dr. Maſkelyne's obſervations in 1788; and this determination is moſt to be depended upon, as made by ſo eminent an aſtronomer, from obſervations

which are acknowledged to be the beſt that have been ever made. Theſe motions are in reſpect to the equinox. If we aſſume it to be 1′. 2″, and the preceſſion of the equinoxes to be 50¼″, we ſhall have the real motion of the apogee 11¾″ in a year.

To determine the Motion of the Aphelion of Saturn. The place of the aphelion, in 1694, was 8ſ. 28°. 58′; but from three oppoſitions obſerved in the years 127, 133, and 136, its place for the year 132 was 7ſ. 24°. 14′. 20″, which makes the annual motion 1′. 20″. Tycho found the place of the aphelion on December 19, 1590, to be 8ſ. 25°. 40′. 51″, which compared with the obſervation in 132, gives 1′. 18″,5 for the annual motion. The ſame obſervation of Tycho compared with the place of the perihelion on December 12, 1708, in 8ſ. 28°. 25′. 10″, gives 1′. 23″,5 for the annual motion. If the ſame obſervation of Tycho be compared with the place of the aphelion in April 1694, in 8ſ. 28°. 58′, it gives 1′. 55″ for the annual motion. Caſſini conjectured from all this, that the motion of the aphelion was quicker now than formerly. He alſo found the perihelion, in 1708, not ſo forward by a degree as it ought, when compared with the place of the aphelion in 1691, at the annual movement of 1′. 20″; from whence he ſuſpected that the orbit had a librating motion, and that there ought to be an equation employed between the two points. The irregularities of Saturn, however, are ſo great, that we need not wonder at theſe differences. Kepler makes it 1′. 16″; Caſſini ſuppoſes it to be 1′. 18″; and Dr. Halley 1′. 20″. M. de la Grange, from calculating the diſturbing force of each planet upon the other, has determined the annual motion of the aphelion to be 1′. 6″,3. M. de la Place makes it 1′. 6″,07, which M. de la Lande has employed in his Tables.

To determine the Motion of Jupiter's Aphelion. According to the obſervations of Ptolemy, the aphelion was in ♍ 14°. 38′ in the year 136; but in 1720 it was in ♎ 9°. 47′; this gives 57″. 11‴ for the annual motion. In the year 1590, the place of the aphelion, calculated from the obſervations of Tycho, was found to be in ♎ 6°. 30′. 43″; this compared with the obſervation in 1720, gives 1′. 30″ for the annual motion. If we compare the places in 136, and 1590, they give 54″ for the annual motion. This induced Caſſini to think, that the motion of the aphelion is accelerated; or that it was ſubject to ſome irregularities; he ſtates the motion at 57″. 24‴; Kepler makes it 47″; Dr. Halley makes it 72″; M. Jeaurat computed the place of the aphelion in 1590 to be ♎ 7°. 49′. 19″, and in 1762 in ♎ 10°. 36′. 41″; from which he found the annual motion to be 58″,4. Euler, from the theory of attraction, found it to be 55″; M. de la Grange, 57″,2. M. Wargentin ſays, that an annual motion of 62″ beſt agrees with obſervation. M. de la Lande has employed 56″,73 in his laſt Tables, according to the theoretical determination of M. de la Place.

To determine the Motion of the Aphelion of Mars. From three oppoſitions determined by Ptolemy, the place of the aphelion in 135 was found to be 3ſ. 29°. 24′; and by the obſervations made at Greenwich in 1691, 1696, and in 1700, the place was found to be in 5ſ. 0°. 31′. 34″ in 1696; hence the annual motion of the aphelion is 1′. 11″. 47‴. 20⁗; Kepler makes it 1′. 7″; Dr. Halley makes it 1′. 12″. From comparing the place, in 1748, in 5ſ. 1°. 26′. 10″, with the place in 1592 in 4ſ. 28°. 49′. 50″, the motion is 1′. The mean of theſe determinations is 1′. 7″,5. M. de la Lande ſuppoſes it to be 1′. 7″.

To determine the Motion of the Aphelion of Venus. Caſſini has found, from computing the place of the aphelion from the ancient obſervations, a difference of 15°, from which uncertainty it is more difficult to determine its annual motion. However, the place, computed from the obſervations in 136, 138, and 140 (and which he thinks are the moſt to be depended upon), was found, in 138, to be in ♐ 21°. 29′; this compared with the obſervations in 1715, 1716, and 1718, when it was found to be in ♒ 6°. 50′ in 1716, the annual motion is found to be 1′. 42″. 50‴. From comparing the place in 1596 in ♒ 1°. 54′ with the place in 1716 in ♒ 6°. 50′, the motion is 2′. 28″. Horrox fixed the place of the aphelion in 1639 in ♒ 5°; this compared with the place in 1716, gives 1′. 26″ for the motion. By comparing the place of the aphelion in the firſt Tables of M. de la Lande with the place in Kepler's Tables, the annual motion comes out 2′. 41″,5; Caſſini makes it 1′. 26″; and Dr. Halley 56″,5. Kepler makes it 1′. 18″. Amidſt ſo much uncertainty, M. de la Lande thinks it better to depend upon the theory which, according to M. de la Grange, makes it 48″,5, and which M. de la Lande employs in his Tables. On account of the ſmall eccentricity, this uncertainty of the place of the aphelion is not of ſo much conſequence, as an error of 1° in the place of the aphelion will never produce an error of 1′ in the heliocentric longitude.

To determine the Motion of the Aphelion of Mercury. From the obſervations of the paſſages of Mercury over the ſun in 1661, 1690, and 1697, Caſſini determined the place of the aphelion on November 9, 1690, to be in 8ſ. 12°. 22′. 25″; and upon ſuppoſition that the motion of the aphelion was 1′. 20″ in a year, he found that it repreſented the paſſages very well in 1631, 1672, 1723, and 1736. But as theſe paſſages were nearly at the ſame point of the orbit, it does not ſufficiently eſtabliſh 1′. 20″ to be the true motion, as it might anſwer to the ſame points nearly, but not to other parts of the orbit. We ought not therefore to be ſurpriſed, ſays M. de la Lande, that a motion of 52″,5 by Dr. Halley anſwers equally well to the ſame obſervations. Kepler makes it 1′. 45″. M. de la Lande found, by the greateſt equation, that on May 6, 1753, the place of the aphelion was 8ſ. 13°. 55′. From comparing this place with the place computed from eight obſervations of Ptolemy (rejecting ſix others, two of which did not appear to be reconcileable with each other, and four were too near the aphelion), he found the motion to be 1′. 10″ in a year, which he conſtructed his firſt Tables upon; obſerving, however, at the ſame time, that this motion does not agree perfectly with the obſervations in this century. He has ſince found that a motion of 56″,25 will beſt agree with obſervation; and this he has aſſumed in his laſt Tables. M. de la Grange makes it 57″ by theory. The motions of the aphelia here determined are their motions in longitude; if therefore we ſubtract 50″,25 (the annual preceſſion of the equinoxes) from each, we ſhall get their real motions.

Motion of the Aphelia in One Hundred Years.

Planets.	M. Cassini.	Dr. Halley.	M. de la Lande.
Mercury	2°. 13′. 20″	1°. 27′. 37″	1°. 33′. 45″
Venus	2. 23. 20	1. 34. 13	1. 21. 0
Earth	1. 42. 55	1. 41. 7	1. 43. 35
Mars	1. 59. 38	1. 56. 40	1. 51. 40
Jupiter	1. 35. 42	2. 0. 0	1. 34. 33
Saturn	2. 9. 44	2. 13. 20	1. 50. 7

According to the calculations of M. de la Grange, the aphelion of the Georgian planet is progreſſive 3″,17 in a year, from the action of Jupiter and Saturn; conſequently its motion in longitude is 50″,25 + 3″,17 = 53″,42. He has alſo calculated the effect of each planet in diſturbing the aphelia of the reſt. The following table contains the annual effect.

Annual Motion of the Aphelia.

. . .	Mercury.	Venus.	Earth.	Mars.	Jupiter.	Saturn.
By Mercury	. . .	— 4″,30	— 0″,42	0″,02	0″,00	0″,00
— Venus	4″,14	. . .	+ 5,20	0,70	0,01	0,00
— Earth	0,84	— 5,06	. . .	1,92	0,01	0,00
— Mars	0,04	+ 1,18	+ 1,54	. . .	0,00	0,00
— Jupiter	1,56	+ 6,38	+ 6,79	12,31	. . .	15,99
— Saturn	0,08	+ 0,08	+ 0,19	0,70	6,56	. . .
Real motion	6,66	— 1,72	13,30	15,65	6,58	15,99
Preceſſion	50,25	50,25	50,25	50,25	50,25	50,25
Mot. in long.	56,91	48,53	63,55	65,90	56,83	66,24

M. de la Grange here ſuppoſes, as before, the denſity of Venus to be 1,31, but M. de la Lande makes it only 0,95; for this denſity, therefore, the ſecond horizontal line muſt be diminiſhed in the ratio of 1,31 to 0,95. See Vince's Aſtronomy, vol. 1. c. 14.

APHELLAN, the name of a bright ſtar in the conſtellation Gemini, marked *α*.

APHERNOUSLI, in *Botany*, a ſpecies of pine growing wild on the Alps. The timber is large, and the planks made of it are of a finer grain, and more beautifully variegated than deal; and may therefore be applied to many uſes. It grows in bleak and barren ground, and moſt reſembles that which is called in England the Weymouth pine.

APHES Domin, in *Scripture Geography*, a place of Paleſtine in the tribe of Juda, between Socho and Azecha, where the Philiſtines were encamped whilſt Goliath inſulted the Iſraelites.

APHESIS, from *αφιημι*, *I remit*, in the *Athenian Laws*, was applied to the caſe of a perſon deeply indebted, who deſired the people to remit part of the debt, on account of his diſability to make payment.

Voetius has a diſſertation expreſs on the words *apheſis* and *pareſis*, and their difference.

APHETERIA, in the *Ancient Military Art*, a kind of engines uſed in the beſieging of towns.

Suidas does not mention their particular form or ſtructure. Aquinus takes them to have been of the projectile kind.

APHIDIOIDES, in *Entomology*, a ſpecies of acarus, of a red colour; the firſt pair of legs very long, and formed for running; two horns on the poſterior part of the abdomen. Linn. Faun. Suec. Fab. This is la tique rouge des pierres à pattes antérieures fort longues of Geoffroy, and is found among ſtones and rotten wood.

APHIDUM, a ſpecies of ichneumon that is produced from ſeveral of the European kinds of aphides. It is black, with yellow feet, and antennæ about the length of the body. Geofr. Inſ. L'ichneumon des pucerons.

APHILANTHROPY, from *α*, *φιλος*, *friend*, and *ανθρωπος man*, among *Phyſicians*, denotes the ſtate or diſorder, wherein

wherein a perſon has an unnatural diſreliſh for mirth and ſociety, and indulges ſolitude and melancholy.

APHIOCEM, a compoſition made principally of the buds of hemp before they flower. It is much in uſe among the Arabs, and has the intoxicating quality of OPIUM.

APHIOM, KARA HISSAR, in *Geography*, a town of Aſiatic Turkey in Natolia, ſituate on the Mindra, and defended by an elevated caſtle; 56 miles ſouth from Kutaia. N. lat. 38° 35′. E. long. 32° 18′. See APAMEA.

APHIS, in *Entomology*, a very intereſting and extenſive genus of the HEMIPTERA order, in the Linnæan ſyſtem. It is a tribe of creatures that has, in a particular degree, engaged the attention of naturaliſts for various reaſons: their generation is equivocal, and their inſtinctive economy differs, in ſome reſpects, from that of moſt other animals, as will appear hereafter.

Linnæus defines the generic character of the aphis thus; beak inflected, ſheath of five articulations, with a ſingle briſtle; antennæ ſetaceous, and longer than the thorax; either four erect wings, or none; feet formed for walking; poſterior part of the abdomen uſually furniſhed with two little horns. Geoffroy ſays, the aphides have two beaks, one of which is ſeated in the breaſt, the other in the head; this laſt extends to, and is laid upon the baſe of the pectoral one; and ſerves, as that writer imagines, to convey to the head a part of that nouriſhment which the inſect takes, or ſucks in, by means of the pectoral beak.

The ſpecies enumerated by Linnæus and Gmelin are, longiroſtris ribis, arundinis, ulmi, papaveris, paſtinacæ, pruni, ſambuci, ſolidaginis, ceraſi, rumicis, acetoſæ, liguſtici, lychnidis, capreæ, padi, roſæ, hortenſis, picridis, ægopodii, dauci, urticata, nymphææ, corni, tiliæ, juniperi, braſſicæ, craccæ, lactucæ, ſonchi, cirſii, cardui, achilleæ, tanaceti, abſinthii, millefolii, evonymi, avenæ, fraxini, jaceæ, betulæ, alni, roboris, fagi, quercus, pini, pineti, ſalicis, vitis, populi, tremulæ, viburni, mali, burſaria, aparines, urticæ, aceris, atriplicis, piſtaciæ, perſicæ, polyanthis, ſaligna, plantaginis, archangelicæ, leucanthemi, ſcabioſæ, fabæ, geniſtæ, coryli, juglandis, balſamitæ, gallarum, farinoſa, xyloſtei, and mayeri. The whole of theſe, and, no doubt, many others, are found in different parts of Europe. They infeſt an endleſs variety of plants; and it is believed each ſpecies is particularly attached to one kind of vegetable only; hence each ſort has been hitherto uniformly named after the individual ſpecies, or genus of plants, on which it feeds; or if that could not be aſcertained, that on which it had been found; for ſome ſpecies are rather uncommon and little known, though others are infinitely too numerous. The aphides are ſufficiently known by the indiſcriminate term of PLANT LICE; they abound with a ſweet and grateful moiſture, and are therefore eagerly devoured by ants, the larva of coccinellæ, and many other creatures, or they would become, very probably, more deſtructive to the whole vegetable creation than any other race of inſects known.

If Bonnet was not the firſt naturaliſt (as is generally acknowledged) who diſcovered the myſterious courſe of generation in the aphides, or, as he calls them, pucerons, his experiments, together with thoſe of his countryman Trembley, tended at leaſt to confirm in a moſt ſatisfactory manner the almoſt incredible circumſtances reſpecting it: that an aphis or puceron, brought up in the moſt perfect ſolitude from the moment of its birth, in a few days will be found in the midſt of a numerous family; and that if the experiment be again repeated on one of the individuals of this family, a ſecond generation will multiply like its parent; and the like experiment may be many times repeated with the ſame effect.

"M. Bonnet," ſays an ingenious writer, "had repeated ſome experiments of this kind, as far as the ſixth generation, which all uniformly preſented the obſerver with fruitful virgins, when he was engaged in a ſeries of new and tedious experiments, from a ſuſpicion imparted by M. Trembley, in a letter to him, who thus expreſſes himſelf: 'I have formed the deſign of rearing ſeveral generations of ſolitary pucerons, in order to ſee if they would all equally bring forth young. In caſes ſo remote from uſual circumſtances, it is allowed to try all ſorts of means; and I argued with myſelf, who knows but that one copulation might ſerve for ſeveral generations?' This '*who knows*' perſuaded M. Bonnet that he had not ſufficiently purſued his inveſtigations. He therefore now reared to the tenth generation his ſolitary aphides, having the patience to keep an exact account of the days and hours of the birth of each generation. He then diſcovered both males and females among them, whoſe amours were not in the leaſt equivocal; the males are produced only in the tenth generation, and are but few in number; that theſe ſoon arriving at their full growth, copulate with the females, and that the virtue of this copulation ſerves for ten ſucceſſive generations; that all theſe generations, except the firſt, from fecundated eggs are produced viviparous, and all the individuals are females, except thoſe of the laſt generation, among whom ſome males appear to lay the foundation of a freſh ſeries." Adams Microſc.

The hiſtory of aphides has alſo been very copiouſly treated upon by Dr. Richardſon, in a paper printed in the 41ſt vol. of the Philoſophical Tranſactions; nor muſt we omit another upon the ſame ſubject by the late ingenious Mr. Curtis, that appeared in the ſixth volume of the Tranſactions of the Linnæan Society.

The tenor of Dr. Richardſon's remarks is briefly this: the great variety of ſpecies which occur in the inſects now under conſideration, may make an inquiry into their particular natures ſeem not a little perplexing; but by reducing them under their proper genus the difficulty is conſiderably diminiſhed. We may reaſonably ſuppoſe all the inſects, comprehended under any diſtinct genus, to partake of one general nature; and by diligently examining any particular ſpecies, may thence gain ſome inſight into the nature of all the reſt. With this view, Dr. Richardſon choſe out of the various ſorts of aphides the largeſt of thoſe found on the roſe tree; not only as its ſize makes it more conſpicuous, but there are few of ſo long duration. This ſort appears early in the ſpring, and continues late in autumn, while ſeveral are limited to a much ſhorter term, in conformity to the different trees and plants whence they draw their nouriſhment.

If, at the beginning of February, the weather happens to be ſo warm as to make the buds of the roſe tree ſwell and appear green, ſmall aphides are frequently to be found on them, though not larger than the young ones in ſummer when firſt produced. It will be found, that thoſe aphides which appear only in ſpring, proceed from ſmall black oval eggs which were depoſited on the laſt year's ſhoot; though when it happens that the inſects make too early an appearance, the greater part ſuffer from the ſharp weather that uſually ſucceeds, by which means the roſe trees are ſome years in a manner freed from them. The ſame kind of animal is then at one time of the year viviparous, and at another oviparous.

Theſe aphides which withſtand the ſeverity of the weather,

ther, ſeldom come to their full growth before the month of April, at which time they uſually begin to breed, after twice caſting off their exuvia, or outward covering. It appears that they are all females, which produce each of them a numerous progeny, and that without having intercourſe with any male inſect; they are viviparous, and, what is equally ſingular, they all come into the world backwards. When they firſt come from the parent, they are enveloped in a thin membrane, having in this ſituation the appearance of an oval egg; theſe egg-like appearances adhere by one extremity to the mother, while the young ones contained in them extend to the other, and by that means gradually draw the ruptured membrane over the head and body to the hind feet. During this operation, and for ſome time after, the fore part of the head adheres, by means of ſomething that is glutinous, to the vent of the parent. Being thus ſuſpended in the air, it ſoon frees itſelf from the membrane in which it was confined; and after its limbs are a little ſtrengthened, is ſet down on ſome tender ſhoots, and left to provide for itſelf.

In the ſpring months there appear on the roſe trees but two generations of aphides, including thoſe which proceed immediately from the laſt year's eggs; the warmth of the ſummer adds ſo much to their fertility, that no leſs than five generations ſucceed one another in the interval. One is produced in May, which caſts off its covering, while the months of June and July each ſupply two more, which caſt off their coverings three or four times, according to the different warmth of the ſeaſon. This frequent change of their outward coat is the more extraordinary, becauſe it is repeated more often when the inſects come the ſooneſt to their growth, which ſometimes happens in ten days, where they have had plenty of warmth and nouriſhment.

Early in the month of June, ſome of the third generation, which were produced about the middle of May, after caſting off their laſt covering, diſcover four erect wings, much longer than their bodies; and the ſame is obſervable in all the ſucceeding generations which are produced during the ſummer months, but ſtill without any diverſity of ſex: for ſome time before the aphides come to their full growth, it is eaſy to diſtinguiſh which will have wings, by a remarkable fullneſs of the breaſt, which in the others is hardly to be diſtinguiſhed from the body. When the laſt covering is rejected, the wings which were before folded up in a very narrow compaſs, are gradually extended in a ſurpriſing manner, till their dimenſions are at laſt very conſiderable.

The increaſe of theſe inſects in the ſummer time is ſo very great, that by wounding and exhauſting the tender ſhoots they would frequently ſuppreſs all vegetation, had they not many enemies to reſtrain them. Notwithſtanding theſe inſects have a numerous tribe of enemies, they are not without their friends, if thoſe may be conſidered as ſuch, who are officious in their attendance for the good things they expect to reap thereby. The ant and bee are of this kind, collecting the honey in which the aphides abound, but with this difference, that the ants are conſtant viſitors, the bee only when flowers are ſcarce; the ants will ſuck in the honey, while the aphides are in the act of diſcharging it; the bees only collect it from the leaves on which it has fallen.

In the autumn three more generations of aphides are produced, two of which generally make their appearance in the month of Auguſt, and the third before the middle of September. The two firſt differ in no reſpect from thoſe which are found in ſummer; but the third differs greatly from all the reſt. Though all the aphides which have hitherto appeared were female, in this tenth generation ſeveral male inſects are found, but not by any means ſo numerous as the females.

The females have, at firſt, the ſame appearance as thoſe of the former generations, but in a few days, their colour changes from a green to a yellow, which is gradually converted into an orange before they come to their full growth: they differ alſo, in another reſpect, from thoſe which occur in ſummer, for all theſe yellow females are without wings. The male inſects are, however, ſtill more remarkable, their outward appearance readily diſtinguiſhing them from this and all other generations. When firſt produced they are not of a green colour like the reſt, but of a reddiſh brown, and have afterwards a dark line along the back; they come to their full growth in about three weeks, and then caſt off their laſt covering, the whole inſect being after this of a bright yellow colour, the wings only excepted: but after this change they become of a deeper yellow and in a very few hours of a dark brown, if we except the body, which is ſomething lighter coloured, and has a reddiſh caſt. The males no ſooner come to maturity than they copulate with the females, who, in a day or two after their intercourſe with the males, lay their eggs, generally near the buds. Where there are a number crowded together they of courſe interfere with each other, in which caſe they will frequently depoſit their eggs on other parts of the branches.

It is highly probable that the aphides derive conſiderable advantages by living in ſociety; the reiterated punctures of a great number of them may attract a larger quantity of nutritious juices to that part of the tree or plant where they have taken up their abode. Vide Adams Microſ. Phil. Tranſ. &c.

The obſervations of Mr. Curtis on the aphides are chiefly intended to ſhew that they are the principal cauſe of blights in plants, and the ſole cauſe of the honey-dew. He therefore calls them the aphis, or blighter; and after obſerving, that in point of number, the individuals of the ſeveral ſpecies compoſing it ſurpaſs thoſe of any other genus in the country, ſpeaks thus, in general terms, of the whole tribe:

"Theſe inſects live entirely on vegetables. The loftieſt tree is no leſs liable to their attacks than the moſt humble plant. They prefer the young ſhoots on account of their tenderneſs; and on this principle often inſinuate themſelves into the very heart of the plant, and do irreparable miſchief before they are diſcovered. But for the moſt part, they beſet the foliage, and are always found on the underſide of the leaf, which they prefer, not only on account of its being the moſt tender, but as it affords them protection from the weather, and various injuries to which they would otherwiſe be expoſed. Sometimes the root is the object of their choice, which, from the nature of theſe inſects, one would not, *à priori*, expect; yet I have ſeen the roots of lettuces thickly beſet with them, and the whole crop rendered ſickly and of little value; but ſuch inſtances are rare. They rarely alſo attach themſelves to the bark of trees, like the aphis ſalicis, which being one of our largeſt ſpecies, and hence poſſeſſing ſuperior ſtrength, is enabled to penetrate a ſubſtance harder than the leaves themſelves."

Mr. Curtis next obſerves, that as among caterpillars we find ſome that are conſtantly and unalterably attached to one or more particular ſpecies of plants, and others that feed indiſcriminately on moſt ſorts of herbage, ſo it is preciſely with the aphides; ſome are particular, others more general feeders; and as they reſemble other inſects in this reſpect, ſo they do alſo in being more abundant ſome years than others. In 1793, they were the chief, and in 1798,

the ſole cauſe of the failure of the crops of hops. In 1794, a ſeaſon almoſt unparalleled for drought, the hop was perfectly free from them, while peas and beans, eſpecially the former, ſuffered very much from their depredations. Beans, in 1798, were almoſt wholly cut off by them; indeed they ſuffer more or leſs every year by a black ſpecies of aphis, particularly the latter crops. To potatoes, and even corn, they prove in ſome years highly detrimental, and not leſs ſo to melons. To plants in ſtoves, green houſes, and frames, where, from the warmth and ſhelter afforded them, a preternatural multiplication takes place, they prove extremely injurious; and many rare and valuable plants alſo in the open ground of our botanic gardens fall victims to theſe general depredators. "Seeing, therefore," ſays that writer, "that our neceſſaries, as well as luxuries of life, are ſo materially affected by the inſects of this genus, an attempt to aſcertain ſome curious and important facts relative to their hiſtory, and to make them more generally known, will not, we truſt, be unacceptable. Such inquiries may poſſibly lead to the means of obviating the injuries they occaſion; and if they fail in this, they may tend at leaſt to correct the erroneous notions entertained of blights, not by the vulgar and illiterate merely, but even by perſons of education, who may be frequently heard to maintain, that theſe inſects are brought by the eaſt winds; that they attack none but ſickly plants; with other notions, all as falſe in fact as unphiloſophical in principle."

In the courſe of this long but ingenious paper, Mr. Curtis proves, in a ſatisfactory manner, the truth of his preliminary remarks; and, by a ſeries of experiments, which are neceſſarily beyond our limits to detail, has diſcovered ſome peculiarities in their economy deſerving notice: we ſhall conclude with a brief ſurvey of thoſe moſt intereſting, and refer the more inquiſitive reader to the paper at length, in the Tranſactions of the Society for 1802.

Locuſts and caterpillars are furniſhed with ſtrong jaws, by means of which they crop and wholly devour the foliage of plants. The aphis deſtroys them in a different way. Inſtead of jaws and teeth, it is provided with a hollow-pointed proboſcis, which, when the animal is not feeding, folds under the breaſt. With this inſtrument it pierces the plant, and imbibes its juices to ſupport itſelf; but theſe juices being eſſential to the life of the plant, it follows, that when they are drawn off, the plant, exhauſted, flags and periſhes, being, in fact, literally bled to death by theſe leech-like animalcules. Yet ſo tenacious of life are plants in a healthy ſtate, that, in general, they only fall victims to the continued attacks of theſe inſects when in immenſe numbers. But it moſt commonly happens, that if they do not wholly deſtroy a plant, they deface it; and a ſmall number of aphides are ſufficient to produce this effect.

Aphides are deſcribed by the beſt authors as being generally oviparous and viviparous at different periods of the ſame year. Mr. Curtis found, from the 24th of September to the 6th of December following, during which time Fahrenheit's thermometer had been as low as 29, that the aphis ſalicis was conſtantly viviparous; though, from the inclemency of the weather, very few of theſe inſects, at the period laſt mentioned, remained on the trees; and thoſe few were ſoon after entirely cut off by the unuſual cold that took place, the thermometer falling to four degrees below 0. Other aphides are oviparous or viviparous, according to the temperature of the air to which they are expoſed. In very cold weather they are oviparous, for this obvious reaſon, that the eggs are capable of reſiſting cold more powerfully than the young. On the 22d of November, in the ſame year, he found a conſiderable number of eggs, which had been depoſited in ſome auricula plants by a green aphis, which infeſts plants very commonly, while the ſame ſpecies on a geranium within doors produced young. In mild winters, in the month of January, the ſame ſpecies of aphis has been obſerved in great numbers on various ſpecies of primula without doors, and all the females viviparous. Theſe, and ſome preceding facts, prove, that all aphides are not oviparous and viviparous at the ſame ſeaſon, but that ſome may be wholly viviparous; that all ſuch as are both oviparous and viviparous do not lay eggs toward the middle of autumn, nor at all during the winter, unleſs a certain degree of cold takes place.

In the quality of the excrement voided by theſe inſects there is ſomething wonderfully extraordinary. Were a perſon accidentally to take up a book, in which it is gravely aſſerted, that in ſome countries there were certain animals which voided liquid ſugar, he would lay it down, regarding it as a fabulous tale, calculated to impoſe on the credulity of the ignorant; and yet ſuch is literally the truth. Mr. Curtis collected ſome on a piece of writing paper from a brood of the aphis ſalicis, and found it to be as ſweet as ſugar; and obſerves, that were it not for the waſps, ants, flies, and other inſects that devour it as quickly as it is produced, it might, no doubt, be collected in conſiderable quantities; and by the proceſſes uſed with other ſaccharine juices, might be converted into the choiceſt ſugar or ſugar-candy. The ſweetneſs of this excrementitious ſubſtance, the gloſſy appearance it gave the leaves it fell upon, and the ſwarms of inſects this matter attracts, led him to imagine the honey-dew of plants was no other than this ſecretion, which further obſervation has ſince fully confirmed; and not, as its name implies, a ſweet ſubſtance falling from the atmoſphere. On this opinion it is further remarked, that it neither falls from the atmoſphere, nor iſſues from the plant itſelf, as is eaſily demonſtrated. If it fell from the atmoſphere, it would cover every thing it fell upon indiſcriminately, whereas we never find it but on certain living plants and trees. We find it alſo on plants in ſtoves and green-houſes covered with glaſs. If it exuded from the plant, it would appear on all the leaves generally and uniformly; whereas its appearance is extremely irregular, not alike on any two leaves of the ſame tree or plant, ſome having none of it, and others being covered with it but partially. As far as the writer's obſervation extended, there never exiſts any honey-dew but where there are aphides; though ſuch often paſs unnoticed, being hid on the underſide of the leaf; and wherever honey-dew is obſervable upon a leaf, aphides will be found on the underſide of the leaf or leaves immediately above it, and under no other circumſtance whatever. If by accident any thing ſhould intervene between the aphides and the leaf next beneath them, there will be no honey-dew on that leaf: and thus he conceives it is incontrovertibly proved that aphides are the true and only ſource of honey-dew.

Though no mode of deſtroying aphides will perhaps ever be deviſed on a large ſcale, in the open air, by artificial means, it can be accompliſhed moſt effectually when they infeſt plants in ſtoves, green houſes, and frames, or any ſituation in which they can be enveloped for a certain time in clouds of ſmoke. Powders or liquids, however fatal to aphides, muſt ever be ineffectual, from the trouble and difficulty of applying them, ſo that they may come in contact with the inſects. The ſmoke of common vegetables, however powerful, is found inadequate to their deſtruction, and the only one yet employed with ſucceſs is that of to-

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bacco. They may for hours, or even a whole day, be immerſed in water, and when taken out ſome will be living, and many of the reſt will revive afterwards; they remain affixed to the plant in water as before, and their bodies aſſume a luminous appearance from the minute bubbles of air which iſſue from them. One experiment is mentioned, in which a green-houſe plant, with the pot it grew in, was immerſed in the evening into a tub of water, and in the morning they appeared alive and well. When they are taken from the plant on which they feed, and are kept under water, they do not ſurvive ſo long; their ſtruggling in that caſe perhaps exhauſts them ſooner. It appears therefore, upon the whole, that they are extremely tenacious of life, and that wet is not ſo hurtful to them as might naturally be imagined.

Some curious remarks on the opinions that prevail reſpecting blights conclude the paper. Blights, he obſerves, originate from a variety of cauſes, the chief of which are unfavourable weather, and inſects. Some imagine that the inſects which are the cauſe of them are brought from a diſtance by eaſterly winds; and others, that they attach themſelves to none but ſickly plants; neither of which, ſo far as the writer has obſerved, are founded in fact; and he is induced to believe the aphides are by far the moſt general cauſe of the diſeaſes diſtinguiſhed by the name of blights.

APHLASTUM, from α and φλαστος, *frangible*, in the *Ancient Navigation*, a wooden inſtrument, ſhaped like a plume of feathers, faſtened on the gooſe's or ſwan's neck uſed by the ancient Greeks in the heads of their ſhips.

The aphlaſtum had much the ſame office and effect in a ſhip that the creſt had on a helmet. It ſeems alſo to have had this further uſe, *viz.* by the waving of a party-coloured ribband faſtened to it, to indicate from what quarter the wind blew. The aphlaſtum was the proper ornament of the head, as the acroſtolium was of the ſtern. The Greek aphlaſtum anſwered to, and was probably the origin of the Latin apluſtre.

APHLE, in *Ancient Geography*, a town of Aſia, in Chaldea, ſituate near the Tigris, where it borders on the Perſian gulf.

APHNEUM, a town of Phrygia, near Cyzicum. Steph. Byz.

Aphneum is alſo a town of Lydia.

APHONIA, in *Medicine*, the ſtate of a perſon who is deprived of voice.

The word is compounded of the privative α, and φωνη, *voice*, q. d. a loſs of ſpeech or voice.

This is rarely an idiopathic affection, and may ariſe from a variety of cauſes; ſuch as cutting the *recurrent nerves* which go to the larynx or glottis, where the voice is formed: or making an aperture into the trachea below the glottis, or any other mechanical injury to the parts.

Any fit may deprive the patient of the uſe of the organs of ſpeech, as *epilepſy*, *apoplexy*, *paralyſis*, or *hyſteria*, may become a cauſe of aphonia.

When a perſon is ſuddenly ſeized with a loſs of voice, and no cauſe appears, it generally indicates the approach of one or other of theſe attacks.

As all voluntary motion depends on the nerves and muſcles of the reſpective organs, ſo whatever injures thoſe of the tongue, or any of the other organs ſubſervient to the formation of the voice, may induce aphonia.

Some other cauſes have been mentioned by medical writers, which are only accidentally ſo; ſuch as the receding of cutaneous eruptions, inflammation of the tongue and fauces, ſpaſmodic affections, worms, fear or joy, a crumb of bread, or any other extraneous ſubſtance ſticking in the rima glottidis.

The *prognoſis* will vary with the cauſe; the moſt obſtinate caſes are thoſe which depend on a paralytic ſtate of the nerves. As hyſteria, worms, or extraneous matters, are commonly ſoon removed; ſo a diſeaſe depending on them may be deemed eaſily curable.

The *general* indications of *cure* are, to reſtore freedom to the nervous influence when impeded, and integrity to the organs themſelves when wounded or otherwiſe diſabled. The firſt indication is anſwered by the treatment of Paralysis; the ſecond by the practice of *ſurgery*. *Particular* indications are taken from the cure of thoſe particular diſeaſes on which the aphonia depends, viz. Hysteria, Epilepsy, Worms, Spasm, &c.; which ſee.

APHORISM, a maxim, general rule, or principle of a ſcience; or a brief ſentence, comprehending a great deal of matter in a few words.

The word is derived from αφοριζω, *I ſeparate*, q. d. a choice or ſelect ſentence.

The term is chiefly uſed in *Medicine* and *Law*. We ſay, the aphoriſms of Hippocrates, of Sanctorius, of Boerhaave, &c.; aphoriſms of the civil law, &c.

Aphorism is uſed, in *Eccleſiaſtical Writers*, for the leſſer excommunication, by which the delinquent is cut off from the benefit of the ſacrament and the prayers of the faithful; but allowed to bear a part in the reſt of the ſervice.

Aphorism is alſo uſed for a kind of figure in *Rhetoric*, whereby ſomething that has been ſaid is limited and corrected. This is otherwiſe called *diorifmus*.

APHORISTIC, ſomething relating to, or partaking of the nature of *aphoriſms*.

The *aphoriſtic* method ſtands contradiſtinguiſhed from the *ſyſtematic*, or methodical, as alſo from the *diexodic*, or diſcurſive way.

The aphoriſtic method had great advantages, as containing much matter in a ſmall compaſs; ſentiments are here almoſt as numerous as expreſſions; and doctrines may be counted by phraſes. Every thing is cloſe and pertinent, allowing no room for uſeleſs diſcuſſions, or for languiſhing connections and tranſitions; there is hardly a word to be loſt.

APHORMION, in *Ancient Geography*, a place of Bœotia, dependent upon Theſpia, which, according to Steph. Byz. was the birth-place of Typhus, who ſuperintended the conſtruction of the ſhip Argo.

APHOSIATIN, in *Geography*, a part of Romelia in European Turkey, near the Black Sea, and not far from Conſtantinople to the north.

APHPHADENA, a town of Aſia in Meſopotamia, near the Euphrates.

APHRACTI, from α, and φραχλος, *incloſed*, in the *Ancient Military Art*, denote open veſſels, without decks or hatches, furniſhed only at head and ſtern with croſs planks, whereon the men ſtood to fight.

The *aphracti*, or open veſſels, ſtood contradiſtinguiſhed from *cataphracti*, or covered ones.

APHRODISIA, in *Antiquity*, feſtivals in honour of the goddeſs Αφροδιτη, or Venus. There were ſeveral of theſe *Aphrodiſiæ* obſerved with laſcivious ceremonies in divers parts of Greece: the moſt remarkable was that at Cyprus, firſt inſtituted by Cinyras, out of whoſe family certain prieſts of Venus were elected, and for that reaſon named Κινυραδαι. At this ſolemnity ſeveral myſterious rites were practiſed: all who were initiated to them offered a piece of money to Venus as an harlot, and received as a token of the goddeſs's favour, a meaſure of ſalt, and a φαλλος; the former, becauſe ſalt is a concretion of ſea-water, to which Venus was thought to owe her birth; the latter, becauſe ſhe was the goddeſs of wantonneſs.

Athenæus (Deipnoſoph. l. xiii. c. 6.) informs us, that at Corinth theſe feaſts were celebrated by harlots; and that they who ſupplicated the goddeſs were accuſtomed to promiſe to devote ſome women to her, in order to the obtaining of their requeſts. Erafmus obſerves in his Adagia, that this city was filled with courteſans; and that the verb κορινθιάζειν, ſignified proverbially to ſurrender themſelves to debauchery. See CORINTH.

APHRODISIA is alſo uſed for the age of venery, more frequently denominated *puberty*.

APHRODISIA, in *Ancient Geography*, a town of Thrace, to the north of the peninſula which joined the Cherſoneſus of Thrace to the continent, between Candia to the weſt, and Heraclea to the eaſt.

APHRODISIA is alſo a town placed by Stephan. Byz. in Scythia, near the Euxine ſea.

APHRODISIACE, in the writings of the ancients, a name given to a gem, ſuppoſed, according to the idle traditions of thoſe times, to have a power of procuring love to the perſon who wore it about him; all the deſcription we have of it is, that it was of a pale fleſh-colour; but the ſtone, as well as its virtues, are wholly unknown to the world at preſent.

APHRODISIACS, in the *Materia Medica*, denote medicines ſuppoſed to be ſuited to excite the venereal appetite, or to increaſe the venereal powers. As there are no medicines of ſpecific power for theſe purpoſes, the term ſeems, for the moſt part, to have been very improperly employed.

In which ſenſe, *aphrodiſiacs* ſtand contradiſtinguiſhed from *antaphrodiſiacs*.

Some authors give the appellation *aphrodiſiaca* to the EPILEPSY.

APHRODISIAS, or APHRODISIUM *Promontorium*, in *Ancient Geography*, a promontory of Caria, near Cnidus.

APHRODISIAS, or *Aphrodiſium*, *Gheira*, is a town of Caria, towards the north-eaſt, at the confluence of the Corſinus and Timelas.

An iſland of Libya.

Alſo, an iſland in the coaſt of Bætica, near Gades, and afterwards called *Erythia*.

Alſo, a town of the iſland of Cyprus, towards the north-eaſt.

Alſo, an iſland in the gulf of Caramania, called by its inhabitants, according to Arrian, Cattea.

A town of Laconia.

A country of Aſia, in the Eolide.

An iſland, now *Bona*, on the coaſt of Africa.

Aphrodiſias and Aphrodiſium were appellations given to ſeveral other places, which it is needleſs to mention.

APHRODISIUS, in *Chronology*, denotes the eleventh month in the Bithynian year, commencing on the 25th of July in our's.

APHRODITA, in *Natural Hiſtory*, a genus of VERMES in the molluſca order; the character of which is, body creeping, oblong, covered with ſcales, and both ſides furniſhed with briſtly feet; mouth terminal, cylindrical; feelers two, ſetaceous and annulated; eyes four. Linn. Gmel. There are only nine ſpecies deſcribed by authors, and which are, aculeata, ſcabra, ſquamata, imbricata, plana, lepidota, cirrhoſa, violacea, and longa.

APHRODITA *quarta*, is alſo the name of one of the marine VERMES in Hiſt. Hiſt. An. t. 5, and which has been ſince named by Linnæus HOLOTHURIA PENTACTA.

APHRODITARIUM, in the *Ancient Pharmacy*, denotes a kind of dry medicine, compounded of frankincenſe, the ſcales of copper, ceruſs, ſtarch, and pomegranates, mixed in equal quantities.

The name is alſo given to a kind of *collyrium*, mentioned by Galen.

APHRODITE, in *Entomology*, a ſpecies of PAPILIO in the ſection Nymph. Phal. The wings are dentated, fulvous, with black ſpots: the underſide of the poſterior pair is brown, with 24 ſilver-coloured ſpots. Fabricius and Gmelin. This is a native of South America.

APHRODITE, in *Mythology*, a name of Venus, derived from αφρος, *froth*, becauſe, according to the poets, Venus is ſuppoſed to be produced from the froth or foam of the ſea.

APHRODITES, in *Natural Hiſtory*, a name given by ſome authors to the fineſt ſpecies of amethyſt. See GEMMA *Veneris*.

APHRODITES, in *Ancient Geography*, the name of an iſland in the Arabian gulf, near Egypt, according to Ptolemy. M. d'Anville ſuppoſes that it was the iſland called *Sufange-ul-Behri*.

APHRODITOIDES, in *Natural Hiſtory*, a ſpecies of NEREIS found in the Greenland ſeas. The body is depreſſed, without furrows; and the peduncles furniſhed with cirri and papillæ. Gmelin and Fabr. The head is white, eyes and jaws black, tentaculæ four, two cirri in front, body pellucid; anterior part ochraceous yellow, the reſt reddiſh, with two ferruginous lines along the abdomen. Sometimes, though rarely, it is green, with the ferruginous lines on the abdomen, and tranſverſe reddiſh lines upon the back.

APHRODITOIS, a ſpecies of TEREBELLA that inhabits the Indian ocean; it is about a foot and an half in length, and conſiſts of about 148 ſegments; the peduncles are fleſhy, furniſhed with a cirrus, and two cirri at the head. The ſpecific character is, body round, and gradually tapering towards the poſterior extremity; beneath rather depreſſed, with an obſolete furrow; the firſt eight ſegments deſtitute of branchiæ, thoſe on the three next ſimple, and the reſt becoming gradually larger, and pinnated on one ſide. Gmelin, &c. This is nereis aphroditois of Pall. nov. act. Petrop, &c.

APHRODITOPOLIS, in *Ancient Geography*, the name given by Pliny and Ptolemy, to two, and, after them, by M. d'Anville, to three towns in Egypt; and each of the two former the capital of a particular nome. *Aphroditopolis*, in the Heptanomia, upon the right of the Nile, at ſome diſtance ſouth from Memphis, is the capital of the 36th nome; and M. d'Anville ſuppoſes it to have been ſucceeded by *Atfieh*; but Father Siccard imagines that it is *Bercubel*, a ſmall place at a little diſtance to the ſouth-weſt.

Aphroditipolis is alſo a town of Upper Egypt, and the capital of the 42d nome. This town lay to the left of the Nile, a little north of Ptolemais; and it ſeems to have been that which Pliny calls *Oppidum Veneris*. M. d'Anville ſuppoſes that *Itfet* now occupies its ſituation.

Aphroditopolis belonged alſo to the nome of Hermonthitès; and was ſituated on the left of the Nile, at a ſmall diſtance north from Latopolis. M. d'Anville aſſigns it to the place where *Aſfan*, or *Aſfoun*, now ſtands.

APHRODITOPOLITES, a nome of Egypt, the metropolis of which is called by Ptolemy *Crocodilorum civitas*.

APHROGALA, from αφρος, *froth*, and γαλα, *milk*, in the *Ancient Phyſic*, denotes a kind of whipt cream, or milk, agitated till it be converted wholly into froth.

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The aphrogala is directed by Galen, as proper againſt hot diſorders of the ſtomach.

APHROLITRUM, in the *Ancient Phyſic*, denotes the ſpume or froth of *litrum*; and ſeems to amount to the ſame with *aphronitrum*.

APHRONITRE. See NITRUM.

APHROSELENOS, among *Ancient Naturaliſts*, a denomination given to the SELENITES, or *lapis ſpecularis*.

APHTHÆ, in *Surgery*, from ἄπτομαι, *incendo*, the *thruſh*. By this term are denoted clear, white, pale, livid, painful ſpots, which appear in the mouth, fauces, and neighbouring parts, of various ſizes and ſhapes; and which generally raiſe themſelves into real veſications, filled with a clear or turbid yellow or bluiſh fluid. They attack every part of the cavity of the mouth, the trachea, œſophagus, ſtomach, and inteſtines: ſometimes alſo they are found in the noſtrils. Generally they appear at firſt in ſmall white points, which are always preceded by a very ſenſible degree of heat in the mouth and breath of the patient, which gradually increaſe in ſize; and ſometimes in the ſpace of a few minutes, or more ſlowly, ſpread themſelves farther, become elevated, and form veſications, which are either round or flattiſh, and ſtand either ſingle or in groups. In ſome caſes they ſoon burſt open, or ſeparate themſelves at their baſe; and the contained fluid is either quickly diſcharged, or is abſorbed; and they collapſe, or wither away, as it were, and the detached cuticle forms wrinkled white ſpots, which frequently occupy a larger extent of ſurface. Sometimes they remain longer elevated, the contained fluid grows thick, and they fall off in ſcales of a darker yellow colour. Sometimes aphthæ are not of a white colour; for when the morbid matter has long continued its ravages in the ſyſtem before aſſiſtance is procured, or if the aphthæ have not been diſcovered early enough, they are found ſometimes aſh-coloured, ſometimes lead-coloured, blue, and black, according as either the vitiated humours, or the bottom of the ſore, appears through the ſkin.

After a ſhorter or longer ſpace of time, they generally detach themſelves and fall off, upon which a moiſture is ſeen to cover the ulcerated parts. When this becomes greatly accumulated, a ſalivation is commonly produced. If the parts do not ſoon become covered with a new ſkin, they begin to bleed, and to occaſion acute pain. This ſeparation ſometimes takes place within a few hours, generally within twelve; ſometimes alſo the ſloughs remain for ſeveral days, and do not fall off at the ſame time, but one after the other, in different parts.

Frequently they diſappear, but as frequently return again, according as there is a larger or ſmaller quantity of morbid matter which depoſits itſelf in the mouth, and irritates it. Sometimes the internal ſurface of the mouth becomes covered with a perfectly white cruſt, produced by the coaleſcence of the ſeparate aphthæ, whence a variety of inconveniences are produced; for the ſymptoms of the diſeaſe are exacerbated, and at length putreſcence and gangrene ſupervene, which takes place the ſooner if there be fever at the ſame time preſent. In this ſtate the patient can take no nouriſhment, as he cannot ſwallow even liquids without intolerable pain and anxiety; and ſhould it be poſſible to get any thing down, it does not contribute to the nouriſhment of the body, ſo that the ſtrength of the body waſtes away, and death may at length terminate the ſufferings of the patient.

Frequently the aphthæ appear as a primary or idiopathic diſeaſe; but more commonly they are ſymptomatic, or concomitants of other diſeaſes. Some have alſo aſſerted, that they may be critical, which however is doubtful, or, if they ever are ſo, it is only with adults. In the idiopathic aphthæ, the following ſymptoms are obſerved: they appear in children from a week to a fortnight old, ſometimes alſo later. The infant becomes uneaſy, ſometimes ſleeps much, ſometimes little; he cries a great deal: his voice grows feeble, ſhrill, and hoarſe; his reſpiration is very quick and difficult; his pulſe uncommonly quick and ſmall, with ſymptoms of irritation; his mouth, tongue, and the other neighbouring parts, are dry and very hot; this heat extends itſelf over the whole body without perſpiration, and the patient becomes languid, feeble, and ſpiritleſs. The infant is very eager for the breaſt, where the mother feels an intolerable heat; but he is unable to ſuck, on account of the pain excited by the preſſure of the nipple, and the exertion of the muſcles requiſite in the action of ſucking; in conſequence of which many infants die for want of nouriſhment, even before the thruſh breaks out.

When aphthæ appear as ſymptoms or concomitants of other diſeaſes, the febrile ſymptoms become exacerbated; and they are very apt to appear when the patient has been affected with a diarrhœa at the very commencement of the febrile attack. The patient is moreover troubled with conſtant nauſea, a loathing of food and drink, and ſometimes alſo with vomiting. He feels a ſenſe of anxiety and weight at the pit of the ſtomach and in the thorax, eſpecially if copious and frequent evacuations have preceded. He feels a ſenſation as if ſome hard ſubſtance ſtuck in his throat, eſpecially when he ſwallows any liquid. If evacuants have been adminiſtered, and have produced a diſcharge of much mucus, bile, and other impurities, and the above-mentioned ſymptoms continue, aphthæ certainly make their appearance. Finally, they are frequently prognoſticated by a dulneſs and ſtupidity of the ſenſes and underſtanding, during which the patient is much inclined to ſleep, but his ſleep is attended with a great deal of dreaming.

It is neceſſary that the phyſician or ſurgeon ſhould be well acquainted with theſe ſymptoms, from which the appearance of aphthæ may be prognoſticated; for whether they be idiopathic or ſymptomatic, they are always an unfavourable occurrence, and ſeldom unattended with danger.

When aphthæ actually make their appearance, they are attended beſides with the following ſymptoms: ſhortly before they break out, or when they do break out, a ſenſation of heat and intolerable burning is felt in the mouth. The patient feels as if the whole cavity of his mouth were excoriated or ulcerated; and the ſlighteſt touch excites the moſt acute pain in it. If, at the ſame time the voice becomes hoarſe, with a hollow tone, the fever and uneaſineſs increaſe, hiccup ſupervenes, the tongue becomes very red, with a ſenſe of pain deep in the throat, or about the upper orifice of the ſtomach, we may conclude with certainty that aphthæ have already been formed in the ſtomach and œſophagus, which will gradually ſpread themſelves higher up, till they appear alſo in the fauces. Theſe excite ſingultus and vomiting, eſpecially with infants. The evacuations by ſtool are very copious; and infants void, together with the other excrements, lumps of undigeſted milk. With this copious and preternatural alvine evacuation, fever is often combined during ſeveral days. As ſoon as the aphthæ have ſpread themſelves over the whole internal ſurface of the mouth, they render maſtication, ſuction, and deglutition extremely difficult to the infant, who therefore continually cries; and when he yawns, he is always affected with violent griping in the belly, which is attended with a rumbling noiſe. When the aphthæ have completely broke out, they are accompanied alſo with a variety of ſymptoms of different kinds, of which we are to form our judgment, partly according to the colour of the

aphthæ,

aphthæ, partly according to the ſymptoms and courſe of the diſeaſe, of which they are ſymptoms or concomitants.

The morbid matter by which the aphthæ are produced, is to be ſought almoſt ſolely in the primæ viæ, where it is formed, particularly with new-born infants, when the firſt indiſpenſably neceſſary purgation has been neglected, and alſo when in any other manner, either by the improper diet of the infant, or alſo by that of the mother or nurſe, occaſion has been given to the production of impurities in the primæ viæ. It is prejudicial to ſuffer the infant to ſleep on the breaſt, as he then keeps ſome of the milk in his mouth, where it eaſily becomes ſpoiled.

This diſeaſe may alſo be produced by the infant receiving unwholeſome milk. With many infants, therefore, we may prevent the production of aphthæ, by frequently cleanſing their mouths, ſoon after birth, in order that none of the mucus may remain in them; by evacuating the contents of their inteſtines by proper purgatives; and by keeping them, in general, clean, and giving them wholeſome nouriſhment.

In the cure of the aphthæ, our firſt object muſt be to examine whether they be idiopathic or ſymptomatic, as each ſpecies requires a diſtinct mode of treatment. The moſt important general indication of cure, is to endeavour to correct and remove the viſcid, acrid, and offenſive humours. For this purpoſe we may adminiſter elder-flower tea, demulcent ptiſans, with a little lemon-juice, emulſion of almonds, ſweet milk, a dilute decoction of oats or barley, whey, &c. When the infant is affected with the aphthæ in his mouth, the mother or nurſe ſhould take theſe remedies; and, at the ſame time, it will be very beneficial to plunge the hands and feet of the infant frequently into warm water, or to apply either liquid or vapour-baths with elder-flowers, and other emollient herbs, wheat, bran, ſoap, &c. Emollient glyſters, compoſed with the above mentioned ſubſtances, are particularly to be recommended, as the requiſite remedies may thus be introduced into the body, without doing any violence to the mouth, fauces, and throat of the infant; beſides that, this manner of adminiſtering remedies is the beſt adapted for infants, who generally neither can nor will ſwallow them.

The uſe of much animal food, and whatever can increaſe the alkaline tendency of the fluids, muſt particularly be avoided in the diet of the patient, as the quality of the morbid matter would thereby be increaſed. On the other hand, freſh air, a clean and warm chamber, frequent cleaning of the body, bodily motion, both with children and adults, the application of acidulous vapours, and other ſubſtances that ſheath or neutralize the alkalies, alſo fixed air, are to be recommended. The diet of the patient ought in general to be liquid and light, but, at the ſame time, nouriſhing, conſiſting of bread-ſoups, barley-broth, ſago, &c. Panada, made with bread, honey, and wine, boiled in water, is alſo a good article of food; but with reſpect to the wine, we ought to be very cautious, in order that we may not increaſe the irritation in fevers of an inflammatory nature, and when there is already too much irritation in the ſyſtem. We may adminiſter it more plentifully in diſeaſes of debility and malignant fevers; and the ſame applies to all aromatic and other ſtimulant ſubſtances.

Our moſt important object here is to diminiſh the violence of the fever and the febrile heat. If the fever be an intermittent, cinchona, rad. bened., and other bitter and lightly aſtringent remedies are proper. In nervous, malignant, or putrid fevers, cinchona, contrayerva, arnica, camphor, and acidulous ſubſtances are indicated. But moſt frequently the fever is either of the inflammatory kind, or at leaſt it is attended with a conſiderable degree of febrile heat. In this caſe we may uſe warm drinks, a decoction of flor. ſamb. tiliæ with ſpir. vitriol. oxymel ſimpl. whey with tamarinds, cream of tartar, or other acidulous ſubſtances, ſucc. berb. and rub. idæor. diluted with water, emulſion of poppy ſeeds with nitre or ſal. acetoſell. eſſential; or alſo the following compoſition: ℞. Aq. flor. ſambuc. tiliæ āā ℥ij. nitr. depur. ℥j. ſyr. rub idæi, or acetoſell. citr. ℥j. M. D. S. A table-ſpoonful to be taken every two hours. Many of theſe remedies may be adminiſtered in the form of glyſters; injections with four whey are alſo particularly to be recommended.

Finally, we muſt moderate the heat by means of external applications, of which the moſt approved are the following. ℞. borac. venet. gr. xxx. ſolv. in aq. rub. idæi ℥iij. adde ſyr. rub. id. M. D. S. A ſponge, a piece of linen, or a bruſh of lint to be dipt into it, and the mouth cleaned with it. We may alſo give a tea-ſpoonful of it every two or three hours internally, with great advantage. We may likewiſe adminiſter from time to time aq. acetoſ. with ſyrup or honey. Alſo: ℞. ſpir. vitriol. ℈ij. ſyr. violar. ℥ij. aq. commun. ℥iv. M. D. S. A table-ſpoonful to be taken every hour by adults, and a tea-ſpoonful by infants, alſo to be uſed for waſhing the mouth. We may alſo adminiſter, particularly to young children, an ounce of houſe-leek juice *(ſempervivum)*, with an equal quantity of honey. Or, according to Mr. Starke, ℞. borac. venet. ℥j. ſyr. moror. ℥j. ſyr. papav. alb. ℥ſs. M. D. S. The mouth to be cleaned with a bruſh dipped in it.

Beſides what has been already ſaid, the following directions are particularly to be attended to: as ſoon as the idiopathic aphthæ appear, it will be very uſeful to adminiſter a purgative, either of rhubarb or manna, with ſome neutral ſalt, or magneſia and rhubarb, with infants; but with adults, tamarinds and ſome neutral ſalt, or the infuſion of ſenna. When there are bilious or other impurities in the inteſtines, an emetic with tart. emet. is adminiſtered in a doſe proportionate to the age of the patient; or with children, ſulph. aurat. antim. or laxative glyſters. If the patient already complains of great pain in the throat and œſophagus, or even in the belly, theſe remedies are altogether inadmiſſible. In the ſymtomatic aphthæ it depends upon the nature of the primary diſeaſe whether it ſhall be proper to adminiſter any evacuant. Emollient and gently laxative glyſters, however, will never do any harm. With theſe remedies the liquid ones firſt mentioned are to be combined.

When the aphthæ have actually made their appearance, the above mentioned draughts and remedies are to be adminiſtered; with children, frequent injections ſhould be uſed, and the mouth waſhed with emollient decoctions, or with figs and honey of roſes, or ſome other acidulous ſyrup, applied by means of a bruſh. But when it is obſerved that they extend lower down than the fauces, or even already form cruſts and excite pain, they muſt be moiſtened, ſoftened, and gently irritated. We may then apply to the aphthæ a decoction of carrots, or the expreſſed juice of boiled carrots, with honey of roſes, by means of a bruſh; or we may let the patient ſwallow a tea-ſpoonful of this remedy in caſes of internal aphthæ. Equally beneficial is alſo a decoction of the braſſica rapa ſweetened with ſugar, or its expreſſed juice ſlightly boiled and ſweetened with honey, and its efficacy will be increaſed if we rub down the peel together with the pulp; we may alſo uſe the juice expreſſed from it after having been roaſted, mixed with honey of roſes. With theſe remedies we ſhould frequently waſh out the mouth of the patient, or let him uſe them as gargles; and where there are internal aphthæ ſome of them muſt be ſwallowed down.

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We may alſo boil the braſſica rapa in veal broth, and let the patient eat it; and he may either drink the broth, or it may be adminiſtered in injections. Sem. lin. boiled in water, and mixed with honey of roſes, or any other acidulous ſyrup, as alſo the compoſitions with borax, are very ſerviceable in theſe caſes.

As external remedies we may uſe thoſe that have juſt been mentioned with great advantage, as alſo the following: macerate ſage in warm wine, add ſome honey, and let the patient's mouth be waſhed with it; this mixture may be applied to the mouths of infants, even though they ſhould bleed; after which the mouth is to be waſhed again, by means of a bruſh, with ſyrup of mulberries, honey of roſes, ſyrup of quinces, or the juice of ſour cherries, diluted with an infuſion of ſage, and two or three drops of the ſpirit of vitriol; or we may uſe white vitriol diſſolved in barley-water, with the addition of honey of roſes; a decoction of roſe-leaves with honey has alſo produced very good effects. The following remedy has likewiſe been recommended: ℞. mell. commun. ℥j. borac. venet. ʒij. alum. uſt. ʒſs. aq. roſar. ℥ſs. M. D. S. To be applied to a bruſh, and the mouth cleaned with it. Finally, when the cruſts will not ſeparate, we may uſe the following compoſition: ℞. ſpir. cochlear. ʒv. ſucc. citr. preſſ. ʒj. M. For waſhing the mouth we may uſe alſo the decoction of Peruvian bark.

When the aphthæ at firſt appear diſcoloured and gangrenous, or become ſo in the courſe of time, we ſhould uſe the following compoſition: ℞. terr. catech. ʒiij. coq. in aq. calc. lbj. ad rem. ℥viij. colct. add. ſacch. ſaturn. ℈ſs. mell. roſar. ℥ij. M. D. S. A table-ſpoonful to be taken every hour, held for ſome time in the mouth, and ſwallowed down ſlowly. Cinchona adminiſtered internally, in injections, and mixed with honey of roſes, is likewiſe recommended. The ſame mode of treatment is to be purſued with the ſymptomatic aphthæ.

When the aphthæ ſlough off, and the parts become raw, ſore, bloody, and painful, the following mucilaginous and gently aſtringent remedies are uſeful: mucilag. cydon. with aq. ſalv. or ℞. aq. roſar. ℥ij. vitell. ovor. N° ij. ſyr. papav. alb. ℥j. crem. tart. ʒſs. M. Alſo borax with ſyrup of poppies, emulſion of poppy ſeeds, and even opium triturated with mucilage of quinces, and diluted with water, may be uſed with advantage. But if the parts appear diſcoloured, or the pain in general has abated, we may adminiſter the remedies mentioned juſt before, as they are of a more aſtringent nature, and tend to check inflammation and gangrene; alſo whey with vinegar, the juice of lemons and oranges, or oxymel; a decoction of hb. agrimon. & mel. roſat. is recommended, to which acetoſ. may be added; alſo Peruvian bark.

When the aphthæ have ſloughed off, both in the mouth and other parts, which we may know to be the caſe when any of them are voided by ſtool; when a ſufficient quantity of ſtrengthening remedies has been employed, which may be known by the abatement of the fever, and the abſence of morbid matter in the humours; purgatives, and particularly thoſe of a mucilaginous and tonic nature, are neceſſary; ſuch as tamarinds, manna, rhubarb, or glyſters made with theſe ſubſtances, in order that any impurities that may ſtill remain in the ſtomach and inteſtines may completely be evacuated.

Sometimes, however, the aphthæ, particularly the ſymptomatic, produce other peculiar ſymptoms; as in children, when they alleviate the other ſymptoms of the diſeaſe as ſoon as they make their appearance, in which caſe we muſt endeavour to promote the eruption by means of the above-mentioned decoction of braſſica rapa, and other ſimilar remedies. When the fever becomes of a malignant and putrid nature, cinchona, ſerpentaria, contrayerva, muſtard with ſome ſp. ſalis and mell. roſar., alſo butter-milk, are the proper medicines. When they are of a ſcorbutic or venereal nature, theſe morbid poiſons muſt be counteracted by the appropriate remedies.

When the bowels are obſtructed, we muſt looſen them by means of emollient glyſters with chamomile flowers, decoction of oats, ſoap, or oil of almonds. Frequently a violent and exhauſting diarrhœa comes on, which is to be checked by mucilaginous medicines, ſuch as corn. cerv. gum arabic diſſolved in barley water, with the addition of a quantity of ſaffron; the ſame end may alſo be obtained by means of opium, laud. liq. or tinct. opii and ſyr. paſſav. which the mother or nurſe may alſo take; and ſome time after having taken it give the infant breaſt. Mucilaginous glyſters with theriaca and ſoap are ſometimes very effectual. When a troubleſome and pernicious ſalivation comes on, it muſt firſt be treated with mucilaginous and gently aſtringent remedies, ſuch as mucilag. cydon. aq. ſalv. &c. and afterwards with ſtronger, ſuch as a decoction of rad. tormentill. herb. agrimon. or granate with honey of roſes.

The hiccup, with which patients are ſometimes attacked, frequently ceaſes ſpontaneouſly; however, nouriſhing mucilaginous remedies, combined with a little opium, will contribute much to remove it. With a view to reſtore the patient's ſtrength, mild, light, and mucilaginous ſubſtances muſt be given him, in order that the ſtomach and bowels may again become uſed to food; *e. g.* barley-water, ſago, ſalep, jelly, and even ſenegal. When the ſtomach has become ſomewhat accuſtomed to the reception of theſe ſubſtances, the patient may gradually return to his former diet.

With adults, aphthæ occur in various kinds of fever, but particularly in thoſe autumnal fevers which commence with diarrhœa or dyſentery, when the impurities of the bowels have not only not been evacuated, but have been detained by the medicines that have been uſed. Such aphthæ have ſometimes been obſerved to be epidemic; and they frequently appear in hectic fevers. The prognoſis depends upon the nature of the diſeaſe which accompanies the aphthæ, and the ſtrength of the patient. It is an unfavourable circumſtance when, after the aphthæ have made their appearance, the fever returns, the pulſe grows ſmall and weak, and the appetite is not reſtored.

This ſpecies of aphthæ is to be treated like the reſt; but when they are accompanied with a putrid fever, we muſt be very cautious with regard to the uſe of evacuating remedies: antiſeptic and other appropriate remedies ſhould rather be adminiſtered, and theſe combined with the former. When the aphthæ have ſeparated, acrid and too ſtimulant medicines and food, as alſo cold air and drink, ſhould be avoided; leſt the former ſhould excite inflammation or ſuppuration in the ſtomach and bowels, and the latter a new ſwelling of the mouth, and the moſt dangerous ſpecies of angina.

APHTHARTODOCETÆ, in *Eccleſiaſtical Hiſtory*, a ſect, ſworn enemies to the council of Chalcedon.

The name is derived from ἀφθαρτος, *incorruptible*, and δοκεω, *I imagine*; and was given them, becauſe they imagined the body of Jeſus Chriſt was incorruptible and impaſſible, and not capable of death.

They aroſe among the Eutychians, and made their firſt appearance in 535.

APHTHONIUS, in *Biography*, a rhetorician of the third century, wrote a work entitled "Progymnaſmata Rhetorica," or Rhetorical Exerciſes; firſt publiſhed in Greek by Aldus, at Venice, in 1508; afterwards with Hermogenes

mogenes and Longinus, in 8vo at Gen va, in 1560; and at Upfal, in 1670, by Scheffer, with a tranſlation and notes. To the ſame author are aſcribed Fables, printed with thoſe of Æſop, at Franckfort, in 1610. Suidas. Fabr. Bib. Græc. l. iv. c. 31. § 12. t. iv. p. 449.

APHYA, in *Ichthyology*, a ſpecies of CYPRINUS that inhabits in ſhoals the ſhores of the northern European ſeas. The body is pellucid; iris red; and the anal fin contains nine rays. Linn. Gmelin. Müll. According to Fauna Succica, the dorſal fin contains ten rays; pectoral twelve; ventral ſeven; anal nine; and caudal nineteen. It is from an inch and an half to four inches and an half in length; is long, thick, round, and covered with ſcales of a moderate ſize; above the colour is brown, beneath white or red. Fleſh white and ſavory. Upper jaw rather longeſt, iride of the eye yellow, encircled with red; lateral line along the middle ſtraight; fins cinereous, greeniſh at the baſe.

APHYA is likewiſe a ſpecies of GOBIUS found in the Nile and Mediterranean ſea. The firſt dorſal fin has ſix rays; ſecond ſixteen; pectoral eighteen; ventral twelve; anal fourteen; and caudal thirteen. Body and fins barred with brown. Linn. Gmel. Art. &c.

APHYLLANTHES, in *Botany*, (ἄφυλλος ἄνθος, a flower without leaves). Linn. gen. 408. Schreb. 556. Juſſ. 44. Claſs, *hexandria monogynia*; nat. order of *tripetaloidea, junci*, Juſſ.; Gen. character, *cal.* glumes univalve, lanceolate, ſeveral, imbricate; *cor.* petals ſix, ovate, ſpreading; *claves* ſlender, erect, converging into a tube; *ſtam.* filaments ſetaceous, ſhorter than the corolla, inſerted into the throat, anthers oblong; *piſt.* germ ſuperior, three-cornered, turbinate; *ſtyle* filiform, of the length of the ſtamens; *ſtigmas* three, oblong; *per.* capſule turbinate, triangular, trilocular; *ſeeds* ovate. Species 1, aphyllanthes montpelienſis; root creeping; culms naked, ſimple, ſurrounded at the baſe with ſheaths like theruſh: glume two-valved, two-flowered. It grows wild near Montpellier, in barren and rocky places. This plant differs ſolely from the ruſh in having a corolla.

APHYLLON. See OROBANCHE.

APHYLLUS, formed of α, *priv.* and φύλλον, *a leaf*, denotes leafleſs.

APHYTEIA, a plant having neither root, ſtem, nor leaves (from α, and φυτὸν). Linn. gen. Schreb. 1104. Amœn. Acad. 8. 312. Supp. pl. 48. Hydnora. Thunb. Act. Holm. 1775. 69. Claſs, *monadelphia triandria*. Generic character, *cal.* perianth monophyllous, ſemitrifid, funnel-ſhaped, large, fleſhy, erect, permanent; *corolla*, rudiments of three petals, growing to the diviſions of the calyx; *ſtam.* filaments connate at bottom, ſhort; *anthers*, convex, cordate, ſtriated; *piſt.* germ inferior; *ſtyle*, thickiſh, ſhort; *ſtigma*, triangular, channelled; *per.* a berry, one-celled; *ſeeds*, numerous, neſtling. There is one ſpecies, viz. *Aphyteia hydnora*, a vegetable without leaves, ſtem, or root,; paraſitical, terreſtrial, conſiſting of a ſingle fructification, which is four inches over, ſeſſile, coriaceous, ſucculent; calyx large, with an erect trifid border, white within, ſcutiform. The ripe fruit, which is not unpleaſant to the ſmell, is eaten, both raw and roaſted, by the Hottentots. Diſcovered by Thunberg at the Cape of Good Hope.

APHYTEIA, or APHYTIS, in *Ancient Geography*, a town of Thrace in the Pallena, a peninſula ſouth-weſt of the Thermaic gulf. Plutarch relates, that when Lyſander laid ſiege to this town, Jupiter Ammon appeared to him, and ordered him to abandon it.

APIAN, PETER, in *Biography* an eminent aſtronomer and mathematician, called in German *Bienewitz*, was born at Loiſnich in Miſnia, and became profeſſor of mathematics at Ingolſtadt, in 1524. He wrote ſeveral valuable mathematical and aſtronomical treatiſes, and enriched aſtronomy with many inſtruments and obſervations. His firſt work was a treatiſe on "Coſmography, or Geographical Inſtruction," which was publiſhed in 1530, and ſeveral times republiſhed, particularly by Gemma Friſius. In 1533, he conſtructed, at Nuremberg, a curious inſtrument, called from its figure, "Folium populi," which ſhewed the hour of the day by the ſun's rays, in all parts of the earth, and even the unequal hours of the Jews. In 1534, he publiſhed his "Inſcriptiones orbis;" and in 1540, his "Inſtrumentum ſinuum, ſive primi Mobilis," with 100 problems. In the ſame year his principal work, intitled "Aſtronomicon Cæſareum," was publiſhed at Ingolſtadt; and it contains many intereſting obſervations, with the deſcriptions and diviſions of inſtruments, calculations of eclipſes, and the conſtruction of them in plano. In the ſecond part of this work, or the "Meteorologicum Planum," he deſcribes the conſtruction and uſe of an accurate aſtronomical quadrant, and he has annexed to it obſervations of five different comets, *viz.* thoſe of 1531, 1532, 1533, 1538, and 1539, and here he has firſt ſhewn that the tails of comets are always projected in a direction oppoſite to the ſun. The elements of the comet of 1532 were nearly the ſame with thoſe of one obſerved 128½ years after, *viz.* in 1661, by Hevelius and others: hence Dr. Halley inferred that they were the ſame comet, and it was expected in the beginning of the year 1789. But aſtronomers, either through an error of Apian, or from ſome other cauſe, were diſappointed. Apian was alſo the author of many other works, among which may be enumerated the "Ephemerides" from 1534 to 1570; "On Shadows;" "Arithmetical Centilogues;" "The Rule of Coſs," or Algebra demonſtrated; "On Gauging;" "Almanacs;" "On Conjunctions;" "Books of Eclipſes;" "The Works of Ptolemy, in Greek;" the Works of Azoph," an ancient aſtrologer; "The Works of Gebre;" "The Perſpective of Vitellio;" "Of Critical Days, and of the Rainbow;" "A new Aſtronomical and Geometrical Radius, with various uſes of ſines and chords;" "Univerſal Aſtrolabe of Numbers;" "Maps of the World, and of particular Countries," &c. &c. Apian was treated with great reſpect by the Emperor Charles V., who publiſhed ſeveral of his works at his own expence, conferred on him the honour of nobility, and preſented him with 3000 crowns of gold. Apian, after a life devoted to ſtudy and the improvement of ſcience, died at Ingolſtadt in 1552. His ſon Philip, who ſurvived him, was alſo an eminent aſtronomer, and taught mathematics both at Ingolſtadt and Tubingen. He was born in 1531, and died in 1589. He has left a treatiſe on "Solar dials," and other writings. Tycho has preſerved his letter to the Landgrave of Heſſe, in which he gives an opinion on the new ſtar that appeared in Caſſiopeia, in 1572. Voſſ. de Scient. Montucla Hiſt. Mathem. tom. i. p. 623. Hutton's Math. Dict. Nouv. Dict. Hiſtor.

APIARIA, in *Entomology*, a ſpecies of MUSCA. (Linn.) The anterior part of the thorax is yellow; abdomen black at the apex; tips of the wings ferruginous. Gmelin. This kind inhabits Italy, and ſomewhat reſembles muſca myſtacea. The antennæ are feathered, front of the head, poſterior part of the thorax and abdomen, except the apex, black. Wings obſcure. Obſ. This is SYRPHUS APIARIUS of Fabricius. Spec. Inſ.

APIARIUS, a ſpecies of ATTELABUS; bluiſh, upper wings red, and three black bands; Gmelin. This is the clerus, with red wings, and three bluiſh bands of Fabricius; the clerus nigro-violaceus hirſutus, &c. of Geoff. Clerus ceruleo-violaceus of Degeer; and dermeſtes apiarius of Schranck. Found in Europe, America, and Siberia.

APIARY,

APIARY, from *apis*, a bee; a garden or place where bees are kept. The ancient as well as modern writers on bees agree in recommending a ſouthern aſpect as the moſt proper for this purpoſe; as a general rule bee-hives ſhould be placed in ſituations that are little expoſed to the wind, and enjoy as much of the influence of the ſun as poſſible: as wind always retards the bees in their work, while the ſun's beams invite them to it. Thus, though it be well known, that bees will thrive well in high and windy ſituations, a low one is obviouſly always to be preferred. In the vicinity of the apiary, there ſhould conſtantly be abundance of flowers, from which the bees may collect their wax and honey. Mr. Bonner, a late writer on the management of bees, obſerves, that were a choice allowed him where to place his bees, it ſhould be in an eaſterly ſituation, a hollow glen by the ſide of a rivulet, ſurrounded with abundance of turnips in bloſſom in the ſpring, muſtard and clover in ſummer, and heath in the latter end of autumn and harveſt; with a variety of other garden and wild flowers in their ſeaſons. It is not, however, to be underſtood from this, that bees will not thrive unleſs they are placed in ſuch an advantageous ſituation, as the contrary can, he ſays, be proved; for bees have thriven amazingly well in places where they were not within reach of any of the abovementioned flowers: but although they will do well in moſt ſituations, and fly far for their food, yet they will thrive far better when ſituated among or near good paſture, and ſurrounded with plenty of food, and Mr. Keys properly remarks that the hives ſhould be clear from the droppings of trees and the annoyance of dunghills, long graſs and weeds, as by theſe means inſects are bred which are not only deſtructive to the bees, but which greatly retard them in the preparation of honey. See BEE, and BEE-HOUSE.

APIASTELLUM, in *Botany*, the name of two different ſpecies of plants with different authors; Dodonæus expreſſing by it the common baum; and Apuleius the black bryony.

APIASTER, in *Ornithology*, a ſpecies of MEROPS found in Europe and Aſia. The back is ferruginous; abdomen and tail azure green, the two middle tail feathers long; chin yellow. Linn. Gmel.

This is MEROPS GALILAEUS of Haſſelquiſt, ISPIDA cauda molli of Kramer, guêpier of Buffon, ſchaeghaghi of Forſkal, and common BEE-EATER of Engliſh writers. Its length is about ten inches, of which the bill is an inch and three quarters. The pervading colours are green and blue, blending into each other; it has a few whitiſh feathers at the baſe of the upper mandible, and on the forehead a ſpace of blue green, behind this another of green, and then ſucceeds the cheſnut colour, tinged with green, and becoming paler on the back. From the bill to the back of the head is a black ſtripe that ſurrounds the eyes. Under parts of the body blue-green, paleſt on the belly. Leſſer wing-coverts dull green, middle one rufous, and the greater ones an intermediate colour between both green and rufous. The legs are of a reddiſh brown, and the claws blackiſh.

It takes the name of bee-eater becauſe thoſe inſects are its uſual food; but it purſues and devours other kinds, as gnats, flies, and cicadæ, on the wing, like the ſwallows; and at times will eat various kinds of ſeeds. Ray ſuppoſes, from its ſimilarity to the king's-fiſher, it may poſſibly feed on fiſh. Willoughby tells us on the teſtimony of Belon, "that its ſingular elegance invites the boys in the iſland of Candia, which it inhabits, to hunt for it with cicadæ, as they do for thoſe greater ſwallows called ſwifts, after this manner; bending a pin like a hook, and tying it by the head to the end of a thread, they thruſt it through a cicada, (as boys bait a hook with a fly), holding the other end of the thread in their hands; the cicada, ſo faſtened, flies nevertheleſs in the air, which the merops ſpying flies after it with all her force; and catching it ſwallows pin and all, wherewith ſhe is caught." Will. Orn.

APIASTRA, or American king-fiſher. See ALCEDO *leucorhyncha*.

APIASTRUM, in *Botany*, a name given by the ancients to two different plants of ſuch contrary form and qualities, that it is unlucky they ſhould have given occaſion of confounding them together, as miſtakes about them might be of fatal conſequence. The one of theſe plants was the poiſonous *water-crowfoot*; which they called apiaſtrum, becauſe of its having leaves that ſomewhat reſembled thoſe of ſallage. The other apiaſtrum is the common garden baum, ſo called by theſe writers, from their having obſerved that the bees were very fond of it.

APICALIS, in *Entomology*, a ſpecies of PHALÆNA, in form and ſize reſembling phalæna purpuralis. It is a native of South America, and its ſpecific character is, according to Fabricius, wings deep yellow, with a brown ſtreak, apex obſcure purple, with a yellow ſpot and two white dots on the margin. Obſ. In the Linnæan arrangement, this inſect belongs to the pyralis ſection of the Phalæna genus: Fabricius places it with the geometræ.

APICE, in *Geography*, a town of Italy, in the kingdom of Naples, and Principato Citra; ſeven miles eaſt-ſouth-eaſt of Benevento.

APICES, SUMMITS, in *Botany*, the ſame with ANTHERÆ.

APICILIA, in *Ancient Geography*, a town of Italy, at ſome diſtance eaſt of Concordia, in Carnia.

APICIUS, in *Biography*, a name rendered infamous by the gluttony and epicuriſm of three perſons at Rome, to whom it belonged. The moſt notorious of theſe lived under Tiberius; and he is recorded as the inventor of ſeveral new ſauces and delicacies, and as having kept, as it were, a ſchool of gluttony at Rome. Seneca and Martial inform us, that he ſquandered away in the gratifications of the table an hundred million of ſeſterces, which, computed by Mr. Raper's rule for Imperial money (ſee SESTERCES), amounts to about 853,601 l. ſterling; and when he found, that, after payment of his debts, he ſhould have but a tenth part of this ſum, he poiſoned himſelf for fear of ſtarving. Pliny deſcribes him, in reference to ſome of the diſhes of his invention, as "nepotum omnium altiſſimus gurges," *i. e.* the deepeſt whirlpool of all ſpendthrifts. Athenæus (Deipnos. lib. iv. p. 168.) mentions another Apicius of ſimilar celebrity, who lived about the year of Rome 660, and was the cauſe of the baniſhment of Rutilius. The third Apicius lived under Trajan; and having a ſecret for preſerving oyſters, he ſent ſome perfectly freſh to the emperor as far as Parthia. A work "De re culinaria," is extant under the name of Cælius or Cæcilius Apicius, which is ſuppoſed to have been written at a later period. Crevier's Rom. Emp. vol. ii. p. 227 Gen. Dict.

APICULUM, in *Antiquity*, a kind of thread or fillet which the flamens wore, in the heat of ſummer, in lieu of the APEX.

Feſtus ſpeaks of the *apiculum* as a cover for the *apex*; but the paſſage ſeems to be corrupt.

APIDANUS, in *Entomology*, a ſpecies of PAPILIO found in Surinam. The wings are tailed, blue; the lower ones, beneath brown, varied with blue; a double golden-coloured ſpot in the anal angle. Fabricius and Gmelin. Obſ. In the Fabrician ſyſtem it belongs to the HESPERIA genus; in that of Linnæus and Gmelin, it ſtands in the PAPILIO genus. (Section Pleb. rural.) The wings are edged with black and have a ferruginous ſpot at the baſe on the underſide.

APIDANUS, APIDANO, in *Geography*, a river of European Turkey, which runs into the Peneus, near Larissa.

APIFORMIS, in *Entomology*, a species of MUSCA, found in Germany. It is hairy and black; thorax at the base, and beneath, and the abdomen, yellow; tail whitish. Schrank. Gmelin. Pupa sooty, gibbous, found in decayed trees. Obs. This belongs to the section that has the hair of the antennæ naked. There is likewise another insect in the same genus called APIFORMIS by some: it inhabits Germany; is downy; thorax black with white dots and lines: abdomen yellow with black bars.

APIFORMIS, is also a species of SPHINX, in the Linnæan system, and SESIA in that of Fabricius. The wings are transparent, abdomen yellow with black belts; thorax black, with two yellow spots on each side. Linn. Fab. It lives in the larva state in the trunks of willow trees. This is sphinx scopigera of Scopoli; sphinx crabroniformis, Wien. Schmetterl.; and sphinx apiformis, hornet sphinx, Donov. Brit. Inf. tom. xxv.

APILAS, in *Ancient Geography*, a river of Macedonia, in Pieria.

APINA, a town of Italy, in Daunia.

APION, in *Biography*, a learned grammarian and historian, was born at Oasis in Egypt, about the beginning of the Christian æra; and probably derived his name from Apis, the Egyptian deity. The character of Apion, whatever might be his talents or learning, was that of a pedant, who took pains in investigating and ascertaining matters of trifling importance. Accordingly he took infinite pains, and had even recourse to magic, in order to discover the country and family of Homer. He valued himself on having discovered that the two first letters of the Iliad, considered numerically, amounted to 48, and he fancied that the poet had used these letters designedly to express the number of books. Hence he also concluded that the opening of the first poem was last written. His arrogance and ostentation are justly reprehended by Pliny, when he says (Præf. in Nat. Hist.); "a certain grammarian, named Apion, whom Tiberius called the cymbal of the world, but who might more properly be styled the drum of public fame, boasted that he conferred immortality on those to whom he dedicated any of his writings; an arrogant boast which time has refuted; for all the works of Apion are lost; and his name only lives in the writings of others."

Having been admitted to the citizenship of Alexandria, whence he obtained the appellation of Alexandrinus, he was sent to Caligula as chief of the embassy which carried complaints to the emperor against the Jews; and, on the other hand, Philo and several other deputies were commissioned to justify their conduct. Apion executed his charge with much partiality and rigour, and instead of confining himself to the subject in dispute, preferred charges against the Jews of a foreign nature, which merely tended to exasperate the emperor; accusing them of refusing to consecrate images to him, and to swear by his name. He also wrote a work with the express purpose of fixing reproach upon them, which Josephus refuted in a direct reply "against Apion," which he also designed as an apology for his Jewish antiquities. He wrote, moreover, a learned treatise "On the Antiquities of Egypt," in five books, one of which is cited by Tatian. In this work he also treated so largely on the pyramids of Egypt, that Pliny (Nat. Hist. lib. xxxvi. c. 12.) mentions him as a principal authority on this subject. He also wrote "On the luxury of Apicius;" "On the Roman Tongue;" "On the knowledge of metals;" and on "Universal History." Gen. Dict. Nouv. Dict. Histor.

APIOS, in *Botany*, see GLYCINE and EUPHORBIA.

APIRA, or APEIRA, in *Ancient Geography*, a town mentioned by Homer, and supposed to be that called Apera or Adapera. M. d'Anville places it in Galatia, to the west of Tavium, and south of Halys.

APIRÆ, a town of Asia Minor in Lycia, situate near the sea coast of Andriace, and south east of Myra.

APIS, MUSCA, the *bee*, or *fly*, in *Astronomy*, a southern constellation, containing four stars; the principal of which is marked by the abbe de la Caille, in his catalogue of stars, for 1750, with $185° 38' 44''$ of right ascension, and $67° 45' 15''$ of south declination.

APIS, in *Entomology*, a genus of the HYMENOPTERA order in the Linnæan system, and thus defined in his Systema Naturæ, by Gmelin; mouth horny, jaw and lip membranaceous at the apex; tongue inflected; palpi four, unequal, and filiform, antennæ filiform, and short; wings flat; sting of the females and neuters acute and concealed.

The species are numerous, and divided into several families: in the first are these, linguaria, glauca, longicornis, tumulorum, clavicornis, farfarisequa, curvicornis, centuncularis, punctata, cincta, bombyleus, muscaria, hæmorrhoidalis, cineraria, analis, hæmorrhousa, mexicana, carbonaria, retusa, rufa, lunata, bicolor, villosa, pubescens, mystacea, tunetana, bicornis, maxillosa, florea, truncorum, florisomnis, flavipes, dentata, cordata, versicolor, mellifica, disjuncta, rufipes, thoracica, flavifrons, cunicularia, argillosa, lagopus, mussitans, pilipes, plumipes, manicata, florentina, ireos, maculata, stictica, interrupta, varia, rotundata, erythropus, ferruginea, trispinosa, quadridentata, lanipes, cæcutiens, tridentata, fasciata, barbara, conica, sexcincta, quadricincta, annulata, smaragdula, albipes, ferruginata, bipunctata, cariosa, dimidiata, latipes, violacea, nigrita, caffra, africana, olivacea, carolina, terrestris, cryptarum, ruderata, nemorum, soroensis, hortorum, pratorum, lapidaria, sylvarum, bryorum, agrorum, muscorum, hypnorum, sibirica, fragrans, lucorum, brasilianorum, acervorum, subterranea, maiorum, surinamensis, virginica, hispanica, antiguensis, americanorum, aestuans, tropica, senilis, feminuda, alpina, leucorhousa, chalcoptera, cyanoptera, melanocephela, grisea, collina, floralis, musciformis, luctuosa, degener, vespiformis, agilissima, fuliginosa, arvensis, fulva, * bryorum, convexa, cetii, leucozonia, leucostoma, hirta, bicincta, hemisphærica, fulviventris, noveboracensis, albifrons, vesparia, sericea, præcox, vespoides, sphegoides, minuta, sanguinolenta, leucopus, leucomelas, lutea, acuminata, fusciventris, nigriventris, cinerascens, leskii, crocata, literata, nebulosa, fulvipes, annulus, sordida, lutescens, armata, denticulata, rufescens, lutulenta, chrysostoma, ochrocephala, ursina, nigricans, cana, triangulum, rostrata, canescens. The whole of this family is distinguished by a five-cleft tongue, and very short palpi; and are with few exceptions strictly apes of the Fabrician system. (Ent. Syst.) Also, for the character of his genus APIS is, *Os* lingua inflexa, quinquefida, *palpi* brevissimi, *antennæ* filiformes; and he includes nearly all the same species as Gmelin.

A trifid tongue is the chief criterion of the second section, which is again subdivided into two families, the first corresponding with the ANDRENA genus of Fabricius, and the second with the NOMADA of the same author. The species of the two subdivisions are these: in the first helvola, bicolor, tricolor, malabarica, æthiops, quadrifasciata, succincta, cingulata, virescens, bidentata, gulosa, dichroa, hirtuta, ciliata, zonata, marginella, ænea, labiata, cornuta, cœrulescens, maculosa, flavicornis, fascicornis, subvillosa, rubicornis, guttata. And in the second, suecica, hattorfiana, gibba, fabriciana, variegata, agrestis, ruficornis, lineata, scutellaris, histrio, riparia, squalida, montana, minor, ranunculi, nasuta, tranquebarorum, morio.

"The

"The induſtry of theſe little animals (ſays an ingenious writer), which is as profitable, as curious in itſelf, will always continue to excite the admiration of the wiſer part of mankind." Swammerdam, Reaumur, Hagſtrom, D'Aubenton, Geoffroy, and others, have written their hiſtory with great accuracy. Swammerdam, above all, deſerves to be read with the greateſt attention. To theſe may be added the names of ſeveral later naturaliſts, who have beſtowed uncommon attention upon their œconomy and manner of life, as will be more fully noticed in the article BEE, a term by which theſe creatures are better known to the Engliſh reader than that of apis.

In this general term it muſt notwithſtanding be obſerved many creatures are included, which, in the opinion of naturaliſts, do not belong to the ſame family, or even genus. This is obvious on the ſlighteſt inſpection of a few of the ſpecies ſo named; but whether, on the other hand, the characters laid down, by moſt of thoſe naturaliſts, for aſcertaining the different families and genera, are not rather more capricious than juſt, deſerves conſideration. It is certain that no two writers have yet agreed upon the ſame characters by which they are to be divided into ſections, and each ſeems to have had his own ſyſtem for their arrangement.

Linnæus, to whom a comparatively ſmall number of ſpecies was known, contented himſelf with dividing them into two families, one including thoſe with ſmooth bodies, or with only a few hairs upon them, *apes proprie dictæ*, and the other *bombinatrices hirſutiſſimæ*, with bodies very hairy. Theſe ſubdiviſions have been ſince found too vague and inapplicable for a number of later diſcovered ſpecies, and even for thoſe Linnæus had deſcribed; for, as Scopoli obſerves, the noiſe they make in their flight, and the hair on their bodies, increaſe ſo gradually, as to render it uncertain where the firſt family ſhould terminate, or the ſecond commence: and therefore he divides them in a different manner, into two ſections, according to the form of the antennæ, which in ſome were ſtraight, and in others bent, and forming an angle from the baſe, *antennis rectis*, and *antennis baſi infractis*; but he then perceived the inſufficiency of his own ſyſtem, as it would unavoidably exclude ſome ſpecies with which he was well acquainted, and for that reaſon he afterwards divided them into three diſtinct genera, *viz. eucera*, *apis*, and *nomada*.

Geoffroy, after Scopoli, gives this character of his *apes*; L'Abeille, antennes briſées, dont le premier anneau eſt très-long. Ailes inférieures plus courtes. Bouche armée de machiores, avec une trompe membraneuſe cochée en deſſous. Aiguillon ſimple et en pointe. Ventre attaché au corcelet par un pédicule court. Trois petits yeux liſſes. Corps velu. And theſe are divided into two families. Famille 1^e^. Abeilles proprement dites. Corpore villoſo. Famille 2^e^. Abeilles—bourdons. Corpore hirſutiſſimo. Theſe characters differ only in one exception from the VESPA genus of the ſame author, in which, inſtead of the body being hairy or downy, it is glabrous.

Degeer divides the apis into two genera, *apis* and *nomada*: the firſt he defines, antennæ fractæ articulo primo longiori; os dentibus et roſtro flexili fracto: ſurſumque plicato; alæ planæ; abdomen thoraci petiolo brevi adnexum; aculeus punctorius in abdomine reconditus: oculi reticulati ovales integri. And the ſecond, antennæ clavatæ vel filiformes articulus duodecim; os dentibus et roſtro porrecto vaginâ cartilagineâ cylindricâ; alæ planæ; abdomen petiolatum; aculeus punctorius in abdomine reconditus: oculi reticulati ovales uniti.

The Fabrician diviſions of the *apes* are theſe: HYLÆUS, ANDRENA, APIS, EUCERA, and NOMADA. The character of his genus APIS is, os lingua, inflexa, quinquefida; palpi brevioſſimi; antennæ filiformes. Ent. Syſt. (Tongue inflected, five-cleft; feelers very ſhort; antennæ filiform.)

Gmelin, we think, ſhould rather be commended than cenſured for the cautious manner in which he has adapted the improvements of the latter writer, to that of his great maſter, Linnæus; for had he ventured to divide the genera, and deſtroy the diſtinctions Linnæus had laid down, inſtead of endeavouring to reduce the newly-diſcovered ſpecies to his arrangement, he would have incurred more blame than he has for avoiding it. Some may perhaps think he has been cautious to a fault, and not made thoſe alterations that are abſolutely requiſite; the arrangement unqueſtionably demands ſome amendment.

Roemer, in his "Genera inſectorum Linnæi et Fabricii iconibus illuſtrata," gives another definition of APIS, to which it is objected, he introduces more characters than are needful; ſome of them belonging only to certain families, are conſequently not generical diſtinctions. APIS *os* maxillis dentatis, atque *proboſcide* inflexa, vaginis duabus bivalvibus *linguam* includentibus. *Capite* triangulare, fronte plana, flexum. *Antennæ* ſæpe pedatæ, primo articulo reliquis longiore. *Alæ* planæ, in omni ſexu. *Aculeus* punctorius reconditus, retractilis, ſerratus, feminis et neutris. *Tarſi* quinque articulis, primo longitudine tibiæ, compreſſo, ciliato, tranſverſim ſulcato. P. 28.

M. Latreille, about ſix years ſince, publiſhed a work at Paris, intitled, "Précis des caractères génériques des inſectes, diſpoſés dans un ordre naturel," in which the characters are taken from the antennæ, labium ſuperius, mandibulæ, lingua, maxillæ, tubus and palpi. The APIS, which, like Fabricius, this writer places between nomada and eucera, is thus briefly deſcribed; APIS, langue de trois pieces. (Organes de la nutrition plus petits dans les mâles.)

The lateſt treatiſe on *apes* is that of the Rev. Wm. Kirby, entitled "Monographia Apum Angliæ," a book we ſhall advert to more fully hereafter. It is an attempt to divide into their natural genera and families ſuch ſpecies of the Linnæan genus APIS as have been diſcovered in England; but the introductory and collateral remarks take a wider range. By way of illuſtration, theſe include many obſervations on the claſs *hymenoptera*, to which they belong; and a comparative view of the exotic ſpecies analogous to thoſe he deſcribes. Mr. Kirby firſt reviews the ſeveral characters of the genera into which different authors have divided *apes*, and after pointing out imperfections in each, proceeds to offer an arrangement altogether diſtinct from either.

His two genera are MELITTA, and APIS: the eſſential character of the firſt is, *aculeus* punctorius; *lingua* apice brevis, porrecta, planiuſcula, vaginâ ſubcylindricâ: and of the ſecond, *aculeus* punctorius; *lingua* elongata, inflexa. To each of theſe are added an artificial and a natural character. The artificial character of MELITTA is *os* proboſcide ſubcylindricâ, porrectâ linguam brevem, planiuſculam, exerente. *Antennæ* mediæ, aculeatis ſubclavatæ articulis 13; maribus ſiliformis, articulis 14. *Oculi* laterales, ſub ovales, integri. *Alæ* planæ. *Aculeus* punctorius, reconditus. That of APIS is *os* proboſcide fractâ, inflexâ, linguam cylindricam, elongatum, exerente. *Antennæ* mediæ, aculeatis articulis 13; maribus articulis 14. *Oculi* laterales, ſubovales, integri. *Alæ* planæ. *Aculeus* punctorius reconditus.

After ſtating theſe characters of the two genera MELITTA, and APIS, Mr. Kirby proceeds to mention the diſtinctions which divide them into families; in which his aim, as he obſerves, has not been ſo much to fix upon artificial cha-

racters, which often disunite those insects which nature has put together, but to discover whether the all-wise author of nature, who is a GOD of order, has not subdivided these genera, and impressed certain common characters upon such subdivisions, by which one who studies his works under no influence but a love of truth, and led by a single desire of finding out *his* system, might not be enabled to arrange them according to their natural affinities.

His first step was to place together all those individuals which appeared to agree in habit, adopting the sentiment of Linnæus, that habit would often lend a clue to discover nature. This led him at first to commit many mistakes; for relying solely on habit for the arrangement of species, he often placed the males in one subdivision, and the females in another; he however succeeded to arrange them very nearly according to their natural affinities, and by attending to the proboscis, and external anatomy, was enabled to detect the constant characteristics of the males in these genera, exclusive of their *genitalia;* and by further observations on those he had an opportunity of taking alive, and inspecting these parts, the mistake alluded to was in a manner rectified, and instead of confusion, lucid order now took place in the arrangement. "Thus (says the author) beginning with habit, and ending with anatomy and economy; descending from generals to particulars, and then tracing back my steps from particulars to generals; using both the synthetical and analytical modes of reasoning, as mathematicians speak, by a series of observations and experiments frequently repeated, I was enabled to trace the labyrinth of nature, and, by the assistance of this double *filum ariadneum,* to establish my system upon a sure basis."

The distinctions of these two families are as follow: MELITTA.—* *Linguâ* obtusâ,—a. *linguâ* obtusâ, apice bilobâ.—b. *lingua* obtusâ, apice truncatâ.—** *Linguâ* acutâ.—a. *labio* inflexo, emarginato—b. *labio* appendiculato, appendiculâ inflexâ.—c. *labio* obtusangulo, tuberculo munito.—APIS.—* *Proboscide* laciniis exterioribus nullis.—a. *Antennis* subclavatis in omni sexu.—b. *Antennis* filiformibus in omni sexu.—**Proboscide* laciniis exterioribus instructâ.—a. *Palpis* exterioribus 5-articulatis. *Labio* subquadrato.—b. *Palpis* exterioribus exarticulatis. *Labio* antice curvo.—c. *Labio* inflexo, elongato.—1. *Ventre* femineo glabro.—α. abdomine femineo conico, acutissimo.—β. femineo subcylindrico obtuso.—2. *Ventre* femineo hirsuto.—α. *Palpis* omnibus biarticulatis.—β. *Palpis* exterioribus exarticulatis.—γ. *Palpis* interioribus exarticulatis.—δ. *Palpis* exterioribus 4 articulatis.—d. *Proboscide* rectâ, apice subulato-conicâ; palpis exterioribus 6-articulatis.—1. *Laciniis* interioribus involutis, exteriorum longitudine.—2. *Laciniis* interioribus rectis, quàm exteriores brevioribus.—α. *Labio* quadrato inermi.—β. *Labio* emarginato, tuberculo munito.—e. *Proboscide* subinvolutâ, palpis exterioribus exarticulatis.—1. *Corpore* villoso.—2. *Corpore* hirsutissimo. Each of these families Mr. Kirby illustrates with figures, in his Tabularum Explicatio, and refers all the species he describes to their proper situation in his synopsis specierum, in conformity with this system.

From this comparative view of the different arrangements offered by naturalists for the distribution of BEES into distinct genera, subdivisions or families, it evidently appears a task of some difficulty to point out the true and invariable characters by which they may be arranged with the greatest propriety. Mr. Kirby has done much in behalf of a new mode of arranging them; he has pursued this subject with no common assiduity and skill, and furnished us with an admirably curious treatise, the result of his useful and well-directed labours. Of his accuracy in ascertaining, and integrity in delineating the characters he has chosen, there can be no distrust; and perhaps there can exist but one objection to his mode of arrangement, and that arises from the difficulty in some instances of perceiving them. All his descriptions were taken, as he himself says, from insects viewed under a lens; an advantage no doubt to him in defining those characters with fidelity, but which at once implies that they are minute, and the lamentable errors he points out by that means in the observations of his predecessors on those parts, prove sufficiently they are ambiguous also. Every naturalist will blame Fabricius for having taken his characters too frequently from the mouth, *Instrumenta cibaria,* and other minute and complicated parts; because, except in recent specimens, it is difficult, nay often impossible to ascertain his distinctions of genera and families, without injuring or destroying the very parts he describes, and frequently not then. Mr. Kirby has, we may believe, endeavoured to avoid this error as far as the subject would permit; and we must only regret that in such able hands, some characters less complicated and minute than those sometimes adopted by him, could not have been found for the arrangement of this curious tribe of creatures.

APIS, in *Geography,* a town of Egypt, on the banks of the lake Marcotis, not far south from Marea. It is mentioned by Herodotus; and Pliny says, it is 62 miles from Parætonium. South-east of this town, and at some distance from the sea, was a mountain of the same name.

APIS was also, according to the Scholiast of Apollonius, a small island near that of Crete.

APIS, in *Mythology,* a symbolical deity, worshipped by the Egyptians in the whole country, and particularly at Memphis. It was an ox, having certain exterior marks, in which animal the soul of the great Osiris was supposed to subsist. This animal was preferred to others, as being the symbol of agriculture, which Osiris had found out, and to the improvement of which he was zealously devoted. He was so famous, that all who visited Egypt had the curiosity to see him, and to render him respect and homage. Alexander conducted his army to Memphis, and according to Arrian, sacrificed to all the gods, and more especially to Apis. Pliny says, that when Germanicus was in the east, he consulted Apis; and the same curiosity which induced Augustus to visit Memphis, induced Titus, Adrian, and Septimius Severus, to follow his example. Apis was an object of worship, not merely on account of his divinity, but because he was consecrated in a peculiar manner to the sun and moon; that is, to Osiris and Isis. Suidas and Ammianus Marcellinus mention his consecration to the moon, and Porphyry expressly says, that this animal bore the characteristic signs of these celestial luminaries. The marks or characters, by which this sacred bull was distinguished from others of the same species, were, his black colour, a white square mark upon his forehead, the figure of an eagle on his back, a lump under his tongue resembling a beetle, and a white spot in the form of a crescent on his right side. These marks were obviously the contrivance of the priests, who secretly brought up the calf that was intended for the Apis. This sacred animal was not produced by the ordinary laws of generation. The Egyptians ascribed his birth to celestial fire; and, as Plutarch informs us, the priests pretended that the moon diffused a generative influence; and that as soon as the cow to whom it was imparted took the bull, she conceived an Apis. When a calf was produced in these circumstances, and with the appropiate marks, the priests announced to the people the birth of Apis. Accordingly, says Ælian (de Anim. lib. xi.), they built a temple to the new god, facing the east, in pursuance of the order of Mercury, and

nourished

nouriſhed the young calf with milk for four months. At the cloſe of this period, and at the time of the new moon, the prieſts repaired to his habitation, and ſaluted him with the name of Apis. He was then placed in a veſſel magnificently decorated, covered with rich tapeſtry and reſplendent with gold, and conducted to Nilopolis, a city of the Nile, with hymns and perfumes. Here they kept him for 40 days, and ſuffered only women to viſit and examine him. After the inauguration of the god in this city, he was conveyed to Memphis with the ſame retinue of prieſts, followed by a great number of boats ſumptuouſly adorned. From this time he became ſacred to all the world. He was ſuperbly lodged, and the place where he lay was myſtically called "the bed." The edifice in which he was kept, and which is particularly deſcribed by Strabo (lib. xvii.), was ſituated near the temple of Vulcan; in a court of which he was occaſionally preſented to gratify the curioſity of ſtrangers; and he might be ſeen at all times through a window; but it was the office of the prieſts to produce him to public view. Once a year, ſay Pliny, Solinus and Ammianus, they preſented a heifer to him, which they killed on the ſame day. This bull, to which ſupernatural knowledge was aſcribed, is ſaid by the prieſts to have predicted future events by certain ſigns and motions, which they interpreted according to their own fancy. Pliny ſays (lib. viii.), that he had two temples called "beds," which ſerved as an augury to the people. When they came to conſult him, if he entered into one of theſe, the omen was favourable; but if he paſſed into the other, unpropitious. He alſo gave anſwers to individuals, by taking food from their hands; and Ammianus ſays, that he refuſed that which was offered him by Germanicus; and that this unfortunate victim of the jealouſy of Tiberius was ſoon after poiſoned. The worſhip that was offered to this deity was very ſolemn. The people aſſembled to offer ſacrifices to him, and oxen were ſelected for the victims on this occaſion. In every part of Egypt feaſts were conſecrated in honour of him, and particularly in honour of his birth: they were called "Theophania," the apparition of God, and laſted ſeven days. "What feſtivals! (ſays Ælian) what ſacrifices take place in Egypt at the commencement of the inundation! At this time all the people celebrate the birth of Apis. It would be tedious to deſcribe the dances, the rejoicings, the ſhows, the banquets, to which the Egyptians abandon themſelves on this occaſion, and impoſſible to expreſs the intoxication of joy which breaks forth in all the towns of the kingdom."—"During the ſeven days in which the prieſts of Memphis celebrate the birth of Apis" (ſays Ammianus), "the crocodiles forget their natural ferocity, become gentle, and do no injury." This ſacred bull, however honoured, had a fixed term aſſigned to his life: at the termination of 25 years, the prieſts drowned him in the Nile; and as Pliny ſays, in the fountain of the prieſts. This number was the product of five by itſelf, and gave the number of the letters of the Egyptian alphabet, as well as the age of Apis: and this number marked a period of the ſun and moon, to which luminaries the bull was conſecrated. Hence it has been inferred, that Apis was the tutelary divinity of the eſtabliſhed form given to the ſolar year, which was to conſiſt invariably of 365 days, and of the cycle of 25 years, diſcovered at the ſame time. "Nor can it be doubted," ſays Savary (Letters, vol. ii. p. 472.), "that he had a marked relation to the ſwelling of the Nile, for it is teſtified by a great number of hiſtorians. The new moon which followed the ſummer ſolſtice was the æra of this phænomenon."—The creſcent on the right ſide of Apis indicated, according to Ælian, the commencement of the inundation. "If Apis," continues Savary, "poſſeſſed the characteriſtic ſigns which proved his divine origin, he promiſed fertility and abundance of the fruits of the earth. It ſeems demonſtrated, therefore, that this ſacred bull, the guardian of the ſolar year of 365 days, was alſo regarded as the genius who preſided over the overflowing of the river. The prieſts, by fixing the courſe of his life to 25 years, and by making the inſtallation of a new Apis concur with the renewal of the period now mentioned, had probably perceived, as the reſult of long meteorological obſervations, that this revolution always brought about abundant ſeaſons. Nothing was better calculated to procure a favourable reception of this emblematical divinity from the people, ſince his birth was a preſage to them of a happy inundation, and of all the treaſures of teeming nature." The name *Api* in the Cophtic language ſignifies number, and ſeems to have referred to the number of cubits which marked the increaſe of the Nile, that was moſt advantageous for the fertility of Egypt.

When Apis died, he was embalmed and privately depoſited in the ſubterraneous cavern deſtined for this purpoſe. If he died a natural death before the expiration of 25 years, the prieſts publicly proclaimed his death, and ſolemnly conveyed his body to the temple of Serapis, at Memphis. Strangers were forbidden to approach the temple, and the prieſts entered it only when Apis was interred. It was then, ſays Plutarch, that they opened the gates called Lethé and Cocyté (of oblivion and lamentation), which are ſaid to have made a harſh and piercing ſound. On occaſion of the death of Apis, Egypt reſounded with the cries and lamentations of thoſe who bewailed it, and the whole country put on mourning. To this purpoſe Tibullus ſays, (Eleg. i. 8.)

> "Te canit atque ſuum pubes miratur Oſirim,
> Barbara, Memphiten plangere docta bovem."

Lucian alſo repreſents this circumſtance in his uſual pleaſant manner. "When Apis dies, is there any one ſo enamoured of his long hair as not immediately to cut it off, or to diſplay on his bald head the ſymptoms of his ſorrow?" This diſtreſs and mourning continued till the people had obtained another Apis. Darius Hyſtaſpis, being at Memphis on an occaſion of this kind, and obſerving the conſternation of the town, offered 100 talents of gold to any one who diſcovered a new Apis. Polyænus, Strat. vii. Jablonſki, in his "Pantheon Egyptiorum," and M. Huet, biſhop of Avranche, and ſome others, have endeavoured to prove, though not with much ſucceſs, that Apis was a ſymbolical image of the patriarch Joſeph, and appointed for the commemoration of him. But the hypotheſis, that Apis and his worſhip were ſymbolical of the Nile, and the circumſtances attending it, ſeems to be more probable. The particulars that have been already recited afford a ſtrong preſumption to this purpoſe. The kind of animal that was ſelected favours this opinion; for rivers were anciently repreſented by bulls or oxen. Plutarch ſays expreſsly (De Iſide & Oſiride, Oper. tom. i. p. 66.) that the ox was in Egypt the ſymbol of the earth. All the myſtic phenomena that attended the birth, growth, character, death, and worſhip of Apis, bore an obvious reference to the agriculture of Egypt, and the fertility occaſioned by the inundation of the Nile.

Dr. Bryant apprehends that the name of Apis was an Egyptian term for a father, that it referred to the patriarch Noah, and that the creſcent, which was uſually marked on the ſide of the animal, was a repreſentation of the ark. Anc. Mythol. vol. ii. p. 420.

Jablonſki (*ubi ſupra*) fixes the æra of the conſecration of the

the said Apis at the year 1171 before the vulgar æra of Christ; and, according to the same writer, it ceased at Memphis, under the reign of Theodosius, together with that of Serapis at Alexandria; and he assigns a period of 1570 years for its whole duration.

Apis is represented on the Greek medals in the form of a bull, with a flower of the lotos, the water-lily of the Nile, supposed by Macrobius to be a symbol of the creation. On the medals of Adrian and Antoninus Pius, struck in Egypt, and on a marble preserved in the cabinet of Odescalchi, he is delineated with the crescent on his side.

Apis, in *Fabulous History*, the son of Phoroneus, second king of Argos, who settled in Egypt, according to the fables of the Greeks, and made himself so famous, that after his death he was ranked among the gods, under the name of Serapis.

APITANI, in *Ancient Geography*, a people of Arabia Felix, according to Pliny.

APITES. Apites Vinum, from ἄπιος, *the pear tree*; perry, or wine of pears. See Perry.

APIUM, (perhaps from *Apis*, bees, because these insects are fond of it,) in *Botany*, a genus of plants, including parsley, smallage, and celery. Lin. Gen. 367. Schreb. 489. Juss. 219. Class, *pentandria digynia*; natural order of *umbellatæ*; gen. character, *cal. general* umbel of fewer rays than those of the partial; *general* involucre small, of one or more leaflets; *partial* similar; *proper perianth* obsolete; *cor. general* uniform; *florets* almost all fertile; *petals* roundish; inflex, equal; *stam.* filaments simple; *anthers* roundish; *pist.* germ inferior; *styles* reflex; *stigmas* obtuse; *per.* none; fruit ovate, striate, splitting in two; *seeds* two, ovate, striated on one side, plane on the other. Ess. gen. char. *fruit* ovate, striated; *involucre* one-leafed; *petals* equal.—Species 1. A. *petroselinum*, *common parsley*, stem leaflets linear; involucels minute; the stems are round, smooth, striated. At the origin of the universal umbel there is usually one leaflet, and an involucre of six or eight short folioles, almost as fine as hairs, at the partial umbel. Flowers pale yellow, regular; petals small, long, narrow, acuminate, inflex. It is a biennial plant, and generally cultivated for culinary purposes. Linnæus found it growing wild in Sardinia. The varieties of parsley are α. A. *sativum*, common garden parsley. Wood. Med. Bot. lxxiii. β. A. *crispum*, curled parsley. γ. A. *latifolium*, large rooted parsley. 2. A. *graveolens*, smallage, or wild celery, stem leaves wedge-shaped. This is also a biennial plant, rising with a smooth, shining, deeply furrowed stem; leaves alternate, radical, pinnated, ternate; pinnas trifid, gash-serrate, shining, smooth; umbels axillary; with about fifteen unequal rays; flowers small, white; seeds minute. It grows wild in ditches and marshes, in which state it is acrid and fetid. Smith's Flor. Brit. 335. Miller states the varieties of this plant as follow; β. A. *dulce*, upright celery; γ. A. *rapaceum*, celeriac or turnip-rooted celery; δ. A. *lusitanicum*, Portugal celery.

In regard to the medicinal properties of parsley, Doctor Woodville, in his Medical Botany, remarks that both the roots and seeds are directed to be employed by the London College; the former of which have a sweetish taste, accompanied with a slight degree of warmth, and a flavour resembling that of a carrot; but that the latter are warmer in taste and more aromatic than any other part of the plant, and also manifest a considerable degree of bitterness. In distillation, three pounds were found to yield above an ounce of essential oil, a great part of which sunk in the fluid. They give out little of their qualities by infusion in watery menstrua, but readily impart all their virtue to rectified spirit. The roots by distillation in water were ascertained to afford but a very inconsiderable portion of essential oil, not more than two or three drachms from as many hundred pounds. These roots are said to be aperient and diuretic, and have been employed in apozems, to relieve nephritic pains and obstructions of urine. In this way they have been prescribed by Dr. Cullen, without producing any diuretic effect; and this, he thinks, may in some measure be attributed to the loss of their active matter, which they sustain in boiling.

The seeds, like those of many other umbelliferous plants, possess a share of aromatic and carminative power; but as this is inconsiderable, they are now seldom employed. They are stated, it is observed, to have been advantageously made use of externally for removing cutaneous diseases in children, by Con. Mich. Valentini, in Act. Nat. Cur. vol. 1. p. 255; and by Rosenstein in Burn's Junkd. ed. 3. p. 533.

The bruised leaves have been successfully made use of as a discutient poultice to various kinds of tumours. We are told, Dr. Woodville says, by Lange (Misc. Vert. Med. p. 26), that this application has succeeded in scirrhous tumours where cicuta and mercury have failed.

Although parsley is so commonly used at table, it is remarkable, says the above writer, that facts have been adduced to prove that in some constitutions it occasions epilepsy, or at least aggravates the epileptic fits in those who are subject to this disease. It has been supposed also to produce inflammation in the eyes.

Apium *Macedonicum*. See Bubon.

Apium *petræum* and *montanum*. See Athamanta.

Apium, *Pyrenaicum*. See Crithmum.

Apium, in *Gardening*, comprehends parsley, celery, and smallage, of which there are several species cultivated in the kitchen-garden; as the A. *petroselinum* or common parsley, which has two varieties, the common plane-leaved, and the curled-leaved; the A. *latifolium*, or broad-leaved, large-rooted parsley; the A. *dulce*, sweet, or common upright celery; of which the following varieties are cultivated: the common upright, with the stalks of the leaves hollow or fistular; the common upright, with the stalks of the leaves solid, generally known by the names of hollow and solid celery, the *giant upright*, that grows very tall, with a large body of thick fleshy leaf-stalks; the A. *rapaceum*, or turnip-rooted spreading celery or celeriac; and the A. *graveolens*, or smallage; all of which are herbaceous plants, of hardy growth, and of the biennial tribe, or of two years duration, producing only leaves the first year, but attaining perfection for kitchen and other domestic uses. The second spring they, however, shoot up stalks, flower, and perfect their seed; and in autumn perish both in root and branch, so that they continue useful only one year, and therefore a fresh supply must be raised annually from seed. Some of the species may, however, be deemed annual, as if sown very early, they run to seed the same year, especially in the celery kind.

Of the A. *petroselinum*, or common parsley, both the varieties are in use; but it is remarked by the authors of the Universal Gardener, that the plane-leaved sort is most commonly cultivated, though many prefer the curled kind, because its leaves are most easily distinguished from the *æthusa*, or fool's parsley, a sort of hemlock, and a poisonous garden-weed, which, while young, has great resemblance to the common plane-leaved parsley. Besides, the curled parsley, from its having larger and thicker leaves, and being curiously fimbriated and curled, so as to shew full and double, makes a better appearance in its growth, and is

more

more eſteemed by cooks for the purpoſe of garniſhing diſhes, &c. It may, however, be neceſſary to remark, that this ſort, as being only a variety, is liable to degenerate to the common plane ſort, unleſs particular care be taken to ſave the ſeed always from the perfect, full curled plants. Both the varieties are propagated by ſeed ſown annually in ſpring, where the plants are to remain; but the plants, as has been ſeen, are biennials, riſing from ſeed ſown in March, April, and May.

The proper ſeaſon for ſowing the different varieties, is any time from the beginning of February until the beginning of May; but they will grow at almoſt any time of the year; however, in order to have the plants come into uſe by the time the old parſley begins to run, it is neceſſary to ſow firſt about the time juſt mentioned. The beſt method for which is in drills, as it will be thus not only more conveniently kept clean and more eaſily gathered, but have a neater appearance. Where only a ſufficiency is required for the ſupply of a family, it may be ſown in ſingle drills along the edges of the borders, or the quarters of the kitchen-garden, the plants thus ſerving the double purpoſe of utility and edging; but for the ſupply of markets, gardeners generally ſow it in large plats, either in broad-caſt, raking it in, or in ſhallow drills, at eight or nine inches diſtance from each other, trimming the earth evenly over it, near half an inch deep, and then lightly raking the ſurface, to give it a degree of ſmoothneſs. Seed of this kind is extremely ſlow in vegetating, ſometimes not appearing in leſs than a month or five weeks from the period of its being ſown.

The chief culture the plants require while growing, is to be kept clean from weeds; and when they grow taller than wanted, which is often the caſe in private gardens, to be cut down cloſe. This ſhould be conſtantly practiſed in autumn, as about Michaelmas, or in ſufficient time for the plants to recover before the winter ſets in.

In order to ſave the ſeed, ſome rows of the one year old plants muſt be permitted to ſtand, and ſhoot up their ſtalks, which is done in May and June following, the ſeed being ripened in July and Auguſt.

A. *latifolium*, or broad-leaved parſley. The propagation of this ſpecies is alſo by ſeed ſown annually in February, March, or April, where the plants are to remain. For this purpoſe, a ſpot of light rich earth, in an open expoſure, is to be preferred; the ſeed being ſown broad-caſt, and raked in, the plants generally appearing in about a month after being ſown, and in May or June they require to be thinned and cleared from weeds, which may be performed either by hand or hoe; but the latter is moſt eligible, as it will ſtir and looſen the ſurface of the earth, which may be beneficial to the plants, cutting them out to about ſix inches diſtance from each other.

In the latter end of July, the roots will moſtly have attained a ſize proper for uſe; and may be drawn occaſionally; but they ſeldom acquire their full growth till about Michaelmas.

This is ſometimes called *Hamburgh parſley*, probably from its being much cultivated about that place.

It is chiefly cultivated and eſteemed for its large roots, which are white and carrot-ſhaped, being long, taper, and of downright growth, often attaining the ſize and appearance of ſmall middling parſneps; they boil exceedingly tender and palatable, are very wholeſome, and may be uſed in ſoup or broth, or to eat like carrots and parſneps, or as ſauce to freſh meat.

A. *dulce*, or the common celery. The method of propagation in all the varieties of this ſort is, by ſowing the ſeed in the ſpring, and when the plants have attained ſix or eight inches in height, tranſplanting them into trenches in the manner deſcribed below, in order to be earthed up on each ſide as they advance in growth, and have their ſtalks blanched or whitened, to render them criſp and tender.

As plants of this kind continue uſeful only one year, a freſh ſupply muſt be raiſed annually, as has been already obſerved.

The proper periods of ſowing, if a regular ſucceſſion of plants be required for eight or nine months in the year, are at two or three different times from the beginning of March till the middle of May. As, for example, if it is intended to have celery for uſe as early as poſſible in the ſummer, as in July, ſome ſeed muſt be ſown the firſt week in March on a warm border; or to bring the plants more forward, in a ſlender hot bed; or if it be neceſſary to have it ſtill more early, the middle of February; but as the plants of theſe very early ſowings are apt to pipe or run for ſeed the ſame year, before they attain their perfection, a few only need be raiſed. But for the principal crops, to come in for autumn and winter, as in Auguſt or September, and continue in perfection till Chriſtmas or ſpring, the ſeed may be ſown about the middle or towards the latter end of March, or in the firſt or ſecond week in April, in a bed of natural earth in an open expoſure; and a little more in the latter end of the laſt named month, or in the firſt or ſecond week in May, to furniſh a ſtill later crop to come in the beginning of November, and continue good until the March or April following; and to have a late crop principally for the ſpring, it will be neceſſary that a ſmall portion be ſown at the latter end of May; and by putting out ſome of the plants in ſhallow trenches about Michaelmas, and in October and November, they may be fit for uſe in March and April, and continue without running till the middle or latter end of the May following.

As it has been ſuggeſted, that the early crop may either be ſown upon a warm border of natural earth, or upon a ſlight hot-bed, it may be obſerved, that by the latter practice, the plants may be ſo forwarded, as to be fit to tranſplant into trenches ſooner by three weeks or a month, than thoſe raiſed in the natural ground; a ſmall bed of about eighteen or twenty inches deep of dung will be ſufficient, which may be ſheltered either with a ſmall frame, or occaſionally with mats ſupported on arches made with ſticks; upon this five or ſix inches of rich light earth ſhould be laid, the ſeed being then ſown on the ſurface, and covered near a quarter of an inch deep; when the plants appear, the full air muſt be freely admitted in mild days, but ſheltered with a glaſs or mats in the nights until they acquire ſome ſtrength, frequent light waterings being occaſionally given: when the plants of either of the ſowings are two inches high, ſome of the ſtouteſt ſhould be pricked out into a bed of rich earth, in a ſheltered ſituation, three inches apart; or to bring them ſtill more forward, upon a ſlender hot-bed, and occaſionally ſheltered with mats, giving them water, and occaſionally ſhade, till they have ſtruck root; and if rain do not fall, refreſhing them as frequently with water as may be neceſſary.

As thoſe that were thus firſt pricked out will, in May or the beginning of June, be generally five or ſix inches high, ſome of the ſtrongeſt of them ſhould be tranſplanted into trenches, in order to their being blanched. In regard to ſowing the main and later crops at ſuch times as have been recommended, make choice of a ſpot of rich light earth, in an open ſituation, and let it be neatly dug and divided into one or more beds; but one bed is generally ſufficient for private uſe, which ſhould be three feet and a half wide, the ſurface being made level and ſmooth. The ſeed may then either be ſown on the ſurface, and raked in lightly, or the ſurface firſt raked ſmooth, the ſeed then ſown, earth being ſifted over it near a quarter of an inch thick; or the bed being firſt raked ſmooth as above, the earth may be ſhoved with the back

back of a rake from off the ſurface a quarter of an inch deep into the alley; the ſeed then be ſown, and with the rake turned the right way, the earth drawn upon the bed again with a kind of jerk, ſo that it may ſpread and cover it equally.

When the plants of theſe ſowings are come up, they ſhould be frequently watered in dry weather, eſpecially while they are young. And when about three or four inches high, the ſeed-bed ſhould be thinned by pricking out a quantity of the ſtrongeſt into an open rich ſpot, properly dug and divided into beds three feet and a half wide, taking an opportunity, if poſſible, of moiſt weather, and in rows ſix inches aſunder, and three or four inches diſtant in each row, water being given, and if dry weather ſucceeds, occaſionally repeated till they ſtrike freſh root; in this bed, they are to remain a month, or five or ſix weeks, to acquire due ſtrength previous to their being tranſplanted into trenches, in order for blanching. The ſame ſeed-bed will frequently afford three, four, or more different drawings, to prick out in this way, by obſerving to thin out the largeſt plants regularly each time, before they draw each other weak by cloſe ſtanding; and by thus pricking them in beds till the ground intended for the trenches is at liberty, they will be advancing in their growth, and be conſiderably better prepared for ſetting out, than ſuch as have remained all the time in the ſeed-bed.

The next buſineſs is that of tranſplanting them into the trenches for the purpoſe of blanching; the ſeaſon for which is occaſionally from the middle of May till the latter end of October, or even middle of November, according to the forwardneſs of the plants, the time they are required for uſe, and the period it is intended they ſhall continue. When the plants are from about ſix to ten or twelve inches high, as has been obſerved, they are of a proper ſize for tranſplanting into the trenches.

It is neceſſary always to make at leaſt three different tranſplantations, allowing the diſtance of three or four weeks between each time of planting; but when the plants are required for uſe as early in ſummer as poſſible, and to be continued in ſpring as late as the middle or latter end of May, it is eligible to plant four, five, or even ſix different crops, allowing the diſtance of time abovementioned between the planting of each ſeparate crop; obſerving that the crops intended principally for ſpring uſe be of the lateſt ſown plants, and not planted in the trenches until September, October, and beginning of November.

In making the trenches, chuſe a dry rich ſpot of ground, in an open quarter, and with a line and ſpade mark and chop out the trenches croſſways of the piece of ground, each trench twelve inches, or about one ſpade breadth wide, and allow a ſpace of three feet between trench and trench, that there may be ſufficient ſcope to have a due portion of mould to earth up the plants to a proper height; the trenches being marked in this manner, proceed to dig them out in order to form the furrow for the reception of the plants, which ſhould be done lengthways to the depth of a moderate ſpade, or about ſix or eight inches for the early crops; but the later ones do not require ſo much, without taking out any ſhovelings, laying the ſpits of earth alternately to the right and left in the ſpaces between, levelling it neatly, and beating up the edges firm and ſtraight; then let the bottom be properly dug and levelled, or if the ground be poor, firſt ſpread therein two or three inches depth of rotten dung, and dig it in four or five inches deep.

The trenches being thus prepared, a quantity of the beſt plants muſt be drawn, the ends of their roots, and the tops of the ſtraggling leaves trimmed off; then a row planted exactly along the middle of each trench, placing the plants four or five inches diſtant, a good watering being immediately given out of a pot with the roſe on, and which, if ſhowers do not fall, ſhould be repeated every other evening at leaſt, till the plants have taken freſh root.

Only a few of the very early plants, as thoſe ſown in February, or early in March, ſhould be planted out at a time, as they are apt to pipe almoſt as ſoon as they are blanched, or ſometimes before it is fully effected.

When it happens that the plants intended to be planted in autumn, for the late crops, have, by the allotted compartment of ground for their reception not being vacant, ſtood ſo long in the ſeed or pricking-out beds as to have become rank, and drawn each other up weak, it may be proper to retard their running up tall, in order to obtain them of robuſt growth againſt October and November, for planting them in ſhallow trenches; to effect this, it will be adviſeable, in Auguſt or the beginning of September, either to cut them down low to ſhoot out again, or tranſplant them into rows nine inches diſtant.

Another method of planting and making the trenches, but which is leſs in uſe, is with a line and ſpade to cut or mark out a bed, or rather trench, ſix feet wide, croſſways the ground; then to begin at one end, and proceed to dig out a cavity the above width and length, one ſpade deep, laying the ſpits of earth to the right and left, in a ridge along each ſide of the cavity or trench, beating it up in front that it may not ſlip down; and when the trench is thus dug, to looſen and level the bottom; and where dung is neceſſary, to add it, digging it into the bottom four or five inches deep. When more than one of ſuch trenches are to be made, a clear ſpace of ſix feet muſt be allowed between trench and trench, to contain the earth dug out, and to have a ſufficiency to bring up to the plants afterwards.

The trenches being thus prepared, the plants are to be trimmed as before directed, and then planted, obſerving that they are here to be planted in rows croſſways the trench, about a foot aſunder, and in other reſpects as in the other method.

The plants of this ſort, in order to whiten or blanch the ſtalks, and render them criſp, tender, and of a grateful flavour, require to be earthed up as they riſe in height on each ſide, for which purpoſe the earth that was dug out of the trenches is to be employed; and when that is expended, that in the ſpaces between them muſt be dug out, broken, and applied repeatedly as the plants advance in growth, in this way blanching them from ten or twelve to fifteen or eighteen inches or more in height.

The proper time to begin this work, is when the plants are about ten or twelve inches high, which ſhould be repeated every fortnight or three weeks, as may be neceſſary, during their principal growth. In performing the work, regard muſt be had to break the earth, where lumpy, moderately ſmall with the ſpade: or the firſt and ſecond earthing may be performed with a large hoe, but afterwards in the principal earthings a ſpade is to be preferred, and care taken to trim the earth up lightly to the plants, ſo as not to break the ſtalks of the leaves, or force the mould into their hearts. The firſt time, they may be earthed three, four, or five inches, according to the ſize and height of the plants, obſerving the ſame rule at each time, till they are by degrees earthed to twelve inches, but fifteen or twenty are better. By this means, if the ſoil be rich, thoſe of the main crop that have been planted out in the end of June or in July, ſometimes make ſuch progreſs, that by September or October they may be blanched eighteen inches, or near two feet in length. Theſe earthings are to be continued to the later

crops occaſionally, until Chriſtmas, or as long as the plants continue to grow in height during the winter, at which ſeaſon, as about November and December, it is proper to earth them up pretty near their tops previouſly to hard froſt ſetting in, which often deſtroys ſuch plants as are out of the ground, and which, if of conſiderable duration, would occaſion the decay of moſt of the other parts that are within the earth.

But in the late crops, planted in October or November for ſpring uſe, ſuch plants as are of ſmall or low growth, will probably require but little or no earthing till February or March, at which time they ſhould be earthed up moderately, according to their growth, to have them for uſe in April and May, when the general crops are finiſhed.

In earthing up the plants that are planted in the latter of the above methods, it will be neceſſary to trim the earth in well between the rows, taking it equally from the different ſides; in doing which, it is of advantage, where the plants have attained a large growth, to be furniſhed with a couple of thin boards, ſix feet long; which are to be uſed at the time of earthing, to ſlip into the ſpaces between the rows of plants, to keep the ſtalks and leaves up cloſe juſt till the earth is put in, placing them cloſe to the plants, and then trimming in the earth between them; and when one ſpace is thus earthed, drawing out the boards, and placing them in the next.

The different earthings ſhould always, if poſſible, be performed when the plants are dry, as where this circumſtance is not attended to, they are apt to become ſpotted and cankery.

Some of the firſt earthed-up plants, where they have been planted in the trenches in May, or the beginning of June, will generally be fit to take up in July; for when ſuch early plants are blanched five or ſix inches in length, it is time to begin to take them up, as they rarely continue long before they begin to pipe and become uſeleſs.

But the plants of the main crop will ſeldom be blanched any conſiderable length, till the middle or latter end of Auguſt, and beginning of September, and will not have acquired their full perfection until October, as obſerved above. However, where there is much demand for the plants, you may begin to take ſome up, when they are blanched ſix or ſeven inches, as, if properly followed with earthing, they will be daily increaſing in length in the blanched part.

In winter, at the approach of very ſevere froſt, it may ſometimes be of advantage to cover ſome of the rows of the main crop with dry long litter to ſave the plants, and prevent the ground being frozen hard, that the plants may be readily dug up when wanted. And when a hard froſt is expected, a quantity of the plants may be taken up for uſe, and laid in ſome dry earth in a ſhed, or other ſheltered place.

A. rapaceum, or the turnip-rooted celery. This is likewiſe propagated by ſeeds, ſown in an open rich ſpot in March or April, as directed for the common ſort; and when the plants are an inch or two high, they are to be thinned to three inches; and at four, five, or ſix inches in height, tranſplanted into ſhallow trenches; previouſly to which the ground muſt be dug all over one ſpade deep, and drills three inches deep and eighteen aſunder, made with a hoe, in which the plants are to be ſet ſix inches diſtant.

When they are advanced nine or ten inches in growth, obſerve the progreſs of the roots, and if they have acquired a tolerable ſize, draw earth up to each ſide of the row of plants, three or four inches high, which, being well watered, will be ſufficient to improve the roots. They are generally fit to take up for uſe in a fortnight or three weeks afterwards.

A. graveolens, or ſmallage. This is a plant of the weed kind, and but ſeldom cultivated in the garden. If wanted, it may, however, be eaſily raiſed in the ſpring.

APIVORUS, in *Ornithology*, a ſpecies of the FALCO genus. The cere is black; feet half naked and yellow; head grey; tail banded with cinereous colour, and white at the tip. Linn.

This is a very variable bird in reſpect of its colour, and ſcarcely any two authors agree in deſcribing it. The length of one ſpecimen is twenty-three inches; weight thirty-eight ounces. The bill and cere black; irides golden yellow; head aſh-coloured; neck, back, ſcapulars, and wing coverts deep brown; the chin nearly white ſtreaked with narrow brown lines; fore part of the neck rufous, breaſt and belly barred with tranſverſe regular bars of rufous brown and white, each feather being white with two bars acroſs it. Tail brown, with two duſky bars, one in the middle and the other near the end. Legs ſhort, yellow, claws black. Lath. Gen. Syn.

One deſcribed in the Britiſh Zoology about the ſame ſize had the chin white, breaſt and belly of the ſame colour, marked with duſky ſpots, pointing downwards; and the tail long, of a dull brown colour, marked with three broad duſky bars, between each of which were two or three of the ſame colour, but narrower. Another, ſuppoſed to be the female, being ſhot on the neſt, is noticed in the ſupplement of the folio Zoology of Pennant; it was entirely of a deep brown, but had much the ſame marks on the wings and tail as the male; and the head was tinged with aſh colour. Linnæus ſays, the tail has only one cinereous band acroſs; the ſide tail feathers are banded with white, and ſpotted with brown, according to Briſſon; and Albin's bird had no bars on the tail.

The honey-buzzard inhabits various parts of the continent of Europe, but is no where common except in the open parts of Ruſſia and Siberia; is ſeen as far north as Sondonor in Norway; in England is ſcarcely ever met with.

It feeds on larvæ of bees and waſps, and on frogs and lizards; the eggs are of a deep red brown, with ferruginous blotches. This is the BUTEO APIVORUS of Ray, la bondrée of Briſſon and Buffon, le goiran ou boudrée of Belon, and honey-buzzard of Albin. Pennant, Brit. Zool. and Donov. Brit. Birds, t. 30.

APLANATIC, formed of *α, priv.* and *πλαναω, errø*, in *Optics*, a term applied by Dr. Blair, profeſſor of practical aſtronomy in the univerſity of Edinburgh, to that kind of refraction diſcovered by himſelf, which entirely corrects the aberration of the rays of light, and the colour depending upon it, in contradiſtinction to the word *achromatic*, which has been appropriated to that refraction, in which there is only a partial correction of colour. After a variety of reſearches and experiments, detailed at large in a paper read before the Royal Society at Edinburgh, in 1791, and publiſhed in the third volume of their Tranſactions, he diſcovered a mixture of ſolutions of ammoniacal and mercurial ſalts, and alſo ſome other ſubſtances, which produced diſperſions proportional to that of glaſs, with reſpect to the different colours; and he proceeded to conſtruct a compound lens, conſiſting of a ſemi-convex one of crown glaſs, with its flat ſide towards the object, and a meniſcus of the ſame materials, with its convex ſide in the ſame direction, and its flatter concave next to the eye; and the interval between theſe lenſes he filled with a ſolution of antimony in a certain proportion of muriatic acid. The lens, thus artificially adapted, did not manifeſt the ſlighteſt veſtige of an extraneous colour. His diſcovery is undoubtedly valuable and important, and may lead to a very uſeful improvement in the conſtruction of teleſcopes. Dr. Blair obtained a patent for his invention of a method of

improving the refracting telescopes, and other dioptrical instruments, in 1701. See ABERRATION and TELESCOPE.

APLEBECK, in *Geography*, a town of Germany, in the circle of Weſtphalia and county of Mark, three miles ſouth from Dortmund.

APLOGA, a diſtrict of the kingdom of Whidah, on the Slave coaſt in Africa, where is held a regular market for ſlaves, cows, ſheep, goats, birds, apes, cloth, cotton, callicoes, ſilk, ſtuffs, china, mercury, gold in duſt and ingots, &c.

A-PLOMB is a very expreſſive French term in *muſic* and dancing, for exactneſs and preciſion in time, or meaſure. To ſay that a vocal or inſtrumental performer has an exact *à-plomb* is pronouncing him or her to be a good timiſt. So a dancer who *falls on his feet* preciſely at the beginning of a bar, or the end of a period or movement, is ſaid to have a good *à plomb*—the higheſt praiſe that can be given him. A leader on the violin, who in *tempo rubato* (borrows time which he never pays), drags a note beyond its due length, and arrives not at the beginning of a bar at the ſame inſtant as the reſt of the band, has no *à plomb*. It ſeems as if the old refinement of *tempo rubato*, and the new one of *relentando*, could only be ſafely practiſed in ſolos, or ſolo paſſages, as great confuſion muſt ariſe in an orcheſtra by the relentandos and accelerations of an individual performer, if the reſt are not appriſed of the leader's intention.

APLUDA (the name of the chaff, &c. that lies off from grain), in *Botany*, a plant of the graſs kind, Lin. gen. 1147. Schreb. 1571. Gærtn. t. 175. Juſſ. 33. Claſs, *polygamia monœcia*; natural order of *gramina*.

Generic Character. *Calyx*, involucre-common univalve; valve ovate, concave, terminated by a very ſhort point or leaflet, two-flowered; the inferior flower ſeſſile, ſhort at the baſe, ovate, truncate, hollow down into the two oppoſite foot-ſtalks, which are glumaceous, flat, vertical; on one of theſe is placed the ſuperior flower, on the other a very ſhort rudiment of a flower; inferior flower hermaphrodite, almoſt wholly concealed between the foot ſtalks; *calyx* involucre-proper univalve; valvelet lanceolate, compreſſed, rigid, double-toothed at the tip, ſmooth, embracing the flower with its margins beneath, oppoſite to the common involucre; glume one-flowered, two valved; valvelets membranaceous, tranſparent, ſhorter than the involucre; the exterior navicular, gibbous on the back, keeled, contracted towards the tip, acuminate; the interior ventricoſe ſomewhat ſharp, ſmaller; *corolla*, glume bivalve, membranaceous, very thin, tranſparent; valve exterior navicular, compreſſed, ſmooth, greeniſh, gibbous on the back, bifid, acute, awned below the tip, concealed within the exterior valve of the calyx; the interior lanceolate, flat, acute, doubled together at each margin, the exterior rather longer; nectary very ſmall, two-leaved, truncate-rounded, greeniſh; *ſtamina*, filaments three, capillary; anthers linear, bifid on each ſide; *piſtillum*, germ oblong, ſmall; ſtyles two, ſimple, erect; ſtigmas oblong, villoſe, protruding on each ſide of the flower; *pericarpium* none; corolla cheriſhes the *ſeed*, which is ovate-oblong, compreſſed and ſmooth: flower-ſuperior ſmaller; *calyx*, glume two-flowered, two-valved; valves lanceolate, broadiſh, flat, ſharp, nervoſe, nearly equal; one floſcule female, the other male or neuter; *corolla* of the female a bivalve glume; valves membranaceous, greeniſh; the exterior veſſel boat-ſhaped, cornered, pointed; the interior lanceolate, narrower, ſhorter, obtuſe; of the male, glume bivalve; valves lanceolate, membranaceous, greeniſh; the exterior rather veſſel-ſhaped, ſharp; the interior narrower, ſhorter; nectary in both as in the ſuperior flower, and alſo the ſtamens of the male and piſtil of the female flowers. It has been obſerved, that ſometimes each floſcule of the ſuperior flower is male.

Eſſential generic character. *Calyx* glume common, bivalve; female floret ſeſſile, males pedunculed; male, *calyx* none; *corolla* bivalve; *ſtamina* three; female *calyx* none; *corolla* bivalve; ſtyle one; ſeed one, covered.

Species. 1. A. *mutica*, leaves lanceolate, all the flowers awnleſs; culms very long, weak, ſmooth, ſwelled at the joints; leaves long, flat, narrowed at the ſheath into a petiole; panicles ſmall, lateral: a native of India. 2. A. *ariſtata*, leaves lanceolate; male flowers awnleſs, except one at the end, which is awned and ſeſſile; culms a foot long, inflected; leaves rough, petiolate; racemes axillary; flowers in threes: a native of India. 3. A. *angiles*, mountain-reed-graſs, leaves ovate, flowers ſimilar to thoſe of the ariſtata; culms from one to two feet in height, filiform, jointed; leaves ſubpetioled, acute, nerved, reticulate, ſmooth; panicle ſpreading, few-flowered: a native of Jamaica, where it was found by Brown. See his Jam. 341. t. 4. f. 3. 4. A. *digitata*, ſpikes digitate; flowers all pointing in the ſame direction: a lofty Eaſt-Indian graſs, diſcovered by Thunberg.

APLUSTRE, or AMPLUSTRE, in the *Ancient Naval Architecture*, a carved tablet, ſomewhat after the manner of a ſhield, fixed by way of decoration to the extremity of a ſhip's head. This ornament was in the ſtern, and ſometimes on the prow, and from it was erected a ſtaff or pole, with a ribbon or ſtreamer on the top. It anſwered to the Greek *aplaſtum*.

The *roſtra*, or beaks of ſhips, were ſometimes alſo called *aplaſtria*.

But ſome think that the aplaſtre anſwered to what we call the flag, or enſign.

APNŒA, from α and πνεω, *I breathe*, in *Medicine*, denotes a want of breath, or loſs of reſpiration.

In this ſenſe is the word uſed among the ancients, not as importing a total privation of breath, which would only be another name for death; but to denote the reſpiration very ſmall and ſlow, ſo as to ſeem quite gone, as is the caſe in ſuffocation of the uterus, apoplexies, ſyncopes, lethargies, &c.

APOBATE, in *Antiquity*, the name given to thoſe athletæ, who were alſo denominated PARABATÆ.

APOBATANA, in *Ancient Geography*, the metropolis of Media, more properly and more generally called *Ecbatana*.

APOBATERION, from αποβαινω, *I depart*, among the *Ancients*, a farewel ſpeech or poem, made by a perſon on his departure out of his own country, or ſome other place where he had been kindly received and entertained.

Such is that of Helenus and Andromache, Æn. lib. iii. The apobaterion ſtands oppoſed to the EPIBATERIUS.

APOBATHMOS, in *Ancient Geography*, a place of Peloponneſus, on the coaſt of the Argolide, weſt of the gulf, near *Genethlium* and *Lerna*: where, according to tradition, Danaus and his ſons landed on the ſhore of Argos; whence the name.

APOBATHRA, a place in the Thracian Cherſoneſus, where the troops of Xerxes landed in their paſſage from Aſia to Europe.

APOBATHRÆ, in *Antiquity*, a kind of little bridges, or ſtairs, joining the land to ſhips, or one ſhip to another.

APOBEE, in *Botany*, a name given by the natives of Guinea to a ſpecies of corn-marygold, called by Petiver *chryſanthemum acaulon Guineenſe foliis longis anguſtis*, from its having long and narrow leaves, and no ſtalk to ſupport the flower. The people of the place uſe this in the ſmall-pox, and other eruptive fevers, boiled in water, and the liquor drank warm. Phil. Tranſ. N° 232.

APOBOMIOI, from απο, *below*, and βωμος, *altar*, in *Antiquity*, ſacrifices offered on the bare earth, without altars.

APOCALYPSE, formed of αποκαλυπτω, *I reveal; Revelation*: the name of the laſt book in the canon of Scripture.

The

The firſt queſtion that occurs in our examination of this book relates to its *authenticity*. This is a ſubject on which many ancient and modern writers have diſagreed; and it will be ſufficient to give a brief view of the evidence which teſtimony affords concerning it. It has been alleged, that there are evident alluſions to this book in the Shepherd or Paſtor of Hermas, a piece that was written towards the cloſe of the firſt century; and that it was received by Papias, who flouriſhed about the year 116. Juſtin Martyr, about the year 140, was well acquainted with this book, and received it as the genuine writing of the apoſtle John. Among the works of Melito, biſhop of Sardis, one of the ſeven churches of Aſia, about the year 177, Euſebius mentions one, intitled, "of the Revelation of St. John;" and it is probable, that he aſcribed this book to the apoſtle of that name, and eſteemed it of canonical anthority. It appears to have been referred to by the Martyrs at Lyons, A. D. 177. Irenæus, biſhop of Lyons, about 178, who in his youth was acquainted with Polycarp, often quotes this book as "The Revelation of John the Diſciple of the Lord;" and he ſays concerning it, that it was ſeen not long ago, but almoſt in our age, at the end of the reign of Domitian. From the writings of Athenagoras, the Teſtament of the Twelve Patriarchs, and the Clementine recognitions, Dr. Lardner has produced ſingle alluſions to the Apocalypſe, which prove, that the authors of theſe books were acquainted with it, though they do not warrant the concluſion, that they conſidered it as the genuine work of St. John the apoſtle. But it was undoubtedly received, and often cited by Theophilus, biſhop of Antioch, about A.D. 181, Clement of Alexandria, who flouriſhed about 194, and Tertullian about the year 200. Euſebius informs us, that Apollonius, who wrote againſt the Montaniſts about the year 211, quoted the Revelation. It was received by Hippolytus about the year 220, who wrote a commentary upon it; and about 230, by Origen, who has often cited it, and who ſeems to have had no doubts about its genuineneſs. Dionyſius, a diſciple of Origen, and biſhop of Alexandria, about the year 247, or ſomewhat later, wrote a book againſt the Millenarians, in which he allows the Revelation to have been written by John, a holy and divinely inſpired man, who was, as he ſuppoſes, not John the apoſtle, but an elder who alſo lived at Epheſus. About the year 240, and before, it was received by Nepos, an Egyptian biſhop, and by many others in that country, and held in great reputation.

After the age of Dionyſius, the number of eccleſiaſtical writers who quote the Apocalypſe, as a divine work, begins to increaſe.

According to Lardner, it was received and frequently quoted by Cyprian, biſhop of Carthage, about 248, and by the church of Rome in his time, by Novatus, A. D. 251, and his followers; by Commodian, A. D. 270; by Victorinus, who wrote a commentary upon it, and by Methodius, A. D. 290; probably by the Manichæans, though this is diſputed by Beauſobre; by Arnobius, and Lactantius, A. D. 306; by the Donatiſts, and by the Arians, in the fourth century. In the time of Euſebius, about the year 315, it was not received by all, and therefore he reckons it among contradicted books, obſerving that it was rejected by ſome, but by others referred to the claſs of books univerſally received. He ſeems to have heſitated about it; for he neither pronounced it to a forgery, nor aſcribed it to St. John the apoſtle. He ſays, however, that the Revelation was ſeen by John the elder, if not by John the apoſtle. Dr. Lardner obſerves, that the critical argument of Dionyſius of Alexandria had great weight with him, and with others of that time. The Revelation was received by Athanaſius, biſhop of Alexandria, A. D. 326; by Epiphanius, biſhop of Cyprus, A. D. 368; by Gregory Nazianzen, A. D. 370, as ſome have inferred from his citing it, but others have diſputed his acknowledgment of it; by Jerom, A. D. 392, who admitted it after a more cautious examination than was inſtituted by moſt of his predeceſſors, and who appealed in ſupport of its authenticity to ancient teſtimonies; by Ruſinus, A. D. 397; and by Auguſtine, A. D. 395. The authority of this father was ſo great, not only in the African church, but in the Latin church in general, that his reception of the Apocalypſe contributed very much to its almoſt univerſal admiſſion both in Africa and in the weſt of Europe. During his time, in the year 397, was held the third council of Carthage; and this was the firſt council in which this book was pronounced cononical. Innocent I. elected pope in 402, declared likewiſe, that this book, from which his ſucceſſors were to be proved the Antichriſt, was canonical. It is in the catalogue of Dionyſius the Areopagite, and in Greek manuſcripts, ſuch as the Codex Reuchlini, Alexandrinus, and Seidelianus. It was received by Sulpicius Severus about 401, and declared to be a genuine and divine work, in the fourth council of Toledo, A. D. 633, for this curious reaſon, becauſe it had been pronounced ſuch by ſeveral councils and ſeveral popes, and the decree of this council annuls all doubts of its authenticity in the Latin church. Andrew biſhop of Cæſarea in Cappadocia, at the end of the fifth century, and Arethas biſhop of the ſame place in the ſixth century, wrote commentaries upon it. In the Syrian church, which comprehended not only all the Chriſtians who reſided in Syria, Aſſyria, and Meſopotamia, but likewiſe all thoſe who were diſperſed in Arabia, Perſia, Tartary, and China, as well as in the Greek and Latin churches, the book of Revelation was acknowledged as a divine work. To this purpoſe Ephrem the Syrian, about A. D. 370, not only quoted it, but received it as a divine book; for he ſays concerning it, "John ſaw in revelation a great and wonderful book which God had written, and which was ſealed with ſeven ſeals." In the ſeventh century, a new and very literal tranſlation was made of the Apocalypſe, and taken into the Philoxenian verſion, which was chiefly uſed by the Monophyſites, ſo that they did not reject it. In the latter end of the ſame century, and the beginning of the next, lived Jacob the Monophyſite, biſhop of Edeſſa, who has quoted the Apocalypſe in his commentary on Gen. xlix. 17. That the Syrians of the Neſtorian party likewiſe received this book in the eighth century, appears from an ancient monument which was dug up at Sanxuen, in the Chineſe province of Xenſi, in the year 1625. On this monument, which appears to have been erected A. D. 781, at which period, as well as during ſome centuries later, there was a very numerous colony of Neſtorian Syrians, in China, mention is made of the New Teſtament as containing 27 books, ſo that the Apocalypſe muſt have been included; but it is needleſs to purſue the evidence to a wider extent, or to a later period.

Having cited a great number of very reſpectable authorities in favour of the genuineneſs of the Apocalypſe, it may not be improper, for aſſiſting the judgment of the reader, to preſent ſome of the teſtimonies that have been urged againſt it.

The moſt ancient evidence on this ſide of the queſtion, is that of Ignatius, A. D. 107, who wrote epiſtles to the churches of Epheſus, Smyrna, and Philadelphia; three of thoſe that are mentioned in the book of Revelation; and who reminds the Epheſians of the praiſes beſtowed upon them by St. Paul, and yet takes no notice of the praiſes which, according to Rev. ii. 1—7. 8—11. iii. 7—12. their biſhops had received from Chriſt himſelf. Hence it has been in-

ferred, either that the Apocalypse was unknown to Ignatius, or if known, not believed by him to be genuine: and if it was a genuine work of St. John the apostle, it could not have remained unknown to him. The old Syriac translator, who lived in the first century, did not translate the Apocalypse; and hence it is presumed, that he either knew nothing of it, or did not believe it to be genuine. The testimony of Papias in its favour is doubtful; for it is urged, that as he was the founder of the system of the Millennium, he would naturally have recurred to the 20th chapter of this book, if he had been acquainted with it, in support of his opinion. In the second century it was acknowledged and received by many eminent persons; nevertheless in this century there existed a sect, called the Alogians, who were acquainted with the Apocalypse, and yet denied it to be genuine. One of their principal and most plausible objections against the authority of this book is founded on the circumstance recorded in ch. ii. 18-29, in which the fourth epistle is directed to be addressed to the angel of the church at Thyatira; whereas, they affirm, that there existed no church at Thyatira. This objection of the Alogi Epiphanius has delivered in the following words, "[illegible] χριστιανῶν;" but these words are ambiguous, for they may denote either that there was no Christian community at Thyatira in the time of St. John, or there was no such community there when the Alogi made their objections. In the latter sense the argument is of no importance; for though there might be no Christian society at Thyatira in the middle of the second century, there might have been one in the reign of Claudius, to which period Epiphanius refers the Apocalypse. But the fact was not true, as there existed a community of Alogi, who certainly considered themselves as Christians, and another sect who were opposed to the Alogi, and who were called Phrygians. It is, therefore, not necessary to recur with Epiphanius to the prophetic spirit of St. John, who foresaw there would be a church at Thyatira in course of time. Besides the Alogi, there were other adversaries of the Apocalypse, who lived partly at the same time with them, and partly in the beginning of the third century; and who rejected the Apocalypse, not so much as the Alogi did, from their antipathy to the term λογος, but principally from their dislike of the doctrine of the Millennium. Among these we may reckon the Roman presbyter Caius, who lived about the year 210. Some, however, have supposed that Caius refers to a different Apocalypse from ours. Dionysius of Alexandria, though he did not reject it as a forgery, did not ascribe it to St. John the apostle, and probably did not believe it to be a divine work: but his reasons for not ascribing it to St. John are not historical but critical; and, therefore, their importance depends not on the antiquity of the writer who assigned them, but merely on their own internal strength. It is well observed by Michaelis, who himself hesitates in allowing the genuineness of this book, but who has fairly stated the evidence on both sides, that if it were not written by St. John, we have reason to wonder, that neither Dionysius nor his predecessors, neither the Alogi nor Caius, should have alleged against a work, supposed to have been first ushered into the world about the year 120, any arguments like the following: "It is not preserved in the archives of the seven churches; the oldest persons in these cities have no knowledge of its having been sent thither; no one ever saw it during the life of John; it was introduced in such and such a year, but was contradicted as soon as it appeared." Arguments like these would have at once determined the question in dispute; but since we meet with no such arguments in the writings of the ancient adversaries of the Apocalypse, its very adversaries have given it an advantage, which, if not decisive, merits peculiar consideration. Eusebius, who was in possession of almost all the information that was to be collected before his time, had not been able to discover any thing decisive in respect to the Apocalypse, and consequently remained in doubt. He, therefore, neither pronounced it a forgery, nor ascribed it to St. John the apostle. Michaelis closes his examination of the evidence prior to the time of Eusebius, with the following remarks: "How is it possible that this book, if really written by St. John the apostle, should have either been wholly unknown, or considered as a work of doubtful authority in the very earliest ages of Christianity? The other apostolical epistles are addressed only to single communities or churches; but the Apocalypse, according to its own contents, was expressly ordered by Christ himself, in a command to St. John the apostle, to be sent to seven churches; and not only were these seven churches in that part of Asia Minor where Christianity was in the most flourishing situation, but one of them was at Ephesus, where St. John spent the latter part of his life, and consequently where every work of St. John must have been perfectly well known. If St. John then had actually sent the Apocalypse to these seven churches, and that too not as a private epistle, but as a revelation made to him by Jesus Christ, one should suppose that its authenticity could not have been doubted, especially at a time when there were the best means of obtaining information. We cannot say that the book was kept secret, or was concealed in the archives, lest the prophecies against Rome should draw a persecution on the Christians; for secrecy is contrary to the tenor of the book; and the author of it enjoins (ch. i. 3.) that it should be both read and heard. "Under these circumstances," adds the author, "the authenticity of the Apocalypse appears to me very doubtful; and I cannot avoid entertaining a suspicion, that it is a spurious production, introduced probably into the world after the death of St. John."

Since the time of Eusebius, and some centuries later, the doubts that had prevailed concerning the authenticity of the Apocalypse considerably abated, especially among the members of the Latin church, who at last received it almost unanimously. Among the Greek writers, however, there were several who rejected it. It was not received by all in the time of Epiphanius; it was omitted in the catalogue of the council of Laodicea, held A.D. 363; but professor Spittler, says Michaelis, has clearly shewn, that the whole of the sixteenth canon, which contains this catalogue, is a forgery; and if this be true, no evidence can be deduced from it in future against the Apocalypse. It was not acknowledged by Cyril, who was bishop of Jerusalem from the year 350 to the year 386; nor was it admitted into the catalogue of canonical books by Gregory Nazianzen; and by Gregory of Nyssa it was placed among the Apocryphal writings. In fact, says Michaelis, it was almost universally considered as spurious by the members of the Greek church at the end of the fourth century: and Dr. Lardner acknowledges, not only that the two celebrated Greek commentators, Chrysostom in the fourth, and Theophylact in the eleventh century, have not quoted it in a single instance; but that Nicephorus, patriarch of Constantinople, about the year 806, expressly rejected it; and on his testimony, it was placed among the Apocryphal books.

Although the Apocalypse made no part of the old Syriac version, which is the vulgate of the Syrian church in general, it was translated in an early age into that language. Nevertheless, it was not received by Severian, bishop of Gabala in Syria, A. D. 401; nor by Theodoret, bishop of Cyrus, in Syria, A. D. 423; nor by Abulpharagius, who was primate of all the Monophysites of the east in the thirteenth century,

century, and was by far the moſt learned of all the Syrian writers; and it was entirely omitted in the catalogue of ſacred books formed by Ebedjeſu, metropolitan of Armenia, who died in the year 1318. It does not appear to have been received, or at leaſt to have been publicly read at Alexandria in the fifth century, but it was received in general by the Egyptian Chriſtians.

In more modern times, although the opinion of learned men has been very generally and decidedly in favour of the authenticity of the Apocalypſe, yet there have been ſome who have entertained doubts about it, and others who have denied it. Among the latter we may mention Luther, who, in the preface to his edition of 1522, poſitively rejected it; but in the later editions, he has expreſſed himſelf in terms leſs deciſive, and left it to others, who, he ſays, were better qualified than himſelf to determine whether it merited a place in the ſacred canon or not. Michaelis alſo, after an elaborate examination of the authenticity of this book, concludes with leaving the deciſion of this important queſtion to every man's private judgment.

The arguments for or againſt its divinity, deduced from the completion or non-completion of the prophecies contained in it, have been particularly conſidered by Michaelis (ubi infra), and to this learned writer the reader is referred. Sir Iſaac Newton cloſes his brief account of the ancient teſtimonies in favour of the genuineneſs of the Apocalypſe with this obſervation: "I do not, indeed, find any other book of the New Teſtament ſo ſtrongly atteſted, or commented upon ſo early as this."

As to the *author* of this book, there has been a conſiderable difference of opinion among both ancient and modern writers. Some have aſcribed it to John, a preſbyter of Epheſus. Of this number ſeems to have been Euſebius, who, after having ſhewn from the writings of Papias, that beſide St. John the apoſtle, there lived at Epheſus a preſbyter of the ſame name: he adds, "This latter John was probably the perſon who ſaw the Revelation, unleſs it be inſiſted on, that it was the former." Others attributed the Apocalypſe to Cerinthus, who is ſuppoſed to have lived in the time of St. John: and to this claſs we may refer the Alogi, and, probably, the Roman preſbyter Caius, and other perſons in Egypt, of whom Euſebius has given an account. Eccl. Hiſt. b. vii. c. 25. Againſt this opinion it has been juſtly alleged, that if the inſcription be not falſe, Cerinthus could not have been the author, unleſs he alſo was called John; beſides, the Revelation contradicts many of Cerinthus's ſentiments, and therefore could not be his work. According to Irenæus, Cerinthus denied that God made the world; whereas, the writer of the Revelation often teaches the contrary. See Rev. c. iv. 11. He alſo maintained, that Chriſt did not ſuffer, but Jeſus only. But the author of the Revelation calls Jeſus, Chriſt, not Jeſus alone, the firſt begotten of the dead; and adds, that the ſame Jeſus Chriſt waſhed us from our ſins in his own blood (Rev. i. 5.); and, v. 7. he ſays of Jeſus Chriſt, that he was pierced. It is, therefore, improbable to the higheſt degree, that Cerinthus ſhould have written the Revelation under the name of John; for if he had meditated ſuch a fraud in favour of his Millennium, he would have ſo contrived it, as not to hurt his other equally favourite opinions. It has been alſo ſaid, that the Revelation does not eſtabliſh Cerinthus's notions of the Millennium, but directly contradicts and overthrows them; for the author of the Apocalypſe deſcribes his Jeruſalem as inhabited by numbers of pure and holy perſons (Rev. xxi. 27. xxii. 14, 15.); whilſt Cerinthus's Jeruſalem was to be the reſidence of the earthly and ſenſual. His citizens were to ſerve their paſſions and their pleaſures; whilſt the men of John's Jeruſalem were to ſerve God and the Lamb (Rev. xxii. 3.). His millenary ſtate was not the life of ſaints, as the Apocalypſe repreſents it, but the life of libertines.

The more generally received opinion concerning the author of the Apocalypſe is, that it was written by St. John the apoſtle and evangeliſt, who was the writer of the Goſpel and the Epiſtles. To this purpoſe it has been argued, that in ch. i. v. 1. John ſtyles himſelf the "Servant of Chriſt," in a ſenſe not common to all believers, but peculiar to thoſe who are eſpecially employed by him; and, in v. 2. the writer is ſuppoſed to refer to the written goſpel of St. John, and to ſay, that he had already borne teſtimony concerning the word of God and of Jeſus Chriſt. On this particular, Dr. Lardner lays no great ſtreſs; and he thinks, that if St. John had intended to manifeſt himſelf in this introduction, he would have more plainly characteriſed himſelf in ſeveral parts of this book than he has done. But the evidence of antiquity, in favour of its having been written by St. John the apoſtle, is of much greater moment; beſides, it has been alleged in proof of its genuineneſs, and of St. John's being the author of it, that there are many inſtances of conformity, both of ſentiment and expreſſion, between this and the unconteſted writings of St. John. For ſuch coincidences, learned men have referred to Rev. xix. 13. John, i. 1.; Rev. v. 6. 12. John, i. 29. 36.; Rev. iii. 7. xix. 11. John, i. 14. xiv. 6.; 1 John, v. 20. Rev. ii. 17. John, vi. 32.; Rev. i. 7. John, xix. 37.; Rev. iii. 20. John, xiv. 23.; Rev. i. 5. 1 John, i. 7; Rev. iii. 21. John, xvi. 33. 1 John, ii. 13. 14. iv. 4. 5. Theſe coincidences tend to invalidate the objection of Dionyſius of Alexandria, who ſays that there is no affinity or reſemblance between them. This learned writer has alſo obſerved, that the Goſpel and firſt epiſtle of John are written correctly, and not only according to the propriety of the Greek tongue, but with elegance of phraſe, argument, and compoſition; quite free from barbariſm and ſoleciſm, and even idiotiſm of language; but the writer of the Revelation diſcovers no accurate ſkill in the Greek tongue; on the contrary, he has barbariſms and ſome ſoleciſms. The Apocalypſe, it is obſerved, abounds with harſh conſtructions, in which a nominative is placed where another caſe ought to have been uſed. Bengelius, in his "Apparatus Criticus," has alleged inſtances from ch. i. 5.; ii. 20.; iii. 12.; viii. 9.; ix. 14.; xiv. 12.; xviii. 11. 12.; xxi. 10. 12.; xiv. 5.; xvii. 4.: others might be added. Although conſtructions of this kind were probably not unuſual among the Greek Jews, yet we find no ſuch examples in the goſpel and epiſtles of St. John. Some of theſe unuſual conſtructions, it has been pleaded, are not found in all manuſcripts, and only in a very few printed editions; but they occur too frequently in the Apocalypſe to be imputed wholly to tranſcribers: and they exiſted in this book long before our moſt ancient manuſcripts were written, as in the third century, when they were noticed by Dionyſius. Beſides, the Apocalypſe abounds with Hebraiſms much more than the other writings of St. John; and this circumſtance has induced ſome commentators to ſuppoſe, that it was originally written in Hebrew, and that our Greek text is only a tranſlation; but this is wholly unſupported by hiſtorical evidence. Moreover, though the figurative language of the Apocalypſe, when compared with the ſimple ſtyle of St. John's Goſpel, cannot be fairly alleged as an argument that the two books were written by different authors; ſince the ſame author, when animated by a ſpirit of prophecy, will write in a different manner from that in which he had written as an hiſtorian; yet there is a certain character, it has been ſaid, in the language of the Apocalypſe, which is hardly to be reconciled with the manner that is viſible in St. John's Goſpel. In the latter, there is a ſoft and gentle cha-

racter,

racter, so peculiar to itself, as to exhibit no trace of imitation; whereas, in the former, we find the author an imitator of the ancient prophets, from whom he borrows his images, and renders them more beautiful than they were in the originals. And the imagery, which is taken from the theology of the rabbins, acquires in the Apocalypse a taste and eloquence, of which the rabbinical writings themselves are wholly destitute. The beauties of St. John's gospel are of a different kind; for while the author of the Apocalypse hurries us away to enchanted ground, and resembles a torrent which carries every thing before it, St. John the evangelist is plainness and gentleness, and is like a clear rivulet, which flows without rapidity and violence. Is it possible, therefore, subjoins Michaelis, that St. John the apostle, and the author of the Apocalypse, called St. John the divine, were one and the same person? It is, indeed, an undeniable fact, that the style of the Apocalypse is very different from that of St. John's gospel. Mr. Blackwall denies this; but it is allowed by Joachim Camerarius, Beza, Mill, &c. "This, I suppose," says the impartial and candid Lardner, "to be the more general opinion of learned men, that there is a considerable difference of sentiments and words, and manner, in the Revelation, and the acknowledged pieces of the apostle John: whatever this difference is owing to, whether it be that these writings are not all the compositions of one and the same author, or that it is entirely owing to the diversity of subject and design, or to some other cause. I shall, however, mention another thing to be considered: if there were any reason to think, that there was some considerable distance of time between the composing of any of these books, that might be one good way of accounting for differences of style; for it is not unlikely, that one and the same person, writing upon different arguments, and at a great distance of time, especially if he be one who does not frequently exercise his style, or write in the intermediate space, should have a very different manner in his several performances."

Dionysius has further remarked, that St. John the apostle has not mentioned his own name in his gospel, or in any of his epistles; but, when he has occasion to speak of himself, he makes use of a circumlocution. On the other hand, St. John the divine mentions his own name, not only in places where it was requisite, as in the address to the seven churches (ch. i. 4.), but likewise in places where the single pronoun "I," or the expression, "he who saw this," would have been full as proper as the term "I John." The one appears to have an excessive modesty, and to avoid even the shadow of egotism; the other avoids it so little, that he is lavish in the use of his name. And what renders this difference the more remarkable is, that the circumlocution by which St. John the apostle denotes himself, *viz.* "the disciple whom Jesus loved," is not once used by St. John the divine. This objection admits of various replies. Although St. John has not expressly named himself in his gospel, he has so described himself (John xxi. 24. and other places), that it is impossible not to know him; the other apostles have forborne to mentions their names as well as John; nor is there any name prefixed to the epistle to the Hebrews; and the character of the prophet being different from that of an evangelist, required the introduction of his name in conformity to the ancient prophets, who had inserted their names at the beginning, and in other parts of their prophecies. Dr. Lardner does not allow this last observation to be fully satisfactory, as the apostle has not specified the time of his prophecies and visions, and other particulars, which was done by the ancient prophets, and by Daniel in particular. As for the want of any description annexed to the name of John, we may infer from this circumstance, that he was the principal person of that name then living, that is, John the evangelist; and as this was the case, his name needed no additions. Besides, he is actually described (ch. i. 2.) under characters which were appropriate to John the apostle. Upon the whole we may observe, that he calls himself John; that he is described as one who bore record of the word of God; that he had been in the isle of Patmos for the testimony of Jesus; and we have no account of any John who had been an exile in this island about that time, except John the apostle; and, moreover, he writes to the seven churches of Asia, where the apostle and evangelist is supposed to have presided; and it is not likely that the spirit of God should admonish and reprove these churches by John the elder, allowing there was such a person, whilst John the apostle was living, and presided in those parts. Upon the whole, there seems to be sufficient reason for concluding, that St. John the apostle was the author of the Apocalypse.

Another subject of inquiry, concerning which the learned have differed, is the *time* in which this book was written. On this point six different opinions have been advanced. 1. It has been asserted, that the Apocalypse was written in the reign of the emperor Claudius. Epiphanius is the only evidence in favour of this opinion, and he lived 300 years later than St John. Although Grotius recommends this opinion by having adopted it, and supposes that the visions of the book were seen at several times, and afterwards joined together in one book, two very material objections have been urged against it: the first is, that there was no persecution of the Christians in the reign of Claudius, and therefore the banishment of St. John to the isle of Patmos cannot be referred to this period. This emperor did indeed issue an edict for banishing the Jews from Rome, but it did not affect the Jews in the provinces, much less the Christians; and the governors had no authority to banish Jews or Christians out of their governments, without an order from the emperor; and moreover, St. John was not in Ephesus during the reign of Claudius. The second objection to this date is founded on the circumstance, that the seven churches in Asia, to which the Apocalypse is addressed, did not exist at so early a period as the reign of Claudius; for this fact cannot be reconciled with the history given in the Acts of the Apostles, of the first planting of Christianity in Asia Minor. 2. It has been maintained that St. John was banished to Patmos, and wrote the Apocalypse there, in the reign of the emperor Nero, before the destruction of Jerusalem. This opinion has one evidence in its favour, but it is anonymous, and without date; and that is, the subscription to the Syriac version of the Apocalypse; but thus feebly supported, it has been sanctioned by the adoption and arguments of sir Isaac Newton. Dr. Lardner has examined the arguments of Newton, and does not allow them much weight. 3. According to another opinion, the Apocalypse was written before the time of Domitian, and before the Jewish war, but it does not determine whether it was in the reign of Claudius or in that of Nero. 4. The most probable, and the generally received opinion is, that St. John was banished into Patmos in the reign of Domitian, and by virtue of his edicts for persecuting the Christians, in the latter part of his reign, and that he had the Revelations contained in the Apocalypse on that occasion; but the book itself could not have been published till after St. John's release and return to Ephesus. All antiquity, says Mr. Lampe, is agreed that St. John's banishment was by order of Domitian. Irenæus, Origen, Eusebius, and various other ancients, refer the banishment of St. John to the latter part of the reign of Domitian; and they concur in saying, that he there saw the Revelation. As Domitian died A.D. 96, and his persecution did not commence till near the end of his reign, the

Revelation

Revelation ſeems to be ſtily dated in the year 95 or 96, in the laſt of which years Mill, Baſnage, and Le Clerc place it. Mr. Lowman ſuppoſes, that he had his viſions in the iſle of Patmos, in the year 95; Dr. Lardner refers the viſions recorded in this book, and the publication of them, to the years of Chriſt 95 and 96, or 97. There are two other opinions, which ſhall be merely mentioned, becauſe they are not ſupported by any ſufficient authority, that refer the baniſhment of St. John to Patmos, the one to the reign of Trajan, and the other to that of Adrian. Mr. Wettſtein (N. T. t. ii. p. 746.) favours the opinion of thoſe who have agreed that the Revelation was written before the Jewiſh war; and in this caſe, he ſays, it is likely that the events of that time ſhould be foretold in it. But upon this ſuppoſition, Dr. Lardner is of opinion, that it was not neceſſary the deſtruction of Jeruſalem, and the calamities attending it, ſhould be foretold in this book; becauſe our bleſſed Lord's plain predictions, and ſymbolical prefigurations of theſe events, had been recorded by no leſs than three hiſtorians and evangeliſts before the war in Judæa broke out. "If we conſider the Apocalypſe as a divine work," ſays Michaelis, "I think we muſt confine our choice to thoſe dates which precede the commencement of the Jewiſh war; for thus only ſhall we be enabled to ſhew, that its firſt prophecies were fulfilled in a ſhort time. And I grant, that if it is referred to the reign of Claudius, the explanation of it is ſtill eaſier than when it is referred to the reign of Nero; for the ſcarcity predicted (ch vi. 6.) is deſcriptive of that which took place in the time of Claudius. If it be conſidered as a mere human invention, it may be either aſcribed to Cerinthus, or attributed to ſome unknown writer, who lived between the time of Papias and that of Juſtin Martyr; in the latter caſe, it might have been written in the reign of Hadrian. But if it be really a forgery, if it contain prophecies of the Jewiſh war, made after the events themſelves had taken place, we have reaſon to wonder, that the author did not propheſy more circumſtantially, and that he appears ſo little acquainted with the events of that war."

The book of the Revelation, notwithſtanding the pains which have been taken by men of ability and learning to explain it, ſeems yet to the generality of Chriſtians very obſcure; and many look upon it as a ſealed book ſtill, never to be explained to any certainty or ſatisfaction. A great critic, Scaliger, ſaid, that Calvin was wiſe becauſe he did not write upon the Revelation. And another (Dr. Whitby), who has written with great reputation on the other books of the New Teſtament, confeſſes he did not do it for want of wiſdom; becauſe, ſays he, "I have neither ſufficient reading nor judgment to diſcern the intendment of the prophecies contained in that book." Michaelis has arranged the expoſitions of the Apocalypſe, conſidered as a divine work, under the following claſſes. To the firſt claſs may be referred all thoſe commentaries which are faſhionable among Proteſtants, and according to which, the Apocalypſe contains prophecies againſt the pope and the church of Rome; and in the commentaries belonging to this claſs, the prophecies in the Apocalypſe are conſidered as ſtill fulfilling. To this claſs of commentators we may refer Mede, ſir Iſaac Newton, Lowman, biſhop Newton, Hurd, &c. &c. and many other Proteſtant writers. To the ſecond claſs belong thoſe commentaries, which confine the prophecies of the Apocalypſe to the three firſt centuries, at leaſt ſuch as relate to perſecution and puniſhment: for the happy Millennium may, according to theſe commentaries, be made to commence with the converſion of Conſtantine the Great. Commentators of the third claſs find in the Apocalypſe nothing but the deſtruction of Jeruſalem, and the flight of the Chriſtians from that city to Pella before the commencement of the ſiege. The book of Revelation, according to the interpretation of the beſt commentators, comprehends a much longer period than has been aſſigned to it by thoſe who ſuppoſe that the expreſſions "which muſt ſhortly come to paſs," and "the time is at hand," and the like, point out a very ſhort period; ſo that the whole prophecy ſhould be accompliſhed in a few years after the viſion. Theſe expreſſions will, indeed, ſhew that the accompliſhment of the things foretold in this prophecy was ſoon to begin, but determines nothing concerning the time of their termination, the duration of which is much longer, and reaches from the time of the viſion to the day of judgment. The book itſelf ſeems alſo to ſhew farther very plainly the order of the ſeveral prophecies, according to their ſeveral periods, as well as the whole duration, from the time of the origin to the finiſhing of the whole myſtery of God's providence towards the church. The Revelation begins, according to Mr. Lowman, by opening the ſealed book, which deſcribes the future ſtate of the church in ſeven ſucceſſive periods.

The *firſt* period ſhews the ſtate of the church under the Heathen Roman emperors, from about the year 95 to about the year 323, and comprehends the opening of ſeven ſeals. The firſt ſeal repreſents a white horſe and the rider with a crown, ſignifying the Chriſtian religion prevailing againſt the oppoſition of Jews and Heathens. The ſecond ſeal repreſents a red horſe with its rider, having power to take peace from the earth, denoting the firſt memorable judgment on the perſecutors of Chriſtianity, in the deſtruction of of the Jews under Trajan and Hadrian, from 100 to 138. The third ſeal repreſents a black horſe, the rider of which has a balance to meaſure corn, denoting great ſcarcity, approaching to famine, in the time of the Antonines, from 138 to 193. The fourth ſeal repreſents a pale horſe with its rider, called Death, ſignifying a great mortality and peſtilence, in the reigns of Maximin and Valerian, from 193 to 270. The fifth ſeal repreſents the ſouls of the martyrs under the altar, denoting the ſevere perſecution in the reign of Dioclefian, with an encouragement to conſtancy. The ſixth repreſents earthquakes, &c. ſignifying great commotions in the empire, from Maximian to Conſtantine the Great, who put a period to the perſecution of Heathen Rome. The interval between the firſt and ſecond periods repreſents an angel ſealing 144,000 with the ſeal of the living God; ſignifying great numbers forſaking the idolatrous worſhip of the Heathen Roman empire, and embracing the profeſſion of Chriſtianity.

The *ſecond* period reveals the ſtate of the church and providence in the times following the reign of Conſtantine, during the invaſion of the empire by the northern nations and the riſe and firſt progreſs of the Mahometan impoſture, till the ſtop put to it in the weſtern empire; extending from the year 337 to 750, and denoted by ſeven trumpets. The firſt trumpet repreſents hail and fire mingled with blood, ſignifying great ſtorms of war falling upon the empire, and the blood that was ſhed in the reigns of the Conſtantine family and their ſucceſſors, till things were ſettled under Theodoſius, from 337 to 379. The ſecond trumpet repreſents a mountain burning with fire, caſt into the ſea, whereby it became blood; denoting the invaſion of Italy by the northern nations, and taking the city of Rome by Alaric, from 379 to 412. The third trumpet repreſents a burning ſtar falling upon the rivers, which became bitter; ſignifying the ravages in Italy, putting an end to the Roman empire, and founding a kingdom of Goths in Italy itſelf, from 412 to 493. The fourth repreſents a third part of the ſun

and

and moon darkened, fignifying the wars in Italy between Juſtinian's generals and the Goths, whereby the exarchate of Ravenna was erected, and the remaining power and authority of Rome quite ſuppreſſed, from 503 to 568. The fifth repreſents the bottomleſs pit opened, and locuſts coming out of it, ſignifying the riſe of the Mahometan religion and empire, and the great progreſs of both till a ſtop was put to them by a contest for the ſucceſſion, from 568 to 655. The ſixth trumpet repreſents four angels looſed, which were bound in the Euphrates, ſignifying the reunion of the divided Saracen powers in the invaſion of Europe by them, and threatening the conqueſt of it, but defeated by Charles Martel, from 633 to 755.

The *third* period reveals the ſtate of the church and providence, in the times of the laſt head of Roman government, repreſented by the beaſt, for 1260 years to its final overthrow, from about the year 750 to about the year 2016. The ſealed book opened by the lamb, and given to St. John to eat, denotes a further revelation of what was to follow, in order of time, to the end of the world. There are three general deſcriptions of this period in the xiith, xiiith, and xivth chapters. The firſt ſignifies the corruption of the church, and the conſtancy of ſome faithful witneſſes to the truth, though under ſevere perſecutions, during the whole of this period. The ſecond repreſents a woman forced to fly into the wilderneſs for ſafety, and protected there 1260 days, ſignifying the perſecution and preſervation of the church during the ſame period. The third deſcription repreſents a monſtrous wild beaſt riſing out of the ſea, with ſeven heads, ten horns, as many crowns and titles of blaſphemy, who was to continue 42 months, ſignifying that new Roman power, which ſhould uſe its authority to promote idolatrous worſhip, and to perſecute all who would not ſubmit to it, and ſhould be ſupported by another power like to its own form and conſtitution during the ſame period. In the xivth chapter, the chorus of the heavenly church celebrates in an hymn the happineſs of thoſe who remain faithful and conſtant; and a nuntius or angel is repreſented as coming down from heaven to declare the certain and ſevere puniſhment of the enemies of truth and pure religion in this period. In the xvth chapter, ſeven angels are repreſented as receiving ſeven cups full of the wrath of God; ſignifying that the enemies of truth and pure religion in this period ſhall be ſeverely puniſhed in the courſe of it, and be utterly deſtroyed in the end. The ſeven angels pour out their vials or cups: the firſt vial poured on the earth, and on the worſhippers of the beaſt, denotes great commotions through the whole empire, under the family of Charles the Great, by which that family becomes extinct, and the empire and crown of France are transferred to other families, from 830 to 988. The ſecond vial poured on the ſea, ſignifies the great bloodſhed of the holy war, to recover Jeruſalem from the Saracens, from 1040 to 1150. The third vial poured on the rivers and fountains, ſignifies the bloody civil wars between the Guelphs and Gibellines, the papal and imperial factions, when the popes were driven out of Italy into France, from 1200 to 1371. The fourth vial poured on the ſun, denotes the long wars in Italy, Germany, France and Spain, occaſioned by a long ſchiſm in the papacy; the Turks taking Conſtantinople, and putting an end to the eaſtern empire; and peſtilential diſeaſes occaſioned by intemperate heat, from 1378 to 1530. The fifth vial poured on the ſeat or throne of the beaſt, ſignifies the reformation, and the eſtabliſhment of it by the principal ſtates of Europe, in oppoſition to the papal authority, from 1560 to 1650. The ſixth vial poured on the river Euphrates, makes way for the kings of the eaſt; this, in the order of the prophecies, ſeems to be yet future; but may probably mean ſome invaſion of the pope's dominion from its eaſtern boundary on the Adriatic, from 1670 to 1850. The ſeventh vial poured on the air, the ſeat of Satan's empire, deſcribes the utter ruin of this perſecuting, idolatrous government, or myſtical Babylon, at the end of this period, from 1850 to 2016.

The *fourth* period is deſcribed in the xxth chapter; an angel being ſent from heaven to ſhut up Satan in the bottomleſs pit, as in a ſecure priſon, for 1000 years, during which time there will be a very happy ſtate of the church in purity, peace, and proſperity.

The *fifth* period terminates the 1000 years of the church's proſperity, when Satan will be looſed again for a little ſeaſon, and a new attempt will be made to revive the corruptions of the church, and a ſpirit of perſecution, which ſhall end in the final deſtruction of Satan's power, and of all the enemies of peace and true religion.

The *ſixth* period comprehends the general reſurrection and final judgment, and the everlaſting deſtruction of the wicked.

The *ſeventh* period concludes the whole prophecy, with the viſion of new heavens and a new earth, repreſenting in ſtrong images, the extent, ſecurity, riches, and grandeur of the heavenly Jeruſalem; ſignifying the conſummate happineſs of the heavenly ſtate; and the ſure reward of all who ſhall be found faithful and conſtant in the true religion of Jeſus Chriſt. Such is a ſpecimen of the interpretation of the prophecies of the Apocalypſe, given by Mr. Lowman, a judicious and approved writer on this ſubject; but the meaning aſcribed to particular parts and prophecies of this book by different commentators, is very various. On this article the reader may conſult Newton's Obſervations on the Apocalypſe of St. John, apud oper. by Horſley, tom. v. p. 439—491. Mede's Works. Lowman's Paraphraſe and Notes on the Revelation of St. John, preface paſſim. Lardner's Works. Michaelis's Introduction to the New Teſtament, by Marſh, vol. iv. p. 457—544.

There have been ſeveral other works publiſhed under the title of Apocalypſes. Sozomen mentions a book uſed in the churches of Paleſtine, called the Apocalypſe, or Revelation of St. Peter. He alſo mentions an Apocalypſe of St. Paul, which the Cophtæ retain to this day. Euſebius alſo ſpeaks of both theſe Apocalypſes. St. Epiphanius mentions an Apocalypſe of Adam; Nicephorus, an Apocalypſe of Eſdras; Gratian and Cedrenus, an Apocalypſe of Moſes, another of St. Thomas, and another of St. Stephen; St. Jerom, an Apocalypſe of Elias.

Porphyry, in his life of Plotin, makes mention of the Apocalypſes or Revelations of Zoroaſter, Zoſtrian, Nicothæus, Allogenes, &c.

APOCARITES, from αποχαιρω, *I cut off*, in *Eccleſiaſtical Hiſtory*, denote thoſe who aſſerted that the human ſoul is part of, or derived from the ſubſtance of God.

The Apocaritæ are ranked as a branch of the Manichæans.

APOCARPASUM, in *Natural Hiſtory*, a name given by the ancient Greeks to a poiſonous drug, called alſo ſometimes ſimply *carpaſum*; it was the exudation of a tree growing in the country of the Abyſſines, and was ſo like the fineſt myrrh, that it was often mixed with it, and many lives were loſt by adminiſtering it as myrrh. The wood of the tree which produced it was alſo poiſonous, though in a leſs degree, and was called by the ſame writers *opocarpaſum*, as the wood of the balm of Gilead tree is *opobalſamum*.

APOCATASTASIS, from αποκαθιστημι, *I reſtore*, denotes the entire reſtitution, or redintegration of thing.

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In this ſenſe, we read of the *apocataſtaſis* of the world, or of all things.

APOCATASTASIS, among *Aſtronomers*, denotes the period of a planet, or the time wherein it returns to the ſame point of the zodiac from which it ſet out.

APOCATASTASIS is alſo uſed in *Medicine*, to denote the ſubſiding or ſinking of a thing.

In this ſenſe, we read of the *apocataſtaſis* of urine, the *apocataſtaſis* of tumours, and other diſeaſes.

APOCATHARSIS, in a general ſenſe, denotes the ſame with *catharſis*, or expurgation.

In this ſenſe, we read of *apocarthaſes* of bile, a ſymptom mentioned by Thucydides in the plague of Athens.

Quincy defines *apocarthaſes*, a purging upwards and downwards, but without ſufficient authority. Hence alſo *apocathartica*, a denomination ſometimes given to what we otherwiſe call ſimply CATHARTICS.

APOCENOSES, in *Medicine*, the fourth order of the fourth claſs, or *locales*, in the arrangement of diſeaſes, by Dr. Cullen; comprehending thoſe which have a flux of blood or ſome other humour, more abundant than uſual, without pyrexia, or an increaſed impulſe of fluids. This order includes the following genera, viz. profuſio, or a flux of blood; ephidroſis, or a preternatural evacuation of ſweat; epiphora, or a flux of the lacrymal humour; ptyaliſmus, or a flux of ſaliva; aneureſis, or an involuntary flux of urine without pain; and gonorrhœa. See the ſeveral articles.

APOCHA, from απο and εχω, *I have*, in *Civil Law*, denotes an acquittance or receipt given by the creditor to his debtor for money paid: in which ſenſe the word ſtands contradiſtinguiſhed from *antapocha*, which is given by the debtor to the creditor. Reuſner and Zieglerus have diſſertations *de apochis*.

APOCHULISMA, from απο and χυλιζω, *I extract the juice*, in *Pharmacy*, denotes an inſpiſſated vegetable juice; anſwering to what is called in the ſhops a ROB.

APOCOPE, compounded of the prepoſition απο, and the verb κοπτω, *I cut*, a figure in *Grammar*, wherein part of the end of a word is cut off; as in *dic* for *dice*, *fac* for *face*, *nil* for *nihil*, *hyp* or *hypo* for *hypochondriacal*.

A like retrenchment at the beginning of a word is called *apharеſis*.

When the *apocopation* is marked with a ſuperior comma (called an *apoſtrophus*), the word is ſaid to be *apoſtrophated*; as *thro'* for *through*.

APOCOPE, from αποκοπτω, *alſcindo*, in *Surgery*, is ſynonymous with *Extirpatio*.

APOCRISIARIUS, formed from αποκρισις, *reſponſum*, *anſwer*, in *Antiquity*, an officer appointed to carry or deliver the meſſages, orders, and anſwers, of a prince or emperor. Hence he is uſually called *reſponſalis*, q. d. *anſwerer*.

The apocriſiarius afterwards became the emperor's chancellor, and kept the ſeal. In the barbarous Latin we ſometimes meet with *aſcreta*, *ſecretary*, for apocriſiary. Zoſimus defines apocriſiarius, ſecretary for foreign affairs; being the ſame with what Vopiſcus, in the life of Aurelian, calls *notarius ſecretorum*.

The title of apocriſiary became at length appropriated as it were to the pope's deputy, or agent, who reſided at Conſtantinople to receive the pope's orders, and the emperor's anſwer.

St. Gregory was apocriſiary of pope Pelagius, at the time when he compoſed his morals on Job. The apocriſiary did the office of the modern NUNCIO. Sometimes, however, he held the rank and quality of the pope's LEGATE.

The inſtitution of apocriſiarii ſeems to have been in the time of Conſtantine, or not long after, when, the emperors being become Chriſtians, foreign churches had more occaſion to promote their ſuits at court than formerly; at leaſt we find the office eſtabliſhed by law in the time of Juſtinian. In one of the novels, it is ordered, that as no biſhop was to be long abſent from his church without ſpecial command from the emperor, if any one had occaſion to negotiate any eccleſiaſtical cauſe at court, he ſhould prefer his petition, either by the apocriſiarius of his church appointed for ſuch purpoſe, or by the œconomus, or ſome of his clergy ſent expreſs. In imitation of the apocriſiarii of churches, almoſt every monaſtery had their apocriſiarius likewiſe, whoſe buſineſs was not to reſide in the royal city, as the former did, but to act as proctors for their monaſtery or any member of it, when they had occaſion to enter any appearance at law before the biſhop under whoſe juriſdiction they were. This appears from another of Juſtinian's novels, which requires the aſcetics in ſuch caſes to anſwer by their apocriſiarii or reſponſales. Du-Cange. Bingham. Orig. Eccleſ. lib. iii. cap. 13. ſect. 6.

The hereſy of the Monothelites, and afterwards that of the Iconoclaſts, broke off the cuſtom of having a papal apocriſiary at Conſtantinople.

APOCRISIS, αποκρισις, literally denotes an *anſwer*. Under this denomination were anciently included, not only the reſcripts of the emperors to the petitions of parties, but all kinds of decrees and mandates.

We have ſeveral books extant under the title of Apocriſes, and ſome in oppoſition to theſe under the title of Antapocriſes.

APOCRUSTICS, derived from αποκρουω, *pulſo*, *pello*, *I drive*, in *Medicine*, remedies endued with a repelling and aſtringent power, whereby they prevent the too great afflux of humours to a part diſeaſed. See REPELLENTS.

APOCRYPHAL, ſomething dubious; or that comes from an uncertain author, on which much credit cannot be repoſed. We ſay, an *apocryphal* book, paſſage, hiſtory, &c. meaning ſuch as are of ſuſpected authority.

Voſſius obſerves, that, with regard to the ſacred books, none are to be accounted apocryphal, except ſuch as have been admitted neither into the ſynagogue, nor the church, ſo as to be added to the canon, and read in public.

For this reaſon alſo the books of Sibyls were anciently called apocryphal, as being committed to the truſt of the *decemviri* alone; and for the like reaſon the annals of the Egyptians and Tyrians were called by the ſame name.

In the original meaning of the word, all the writings depoſited in the temple were called apocryphal: becauſe they were kept ſecret from the people.

When the Jews publiſhed their ſacred books, they only gave the appellation of *canonical* and *divine* to ſuch as they thus made public; and ſuch as were ſtill retained in their archives they called apocryphal, for no other reaſon but becauſe they were not public; ſo that they might be really ſacred and divine, though not promulged as ſuch.

Thus in reſpect of the Bible, all works were called apocryphal, which were not inſerted in the Jewiſh canon of Scripture; and it is in this ſenſe that St. Epiphanius is to be underſtood, when he ſays, that the apocryphal books are not put in the ark among the other inſpired writings. By the ark he is ſuppoſed to have meant not the ark of the covenant, but the common archives; for, according to Joſephus, there was no ark in the ſecond temple. Nevertheleſs, the ſacred writings were locked up in the temple; and the apocryphal books were without doubt depoſited in a diſtinct archive from that in which the canonical books were kept. To this purpoſe Tertullian, ſpeaking of the book of Enoch, ſays, that ſome did not own it, "quia nec in Judaicum ar-

morium admittitur;" and St. Auſtin (de Civ. Dei, l. 15.) ſays, that the canonical books of the Old Teſtament were preſerved in the Jewiſh temple by the carefulneſs of the prieſts, who ſucceeded one another. Hence it is probable that the holy books were lodged in the temple in one archive, and the apocryphal in another place.

The word is derived from ἀποκρύπτω, *to hide*; becauſe the origin of ſuch books was unknown, or becauſe they contain ſome myſteries not fit to be known.

The notion expreſſed by the word Apocrypha is taken, as we have juſt ſhewn, from the Jews, and though the word itſelf is of Greek original, it cannot be explained by a Greek etymology, according to which it would convey a much higher idea, and ſignify writings preſerved in the ſacred receſſes of the temple. It is merely a tranſlation of the Rabbinical word גנוז, which ſignifies "laid aſide," ſo as not to be read in the ſynagogue: e. g. if a copy of the bible had two miſtakes in one and the ſame page, it was allowable to correct them; but if there were three miſtakes, the book muſt be laid aſide (ישליש יגנז), and they uſed the ſame expreſſion for books, which were not ſuppoſed to be of divine authority. However the terms גנוז, and ἀποκρυφος, though ſimilar in their original meaning, are very different in their uſe and application. The word גנוז was applied to books divinely inſpired, but we apply the term ἀποκρυφος, apocryphal, to thoſe, whoſe divine inſpiration is denied. It is true that the ancient Jews made a diſtinction, which varied at various periods, between books that were to be read, and books that were not to be read in the ſynagogue, which latter the Rabbins called גנוזים, but theſe were included in the ſacred canon, whereas we apply the term *apocryphal* to thoſe that are excluded from it; and this term, as applied by modern writers to ſuch books as have relation to the New Teſtament, ſignifies in general "ſpurious or ſuppoſititious," and in this ſenſe differs in a ſtill higher degree from גנוז as applied to the books of the Old Teſtament. Fabricius in his "Codex apocryphus N. T." includes ſuch writings as are ſuppoſed to be "a forgery;" whereas thoſe of a ſimilar deſcription, which have relation to the Old Teſtament, are contained in his "Codex Pſeudepigraphus." This term is applied by Jerom to books which by their title or otherwiſe make ſome claim to be a part of ſacred ſcripture, but are deſtitute of a right to be ſo eſteemed; and generally, or oftentimes, they are ſpurious. It is neceſſary, however, to diſtinguiſh between the terms apocryphal and ſpurious: a ſpurious work is that which is aſcribed to an author who did not compoſe it; and apocryphal, whether written by the author to whom it is aſcribed or not, is uſed in much the ſame ſenſe with uncanonical. Michaelis uſes the term apocryphal for authentic, as diſtinguiſhed from inſpired; and merely in oppoſition to canonical; and he cautions againſt conſidering it as a term of contempt, or as depreciating a book to which it is applied. The excluſion, he ſays, of books called on this account apocryphal, from the canon, by no means derogates from their real worth; and although there are many under this title, which are manifeſtly ſpurious, there are others again which are highly deſerving our eſteem. Apocryphal books, according to the definition of St. Auguſtine (Contr. Fauſt. l. xi. c. 2. and De Civ. Dei, l. 15. c. 23. n. 4.), are not ſuch as are of authority (or received by the church,) and are kept ſecret; but they are books whoſe original is obſcure, and which are deſtitute of proper teſtimonials; their authors being unknown, or their character either heretical or ſuſpected. The term apocryphal, which is variouſly uſed, is ſometimes applied to thoſe books that are not in the canon, (ſee CANON:) and of theſe there are two claſſes, viz. that of uſeful books, which may be read for the edification of the faithful, though doubtful and oppoſed, and that of the ſpurious pieces which are heretical and full of errors. Origen calls all the books which are out of the canon, apocryphal. Euſebius ſeems to uſe it for thoſe wicked books that were compoſed by heretics, and which he diſtinguiſhes from thoſe which are cited by eccleſiaſtical writers. Gregory Nazianzen, Athanaſius, Epiphanius in the 8th Hereſy, Ruffinus, and moſt of the modern Greeks, give the name apocryphal to ſuch books only, as are apparently ſpurious and wicked; and uſually denominate thoſe which are good and uſeful, eccleſiaſtical, though they were not received by all the churches as canonical. On the other hand, Cyril, Epiphanius in his Treatiſe of weights and meaſures, Jerom, the African Fathers, moſt of the Latins, and Antiochus among the Greeks, attribute the term apocryphal in general to all the books which are not in the canon. St. Auſtin diſtinguiſhes two ſorts of canonical books; thoſe which are received by all the churches, and thoſe which are only received by ſome. Sixtus of Sienna likewiſe diſtinguiſhes them into two claſſes; the proto-canonical, which have been always received and were never queſtioned; and the deutero-canonical, which were formerly doubted, but have been ſince admitted into the canon. All the reſt, according to this author, are apocryphal, though this term had been ſometimes applied only to heretical books. Mr. Jones lays down the following criteria or teſts, by which we may determine whether any books are apocryphal or ſpurious, or not. That book is apocryphal, in which are found any contradictions,—which either contains any hiſtories, or propoſes any doctrines contrary to thoſe which are certainly known to be true:—which contains things ludicrous or trifling, fabulous or ſilly relations:—which mentions facts that were later than the time in which the author, whoſe name it bears, lived:—the ſtyle of which is different from, or contrary to, the ſtyle of the author whoſe name it bears, in his known and undoubted writings:—the idiom and dialect of which are different from the known idiom or dialect of the author whoſe name it bears, or the country where he lived:—which manifeſts a diſpoſition in its author, different from the known temper of the author whoſe name it bears:—and which for the moſt part is tranſcribed or ſtolen out of another.

As the number of books in the Jewiſh canon was equal to the number of Hebrew letters, it amounted to 22; and that this number might not be exceeded, the book of Ruth was joined to that of Judges, and the Lamentations to the prophecy of Jeremiah. The books, therefore, that were not contained in this number, were excluded from the canon, and deemed apocryphal. The ancient catalogues of the canonical books of the Old Teſtament, which are to be met with in Chriſtian writers, whether Greeks or Latins, are conformable to the canon of the Jews, and contain no other books: ſuch are thoſe of Melito biſhop of Sardis, of Origen, of the council of Laodicea, of Jerom, &c. &c. The firſt catalogue in which the books of Wiſdom, Eccleſiaſticus, Tobit, Judith, and the two Maccabees were admitted as canonical, and as having the ſame authority, is that of the 3d council of Carthage, A. D. 397, which confirms the decree of the council of Hippo, A. D. 393, in which theſe books were received into the canon. St. Auguſtine, according to the authority of the African church, reckons all theſe books as canonical. Pope Innocent I. on behalf of the church of Rome, places the ſame books in the canon of the Old Teſtament, as did alſo pope Gelaſius in the council held A. D. 494; and moreover, the decree of pope Eugenius, and the canon of the council of Trent, agree with the canon of the council of Carthage, and with the decree

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of pope Innocent, and rank the above mentioned books among thoſe of the Old Teſtament. See ECCLESIASTICUS, JUDITH, &c.

Among the books which have been wholly thrown out of the canon of holy ſcripture, we may mention a part of the book of Daniel, which the Jews rejected, containing the prayer of Azarias, and the ſong of the three children in the fiery furnace, which begin at the 24th verſe of the 3d chapter, and end at the 91ſt: the hiſtory of Suſanna, related in the 13th chapter; and of Bel and the Dragon, in the 14th and laſt. Theſe ſubjects are not in the Hebrew or Chaldee text, nor in the Greek verſion of the Septuagint, but are taken out of the Greek verſion of Theodotion, which was then uſed by the church, in Daniel's prophecy, as St. Jerom has obſerved. Africanus, Euſebius, and Apollinarius, have rejected theſe narrations, not only as being uncanonical, but alſo as fabulous; and St. Jerom ſeems to be of the ſame opinion. Theodoret, in his expoſition of Daniel, mentions neither the hiſtory of Suſanna, nor that of Bel and the Dragon. However that which is related in theſe two chapters is cited under Daniel's name, and as part of his prophecy, by Irenæus, Clement of Alexandria, Tertullian, Origen, Cyprian, Didymus, Hilary, Baſil, Gregory Nazianzen, Ambroſe, Auguſtine, the author of a homily erroneouſly attributed to Chryſoſtom, Fulgentius, Avitus, and Bede. Sulpitius Severus, and the author of the Synopſis of Athanaſius, mention theſe hiſtories as part of the ſacred text; though the latter owns, that the hiſtory of Suſanna is one of the dubious books. Ambroſe quotes the words of Daniel, related in the third chapter, as being certainly of divine inſpiration; and Ruffinus upbraids Jerom for having cut off from Daniel the ſong of the three children, the hiſtory of Suſanna, and that of Bel and the Dragon. The council of Trent, ſeſſ. 4. declared the following ſix books to be canonical, viz. Tobit, Judith, Wiſdom, Eccleſiaſticus, and the firſt and ſecond of Maccabees; but joined Baruch with Jeremiah, ſo that the whole number amounts to ſeven. The apocryphal books enumerated in the 6th article of the church of England, are the 3d and 4th of Eſdras, the book of Tobias, that of Judith, the reſt of the book of Eſther, that of Wiſdom, that of Jeſus the ſon of Sirach, Baruch the prophet, the Song of the three children, the ſtory of Suſanna, of Bel and the Dragon, the prayer of Manaſſes, and the firſt and ſecond books of Maccabees. Theſe books, by the ſame article, the church doth read for example of life and inſtruction of manners, but doth not apply them to eſtabliſh any doctrine. Accordingly in the table prefixed to the Common Prayer, and appointing the leſſons, they are directed to be read in the months of September, October and November. It appears, however, that in the Common Prayer of Edward VI. there was for Nov. 22d and 23d, no Bel and Dragon, nor hiſtory of Suſanna; but the order proceeded from Baruch to Jeremiah. The apocryphal books are prohibited in the other reformed churches. The Puritans, in the reign of queen Elizabeth, diſliked and objected to the reading of theſe books in the church.

The ſpurious and apocryphal books, compoſed in the early days of Chriſtianity, publiſhed under the names of our Saviour, his apoſtles, their companions, &c. and mentioned by the writers of the firſt four centuries, under the titles of goſpels, epiſtles, acts, revelations, &c. are numerous. Moſt of them have been long loſt, and ſome few are ſtill extant, to which claſs belong our Saviour's letter to Abgarus; his letter, which fell down from heaven at Jeruſalem, directed to a prieſt named Leopas, in the city Eris; the conſtitutions of the apoſtles; the creed of the apoſtles; the apoſtolical epiſtles of Barnabas, Clemens, Ignatius, and Polycarp; the ſhepherd of Hermas; the goſpel of the infancy of our Saviour; the goſpel of the birth of Mary; the prot-evangelion of St. James; the goſpel of Nicodemus; the martyrdom of Thecla or acts of Paul; Abdias's hiſtory of the twelve apoſtles, or the acts of Pilate; St. Paul's epiſtle to the Laodiceans, and St. Paul's ſix letters to Seneca, &c.; the others, that are not extant, are enumerated by Mr. Jones, *ubi infra*. Theſe books were not much uſed by the primitive Chriſtians. There are no quotations of them in the apoſtolical fathers, i. e. Barnabas, Clement of Rome, Hermas, Ignatius, and Polycarp, whoſe writings reach from about the year of our Lord 70, to the year 108. Some of them are mentioned, but not cited, by Irenæus and Tertullian. Several of them are mentioned and quoted by Clement of Alexandria and Origen, but never as having authority, and ſometimes with expreſſions of diſapprobation. Euſebius mentions ſome of them, and ſays, that they were of little or no value, and that they were never received by the founder part of Chriſtians. Athanaſius, without naming any of them, paſſes a ſevere cenſure upon them in general; and Jerom ſpeaks of them with diſlike and cenſure. We may obſerve further, that theſe books, ſo far from militating againſt the evangelical hiſtory, confirm it; for they are written in the names of ſuch, as our authentic ſcriptures ſay, were apoſtles, and companions of apoſtles; and they all ſuppoſe the dignity of our Lord's perſon, and a power of working miracles, together with a high degree of authority, to be conveyed by him to his apoſtles. It ought alſo to be conſidered, that few, if any, of theſe books were compoſed before the beginning of the ſecond century. As they were not compoſed before that time, they might well refer to the commonly received books of the New Teſtament, as moſt of them certainly do; and therefore, inſtead of invalidating the credit of our books, they really bear teſtimony to them. All theſe books are not properly ſpurious, that is, aſcribed to authors who did not compoſe them; but as they were not compoſed by apoſtles, nor at firſt aſcribed to them, they may be fitly called apocryphal; for they have in their titles the names of apoſtles, and they make a ſpecious pretence of delivering a true hiſtory of their doctrine, diſcourſes, miracles, and travels, though that hiſtory is not true and authentic, and was not written by any apoſtle or apoſtolical man. Moreover, we may account for the publication of theſe apocryphal or pſeudepigraphal books, as they were unqueſtionably owing to the fame of Chriſt and his apoſtles, and the great ſucceſs of their miniſtry. And in this reſpect the caſe of the apoſtles of Chriſt is not ſingular: many men of diſtinguiſhed characters have had diſcourſes made for them which they themſelves knew nothing of, and actions imputed to them which they never performed; and eminent writers have often had works aſcribed to them, of which they were not the authors. Chriſtians of former ages exerciſed a laudable caution and circumſpection with regard to books of doubtful authority. For a good while, the epiſtle to the Hebrews, ſome of the Catholic epiſtles, and the revelation, were doubted of by many, when other books of the New Teſtament were univerſally acknowledged. Upon the whole, the books, now and for a long time called apocryphal, afford no valid argument againſt either the genuineneſs or the authority of the books of the New Teſtament, generally received as written by apoſtles and evangeliſts; but they ſanction the truth of their genuine writings, and the reputation of their character; they confirm the general account given us in the canonical ſcriptures, and thus they indirectly eſtabliſh the truth and divine original of the goſpel.

The writing of books under ſpurious names, and obtruding them for the works of inſpired authors, though once reputed laudable, and conſecrated under the name of pious

fraud, was condemned very early by an apoſtolical canon, in the inſtance of a prieſt who was depoſed for forging the acts of Paul and Theela. Bing. Orig. Eccleſ. lib. xvii. cap. 5.

Fabricius has publiſhed the fragments and remains of the apocryphal books both of the Old and New Teſtament. Fabric. Codex Pſeudepigraphus Veteris Teſtamenti, Hamb. 1722 & 1723. 8vo. 2 vol. Codex Apocryphus Novi Teſtamenti, 2 vol. Hamb. 1719, &c. 8vo.

Wolfius has given the literary hiſtory of the apocryphal books, their various editions, tranſlations, commentaries, &c. See alſo Jones's Canon, vol. i. and vol. ii. Dupin's complete hiſtory of the Canon, &c. ch. i. Lardner's works, in various places. Michaelis's Introd. vol. i. p. 170. p. 376.

APOCYMA, from ἀπο, and κυμα, *wave*, in the *Materia Medica* of the *Ancients*, a name given by the Greek authors to a ſort of cement, uſed to daub over the bottoms of their ſhips, to preſerve them from injuries by the water; they called this alſo by the name of ζοπισσα; and Avicenna and Serapian call it *ketran*, *kitran*, or *alkitran*. It was a mixture of bees-wax and pitch melted together, and after it had been ſoaked ſome time in the ſea-water, it was ſuppoſed to have peculiar virtues, and was uſed in many compoſitions.

APOCYNUM, (ἀπὸ κυνὸς, becauſe it is ſuppoſed to kill dogs), in *Botany*, Dog's bane. Lin. gen. 305. Schreb. 426. Juſſ. 146. Claſs, *pentandria digynia*; nat. order, *contortæ; apocineæ*. Juſſ. Gen. Char.; *cal.* perianth, one-leafed, five-parted, acute, ſhort, permanent; *cor.* monopetalous, bell-ſhaped, ſemiquinquefid; diviſions revolute; nectary, five glandular oval corpuſcles ſurrounding the germ; *ſtam.* filaments very ſhort: anthers oblong, erect, acute, converging, bifid at the baſe; *piſt.* germs two, ovate; ſtyles, ſhort; ſtigma, roundiſh, bifid at the tip, muricate, glued to the anthers; *per.* follicles two, long, acuminate, one-valved, one-celled; *ſeeds* very ſmall, numerous, crowned with a long down: receptacle ſubulate, very long, rough, free.

Eſſen. gen. char. *cor.* bell ſhaped; nectaries five, alternate with the ſtamens.

Species. 1. A. *androſæmifolium, tutſan-leaved dog's-bane;* ſtem ſtraightiſh, herbaceous, leaves ovate, ſmooth on both ſides; cymes terminating; its ſtems are erect about three feet high; leaves oppoſite; flowers white, with purpliſh nectaries. If flies alight on this plant they are frequently entangled by the glutinous matter and deſtroyed. Hence this plant has been called *Herbe à la puce*. It is a native of Virginia and Canada, flowering from July till September: a perennial, cultivated by Miller, in 1731. 2. A. *cannabinum, hemp dog's-bane;* ſtem ſtraightiſh, herbaceous; leaves oblong; cymes lateral, longer than the leaf; ſtems about two feet high; leaves in pairs, ſmooth, and like the former abounding with a milky juice; flowers ſmall, of an herbaceous white colour, and not having an handſome appearance. The plant is only cultivated for the ſake of variety. It flowers about the ſame time, and is a native of the ſame countries as the former ſpecies. The Indians of North America uſe this ſpecies for the ſame purpoſe as we do hemp. It was cultivated by the ducheſs of Beaufort, in 1699. 3. A. *hypericifolium, St. John's-wort-leaved dog's-bane;* ſtem ſtraightiſh, herbaceous; leaves oblong-cordate, ſmooth; cymes ſhorter than the leaf. Martyn's Miller's Dict. A. *ſibericum*, Lin. ſyſt. Jacq. hort. 3. 37. t. 66. an annual, a foot and a half high, with oppoſite, ſharpiſh, ſubſeſſile leaves, and ſmall inodorous flowers. A native of North America, cultivated in 1756, by Miller. 4. A. *venetum, ſpear-leaved dog's-bane;* ſtem ſtraightiſh, herbaceous; leaves ovate-lanceolate: a perennial, about two feet high: leaves oppoſite, ſmooth; flowers in ſmall umbels, purple or white, appearing in July and Auguſt. It grows in the iſlands of the Adriatic. Cultivated here in 1690. 5. A. *minutum, petty dog's-bane;* ſtems proſtrate; leaves haſtate; ſtems filiform, about ſeven inches long; leaves oppoſite; peduncles alternate, umbelled with about ſix flowers. Found at the Cape by Montin. 6. A. *filiforme, thread-leaved dog's-bane;* ſtem proſtrate, herbaceous; leaves filiform, flowers umbelled. Found at the Cape by Thunberg. 7. A. *fruteſcens, ſhrubby dog's-bane;* ſtem erect, ſhrubby; leaves lanceolate-oval; corolla acute, villoſe at the throat; flowers ſalver-ſhaped, on axillary peduncles, in looſe bunches, and of a purple colour. A native of the Eaſt Indies, Ceylon, and the coaſt of Guinea. 8. A. *reticulatum, net-leaved dog's-bane;* ſtem twining, perennial; leaves ovate veined. This ſpecies climbs to a conſiderable height; its dark green leaves are beautifully reticulated with milky veins. A native of the Eaſt Indies and Cochin-China, cultivated by Miller. 9. A. *lineare, linear-leaved dog's-bane;* ſtem twining, herbaceous; leaves linear, flat; umbels axillary, compound. Diſcovered at the Cape of Good Hope by Thunberg. 10. A. *triflorum, three flowered dog's-bane;* ſtem twining, herbaceous; leaves lanceolate; umbels axillary, two or three-flowered. Found at the Cape by Thunberg. 11. A. *juventas, renovating dog's-bane;* ſtem twining, ſhrubby, leaves ovate, hairy; racemes dichotomous; the ſtem is hairy, red, uſually procumbent; flowers greeniſh yellow, ſmall, cut into lanceolate ſegments, which are three times the length of thoſe of the calyx. A native of Cochin-China. This plant is eſteemed by the Chineſe for poſſeſſing ſimilar properties to thoſe of the ginſeng. Lour. Coch. 12. A. *alterniflorum, alternate flowered dog's-bane;* ſtem climbing, ſhrubby, leaves ovate, acuminate, ſmooth; axils alternate, umbelliferous; flowers pale, inodorous; nectary compoſed of ten lobes. It grows in the iſlands near Canton. 13. A. *africanum, african dog's-bane;* ſtem ſuberect, ſhrubby; leaves ovate-oblong; peduncles two or three flowered. Loureiro Coch. A native of the coaſt of Zanguebar in Africa. Mr. Miller enumerates ſix other ſpecies. 14. A. *ſcandens, climbing dog's-bane;* leaves oblong-cordate, ſtiff; flowers lateral; ſtem ſhrubby, twining. It was diſcovered by Plumier in ſome of the French iſlands in America, and by him deſcribed to be citron-leaved with maculated pods. Since that time it has been found near Carthagena in New Spain, from whence ſeeds have been tranſmitted here, which have ſucceeded in ſeveral gardens. Miller. 15. A. *nervoſum, nerved-leaved dog's-bane;* leaves ovate, nerved; cymes lateral; flowers yellow, large, with a long tube; ſtem ſhrubby, climbing. A native of New Spain, near Carthagena. Miller. 16. A. *cordatum, heart-leaved dog's-bane;* leaves oblong-cordate, pointed, ſeſſile; flowers lateral; ſtem climbing. 17. A. *villoſum, villoſe-flowered dog's-bane;* leaves cordate, ſmooth; flowers villoſe, lateral, on long peduncles; ſtem climbing. Both the two laſt ſpecies were diſcovered at La Vera Cruz, in 1729, by Dr. Houſtoun, who ſent their ſeeds to England, where they have riſen in ſtoves to the height of twenty feet, but the laſt, though more luxuriant than the other, never had any appearance of flowers. The pods of theſe plants afford a cottony down which is in great eſteem in France for ſtuffing chairs, making quilts, &c. The French call it Delawad; and in the ſouthern parts of France there are ſeveral plantations of ſome of theſe ſpecies for the ſake of the down.

Propagation and culture. The firſt, ſecond, and third ſorts are propagated by parting their roots in March, before they put out new ſtems. They are hardy enough to thrive in the open ground; but the ſoil ſhould be light and dry, otherwiſe

wiſe the roots are apt to rot in winter. The fourth ſort will alſo live in the open air, provided it be planted in a warm ſituation and dry ſoil. The ſpring, before the ſtems ſhoot out, is the beſt time to remove it. The other ſpecies are tender, and muſt be conſtantly kept in a hot-houſe, plunged in the tan-bed. They may be propagated by cuttings, during the ſummer months; but ſhould be laid to dry in the ſtove three or four days before they are planted. When the ſeeds are obtained from their native places, they ſhould be ſown in pots filled with light ſandy earth, and plunged into a tan-pit: in a month or five weeks they will appear, and ſhould then be watered ſparingly. As they advance, they will require larger pots; and the ſecond year the plants will generally flower, and ſome of them make a fine appearance. Martyn Miller's Dict.

Apocynum. See Asclepias, Ceropegia, Cynanchum, and Echites.

APODA, in *Ornithology*, a ſpecies of Paradisea, called the greater bird of paradiſe. The ſide feathers are longer than the body; the two middle tail feathers long and ſetaceous. Gmelin. This is called Manucodiata, by Briſſon and Marcgrave; Paradiſea Avis, by Seba, &c.; Oiſeau de Paradis, by Buffon; bird of Paradiſe, by Willughby; and Greater Bird of Paradiſe, by Albin and Edwards.

This bird appears from the plumage to be as large as a pigeon, but the body ſcarcely exceeds in ſize that of the thruſh. The length is twelve inches, the bill greeniſh yellow, and an inch and an half in length; its eyes are ſmall; head and neck covered with ſhort thick feathers, of which thoſe on the head and hind part of the neck are of a pale gold colour. The baſe of the bill is ſurrounded with black; front of the neck green; lower part of the neck, back, wings, and tail are cheſnut, deepeſt on the breaſt, where it aſſumes a tint of purple. From under the wings ſpring a great quantity of feathers, which are looſely webbed, and appear like the herring-bone; ſome of theſe are eighteen inches in length, and of different colours; but the prevailing tint is yellowiſh white. The legs are ſtout and of a brown colour.

The female is ſaid to be like the male, except that the webs of the two wire-like feathers in the tail are ſhorteſt. They inhabit the Molucca iſlands, and thoſe ſurrounding New Guinea, and particularly that of Aroo. It is ſuppoſed they breed in New Guinea, from whence they emigrate in the weſterly or dry monſoon, and return when the eaſterly or wet monſoon commences. They are ſeen at theſe times in flights of thirty or forty, with a leader at their head, which is conſtantly ſeen flying higher than the reſt. During their flights, it is obſerved they take the advantage of going againſt the wind, and have a cry like the ſtarlings; but ſhould the wind ſhift, they are in great diſtreſs, and croak like ravens, for their long ſcapular feathers then become rumpled, their flight is impeded, and they fall to the ground, from which they cannot riſe until they gain an eminence, or into the water, from which they cannot extricate themſelves. The natives, who make a trade of their ſkins with the Dutch, watch this opportunity, and take them in large numbers: the value of each to the people of Aroo is a *ſpike-nail*; but at Banda they fetch half a rix-dollar apiece, and perhaps of late more, ſince it is the plume of this ſpecies which has become a faſhionable ornament to the head-dreſs of the ladies in England. The food of theſe birds is not certain; ſome ſay they feed on berries; others, on butterflies; and others again, on ſmall birds; the latter of which is probable, as they are very courageous, and are furniſhed with claws and beak of ſtrength ſufficient for that purpoſe. The were formerly brought to Europe without legs, and many were perſuaded they never had any; but the truth is, the legs being uſeleſs for the purpoſe of ornament, the only motive for which they are taken, are torn off on the ſpot, and thrown aſide. They were worn in the Eaſt Indies by people of diſtinction; the grandees of Perſia and Surat uſe them as aigrettes, and even adorn their horſes with them.

In Forreſt's Voyage to New Guinea, &c. a ſmaller bird of this kind is deſcribed as a native of Papua; Gmelin makes it a variety only (β) of this ſpecies.

APODACRYTICA, from $\alpha\pi o$ and $\delta\alpha\kappa\rho\upsilon$, a *tear*, in *Pharmacy*, medicines proper to excite tears. Some alſo uſe the term apodacrytica, for remedies proper to ſuppreſs tears.

APODECTÆ, from $\alpha\pi o\delta\epsilon\chi o\mu\alpha\iota$, *I receive*, in *Antiquity*, a denomination given to ten general receivers, appointed by the Athenians, to receive the public revenues, taxes, debts, and the like.

The apodectæ had alſo a power to decide controverſies ariſing in relation to money and taxes, all but thoſe of the moſt difficult nature and higheſt concern, which were reſerved to the courts of judicature.

APODECTÆI, in the Athenian government, officers appointed to ſee that the meaſures of corn were juſt.

The *apodectæi* were nearly related to the *agoranomi*.

APODEMICA, from $\alpha\pi o\delta\eta\mu\epsilon\omega$, *I travel*, the doctrine or ſcience of travelling, whether for knowledge or devotion's ſake.

Jo. Meraker has publiſhed an apodemica. Ranzovius, a methodus apodemica.

APODES, in a general ſenſe, from α and $\pi o\upsilon\varsigma$, denotes things without feet. Zoologiſts apply the name to a fabulous ſort of birds ſaid to be found in ſome of the iſlands of the New World, which being entirely without feet, ſupport themſelves on the branches of trees by their crooked bills.

The Germans and Dutch have alſo their apodes, a ſort of birds ſomewhat like ſwallows, whoſe legs and feet are ſo very ſmall, that they ſeem rather formed for creeping than running.

Apodes, is one of the four orders of fiſhes in the Linnæan diſtribution of animals. Their character is that they have no belly fins.

APODICTICAL *argument*, or syllogism, ſignifies a clear convincing proof, or demonſtration of a thing. The word is formed of $\alpha\pi o\delta\epsilon\iota\kappa\nu\upsilon\mu\iota$, *I demonſtrate*.

Apodictical *method*, is uſed by ſome writers, to denote the ſyſtematical or ſcientifical method of teaching or writing.

APODIOXIS, from $\alpha\pi o\delta\iota\omega\kappa\omega$, *I exclude*, in *Rhetoric*, a figure whereby we either paſs over a thing ſlightly, or refer treating of it to ſome other time or place.

This is alſo called by Latin writers, *rejectio*, e. g. "Quid ego ſenatum defendam, judices? Equidem debeo," &c. Again, "Quid ego ſenatum hoc loco defendam, judices? Fiat id rectius, tum quum," &c.

Apodioxis, in *Logic*, the rejection of ſuch things as do not neceſſarily belong to the queſtion to be conſidered.

APODIPNE, or Apodeipne, ſongs which the Greeks ſung after ſupper; either to thank the Gods, or congratulate themſelves for their good fare.

APODIXIS, from $\alpha\pi o\delta\epsilon\iota\kappa\nu\upsilon\mu\iota$, in *Rhetoric*, denotes an evident proof, or demonſtration of a point.

We have ſeveral books extant under the names of apodixes; and ſome by way of anſwer to theſe, under that of antapodixes.

Apodixis, in *Middle-Age Writers*, denotes a receipt for money paid. In which ſenſe it amounts to the ſame with *apocha*.

Apodixis is alſo ſometimes uſed for a ſpecimen or proof of a thing.

APODOSIS, from $\alpha\pi o\delta\iota\delta\omega\mu\iota$, *I apply*, in *Rhetoric*, makes the

the third part of a complete exordium, being properly the application, or restriction of the protasis.

The apodosis is the same with what is otherwise called *[illegible]*, and stands opposed to protasis, e. g. *protasis*, "all branches of history are necessary for a student;" *[illegible]*, "so that without them he can [illegible] figure;" *apodosis*, "but literary history is of a more special use, which recommends it," &c.

Apodosis is also used in speaking of similes, for that part which makes the application of them.

Apodosis is also used, in a rhetorical period, for the consequent to a protasis, or antecedent [illegible].

Apodosis is also [illegible] for a return to the foregoing antecedent, or that went before.

This is otherwise called *[illegible]*.

APODYTERIUM, formed of [illegible], *to undress*, in *Antiquity*, a stripping room, or apartment at the entrance of baths, or in the palæstra, wherein persons dressed and undressed, either for bathing, or for the gymnastic exercises.

This was otherwise denominated *[illegible]*, *gymnasterium*, and *spoliarium*.

Some will have the apodyterium to have been the same with the *conisterium*; but Vossius shews they were two different places.

APOGEE, formed of ἀπὸ, *from*, and γῆ, *earth*, in *Astronomy*, that point in the orbit of the sun, or a planet, which is farthest distant from the earth.

The apogee is a point in the heavens at the extreme of the line of the apsides; in which the sun, or a planet, is at the greatest distance that it can be at, from the earth, in its whole revolution, and the opposite point to this is called the PERIGEE.

The ancient astronomers, regarding the earth as the centre of the system, chiefly considered the apogee and perigee: the moderns, making the sun the centre, change the apogee and perigee for APHELION and PERIHELION.

The apogee of the sun is, therefore, the same with the aphelion of the earth, and the perihelion of the sun the same with the perigee of the earth. The manner of determining the place of the apogee of a planet is exactly the same with that for determining the place of the aphelion for the sun and superior planets. See APHELION and PLANETS. The place of the apogee of the sun, at the beginning of the year 1750, was, according to the tables of La Caille, $3^s\ 8^\circ\ 38'\ 4''$.

The quantity of the motion of the apogee may be found by comparing two observations thereof made at a great distance of time; converting the difference into minutes, and dividing it by the number of years elapsed between the two observations: the quotient gives the annual motion of the apogee. Thus, from an observation made by Hipparchus in the year before Christ 140, whereby the sun's apogee was found $5^\circ\ 30'$ of ♊; and another made by Ricciolus, in the year of Christ 1646, wherein it was found $7^\circ\ 26'$ of ♋; the annual motion of the apogee is found to be $1'\ 2''$. See APHELION.

Its secular motion, with respect to the equinoxes, is, according to the tables of La Caille, $1^\circ\ 49'\ 10''$. The cause of this motion is the attraction of the planets, particularly of Venus and Jupiter, as M. Euler has shewn in his tract "On the inequalities of the earth," which obtained the prize of the Academy of Sciences, in 1756.

The apogee of the moon, in 1750, was in $5^s\ 21^\circ\ 2'\ 32''$, and its annual motion is about $1^s\ 10^\circ\ 39'\ 50''$; and the revolution of the apogee, according to the tables of Mayer, in relation to the fixed stars, is performed in 8 years, 311 days, or 3231 days, $8^h\ 34'\ 57\frac{1}{2}''$.

Besides the progressive motion of the apogee of the moon, astronomers have also considered the orbit of the moon as subject to an equilibration of its apogee, joined to a variation in its eccentricity. Horrox was the first author of this ingenious hypothesis, which Newton adopted in his "Principia," and upon which are founded Halley's tables of the moon, and those of Flamstead, which were published by M. le Monnier, in his "Astronomical Institutions." M. Euler was the first who substituted to this hypothesis an equation more convenient, and called *evection*, the quantity of which is $1^\circ\ 20'\ 34''$. In order to explain the hypothesis of Horrox agreeably to the principles of attraction, it ought to be considered that the motion of the apogee of the moon depends upon the diminution of the central force of the moon towards the earth; so that the motion ought to be the greatest when the line of the syzigies concurs with the line of the apsides, or when the place of the sun corresponds to the apogee or perigee of the moon. When it is in the quadratures, the motion of the apogee is the slowest, because the total diminution of the central force is then the least; when the sun is at 45° from the apsides, the true motion of the apogee is equal to the mean motion; but his true place differs then the most from the mean place, and the equation is the greatest, because it results from all the degrees of velocity which the apogee has acquired to this point. This equation, in the tables of Halley, amounts to $12^\circ\ 18'$. There is also an inequality in the place of the apogee, which proceeds from the distances of the sun with respect to the earth, and which is $23'\ 12''$ additive, when the sun is at 3 signs of anomaly: this is an annual equation. See MOON.

APOGRAPH, a copy or transcript of some book or writing. The word is formed of ἀπὸ, *ab*, *from*, and γράφω, *I write*. In this sense apograph stands opposed to *autograph*, as a *copy* to an *original*.

APOGRAPHE, in the *Ancient Law*, was, when a person being sued for money supposed due to the public, pleaded that the charge was unjust, and withal produced all the money he was possessed of, and declared by what means it came to his hands.

Suidas adds, that it is sometimes taken for an action against such as neither paid the fines laid upon them before the ninth *prytanea* following their sentence, nor were able to give sufficient security to the city. Potter, Arch. Græc. lib. i. cap. 23.

APOGRAPHE, in the Roman *Law*, denotes a catalogue or inventory of goods.

APOKERA, in *Geography*. See *Cape* BECUR.

APOKOPA, in *Ancient Geography*, a name given to the *Cape* BAXOS of the Portuguese, situate upon the coast of Zanguebar.

APOLDA, in *Geography*, a town of Germany, in the circle of Upper Saxony, and principality of Weimar, eight miles N. W. from Weimar, and 40 S. W. from Leipsick. N. lat. 50° 56′. E. long. 11° 22′.

APOLEPSIS, from ἀπολείπω, *I leave*, in the Athenian *Law*, an action of divorce; brought when a woman had fled from her husband.

APOLEPSIS, from ἀπολαμβάνω, *I retain*, in the *Ancient Physic*, denotes a retention of the urine, or any other matter which ought to be evacuated.

APOLEPSIS is also understood of an interception of the blood or spirits, or an extinction of the native heat of the veins.

APOLEPSIS is also a denomination of a species of apoplexy, wherein the speech, sense, motion, &c. suddenly fail.

This

This ſeems to coincide with what is otherwiſe called a CATALEPSIS.

APOLIDES, from ἀ and πολις, *city*, in *Antiquity*, thoſe condemned for life to the public works, or exiled into ſome iſland, and thus diveſted of the privileges of Roman citizens.

APOLLINARIANS, APOLLINARISTS, call'ed alſo by Epiphanius, *Dimeritæ*, in *Eccleſiaſtical Hiſtory*, ancient heretics, who denied the proper humanity of Chriſt, and maintained that the body which he aſſumed was endowed with a ſenſitive, and not a rational ſoul, but that the Divine Nature ſupplied the place of the intellectual principle in man.

This ſect derived its name from Apollinaris, biſhop of Laodicea in the fourth century.

The *Apollinarians* have been charged with other opinions, ſuch as the *Millenarian* and *Sabellian*, the pre-exiſtence of the body of Chriſt, and the paſſion of his Deity; but eccleſiaſtical writers are not agreed with reſpect to theſe and other particulars. Their doctrine was firſt condemned by a council of Alexandria, in the year 362, and afterwards in a more formal manner by a council at Rome in 375; and by another council in 378, which depoſed Apollinaris from his biſhopric. Notwithſtanding theſe cenſures, his doctrine ſpread through moſt of the churches of the Eaſt; and his followers were ſubdivided into various ſects. The ſentence againſt Apollinaris and his followers was confirmed by a council held at Alexandria in 378, by an oecumenical council, aſſembled at Conſtantinople in 381, as well as by the council of Antioch in 379. In 388, the emperor Theodoſius enacted a law, forbidding them to hold aſſemblies, to have any eccleſiaſtics or biſhops, or to dwell in cities. The rigorous execution of this law, in concurrence with the decrees of different councils, reduced them to a very ſmall number, and their doctrine had no long duration. Dupin. Moſheim. Lardner. Bower's Lives of the Popes. Gen. Dict.

The doctrine of Apollinaris, viz. that the Logos, a divine perſon, which deſcended from heaven, ſupplied the place of a ſoul in Chriſt, ſays a learned and acute writer, (Mordecai's Letters, p. 53.) is plain and intelligible; and anſwers much better than any other to the texts, which aſſert that "Chriſt took on him the ſeed of Abraham—was made in the likeneſs of man—God was manifeſt in the fleſh—came in the fleſh, in the likeneſs of ſinful fleſh—in him dwelleth the fulneſs of the Godhead; the Word was made fleſh—was incarnate." "All theſe texts of ſcripture," ſays Dr. Sykes (External Peace of the Church, p. 29, 30.), "are, upon the Apollinarian ſcheme, natural, plain, and eaſy; it teaches a moſt proper unity of perſon; as making the God-man, Jeſus Chriſt, to be ſtrictly one intelligent agent." It makes the very ſame perſon ſuffer and die, that came down from heaven; which is the fundamental article of the Chriſtian religion. Mr. Whiſton alſo ſays (ſee Account of the Convocation's proceeding againſt him, p. 87.), "the ſcripture and earlieſt antiquity never affirm that Chriſt took a human rational ſoul; they never ſay he took a whole human nature; never ſay, he was in that ſenſe a true and perfect man; but that he was made fleſh, had a body prepared for him; was the Word, or a God incarnate; was made in the likeneſs of man; was found in faſhion as a man, while he was God the Word. Nay, Ignatius directly affirms, that it was the Word, and not a human ſoul, which inhabited in that body; and almoſt all the ancients agree in the ſame doctrine; even Athanaſius himſelf, before the council of Nice." Notwithſtanding the pains that were taken to diſcourage this opinion, it appeared again in different forms, in the Chriſtian church, in the doctrine of the Monothelites, who held, that Chriſt had only one will, which, without doubt, is ſufficient for one perſon.

APOLLINARIAN *games*, *Apollinares ludi*, in *Antiquity*, games at Rome, inſtituted A. U. C. 541, celebrated yearly in honour of Apollo, on the fifth day of July, under the direction of the prætor, in the Circus maximus.

The occaſion was a kind of oracle delivered by the prophet Marcus, after the fatal battle at Cannæ, declaring that, to expel the enemy, and cure the people of an infectious diſeaſe which then prevailed, ſacred games were to be annually performed in honour of Apollo. And that the prætor was to have the direction of them; and the *decemviri* were to offer ſacrifices after the Grecian rite.

The ſenate ordered that this oracle ſhould be obſerved, becauſe another of the ſame Marcus, wherein he had foretold the overthrow at Cannæ, had been verified; for this reaſon they gave the prætor twelve thouſand *aſſes* out of the public caſh to defray the ſolemnity. There were ſacrificed an ox to Apollo, as alſo two white goats and a cow to Latona; all with their horns gilt. Apollo had alſo a collection made for him, beſides what the people, who were ſpectators, gave voluntarily. The firſt prætor by whom they were held was P. Cornelius Sylla. For ſome time they were moveable and indictive, but at length were fixed, under the prætorſhip of P. Licinius Varus, to the fifth of July, and made perpetual. Livy, xxvii. c. 23. tom. iv. p. 75. Ed. Drakenb.

The men who were ſpectators at theſe games, wore garlands on their heads; the women performed their devotions in the temples at the ſame time; and at laſt they carouſed together in the veſtibules of their houſes, the doors ſtanding open.

The tradition reports, that at the firſt celebration hereof, the people were ſuddenly invaded by the enemy, and obliged to take to their arms: upon which occaſion a cloud of darts and arrows falling upon their enemies, the Romans ſoon returned victors to their ſports.

The Apollinarian games were only ſcenical; and at firſt only obſerved with ſinging, piping, and other ſorts of muſic; but afterwards there were alſo introduced all kinds of mountebank tricks, dances, and the like, yet ſo as that they ſtill remained ſcenical, no chariot races, wreſtlings, or the like laborious exerciſes of the body, being ever practiſed at them. Danet, and others, confound the *ludi Apollinares* with the *Actiaci* or ACTIAN *games*.

APOLLINARES *ludi* was alſo a general name given to all SCENICAL games.

Theſe were alſo called *ludi liberales*, and *ſcenici*.

They differed from the *ludi theatrales*, in that the former were celebrated with all ſorts of plays, farces, poems, recitations, &c. the latter only by dancing and muſic.

This kind of *Apollinarians* had their ſhare in almoſt all the ſolemn games.

APOLLINARIS, CLAUDIUS SULPITIUS, in *Biography*, a celebrated grammarian, was born at Carthage, and flouriſhed in the ſecond century under the Antonines. He was ſucceeded in his profeſſion by his ſcholar Helvius Pertinax, who afterwards became emperor: to him are aſcribed the verſes prefixed to the comedies of Terence, and the following epigram written upon the orders which Virgil gave to burn his Æneid:

"Infelix alio cecidit prope Pergamon igne,
Et pene eſt alio Troja cremata rogo."

Aulus

Aulus Gellius (l. xxiv. c. 10.) ſpeaks of him in terms of very high commendation; repreſenting him as "the moſt learned man of the age," and as altogether deſtitute of pedantic arrogance. Gen. Dict.

Apollinaris, Sidonius C. Sollius, an eminent biſhop of France, was born at Lyons, of a noble family, in the year 431, and educated under maſters by whoſe inſtruction he profited ſo as to make a great proficiency in the arts and ſciences, and particularly in poetry and polite literature. His firſt profeſſion was military, in the exerciſe of which he was captured by Maiorianus, by whom his father-in-law, Avitus, was deprived of the empire; but having been kindly treated by the new emperor, he compoſed in honour of him a panegyric, for which he had a ſtatue erected to him at Rome, and was honoured with the title of Count. In 467, the emperor Anthemius raiſed him to ſeveral poſts of dignity, and erected a ſtatue to him for a ſimilar ſervice. But quitting military and civil employments, he was preferred to the biſhopric of Clermont, the duties of which he is ſaid to have diſcharged with great integrity. Having occupied this ſee 15 years, he died, according to Dupin, in 487; but according to Cave and Olearius, in 482. He has been eſteemed the moſt elegant writer of the age in which he lived, both in proſe and verſe. Beſides his panegyrics on the emperors, there are extant poems addreſſed to his friends upon particular ſubjects, and letters collected in nine books, containing a variety of particulars relating to polite literature and profane hiſtory. His works were printed at Baſil in 1542, 8vo.; at Lyons, in 8vo. in 1552; and at Paris, in 4to. in 1599; and in 8vo. in 1614. They are publiſhed in the ſixth volume of the "Bibliotheca Patrum." Cave, Hiſt. Lit. vol. i. p. 453. Gen. Dict.

Apollinaris, or Apollinarius, Claudius, was biſhop of Hierapolis in Phrygia, A. D. 176, and flouriſhed in the time of M. Antoninus, to whom he preſented an apology for the Chriſtian faith. Euſebius and Photius mention other works, none of which are now extant. Euſebius informs us, that Apollinaris had mentioned the extraordinary deliverance and victory obtained by Antoninus in the year 174, when the thundering legion became ſo famous. Theodoret, in mentioning his writings againſt the Montaniſts, ſays, that he was worthy of praiſe, and that he had added to the knowledge of religion, the ſtudy of polite literature; and Photius commends his ſtyle. Lardner's works, vol. ii. p. 294.

Apollinarius, or Apollinaris, the *elder*, was a native of Alexandria, and flouriſhed about the middle of the fourth century, or according to Cave, A. D. 362. He was diſtinguiſhed, both as a grammarian and a divine. After having been a teacher of grammar at Berytus in Phœnicia, he became preſbyter at Laodicea in Syria. Under the reign of Julian, when the Chriſtians were forbidden the uſe of the Greek and Roman claſſics in their ſchools, he compoſed a grammar in a Chriſtian form, and wrote many books in imitation of the ancients. He tranſlated the books of Moſes into Greek heroic verſe, and wrote in the ſame manner the whole hiſtory of the Hebrews to the time of Saul, which he divided, like Homer's Iliad, into twenty-four parts, to which he prefixed, in regular ſeries, the letters of the alphabet. The remaining hiſtorical books of the Old Teſtament he exhibited partly in hexameters, and partly in a dramatic or lyric form, imitating the tragedies of Euripides, the comedies of Menander, and the odes of Pindar. Sozomen (Eccl Hiſt. l. vi. c. 15.) ſpeaks highly of his talents and performances, and leads us to lament, in proportion to our confidence in his judgment, "works equal in number and merit to the ancient Greek models." Suidas. Cave, Hiſt. Lit. vol. i. p. 225.

Apollinarius, or Apollinaris, the *younger*, the ſon of the former, was the diſciple of Epiphanius the ſophiſt, and taught grammar at Laodicea, of which city he was at length ordained biſhop. At the time, viz. A. D. 362, when Julian iſſued the decree mentioned in the preceding article; he concurred with his father in rendering ſervice to the Chriſtians; and he is ſaid to have put the goſpels and the apoſtolical doctrine into dialogues after the manner of Plato. He alſo wrote commentaries on the book of Pſalms, the Eccleſiaſtes, the prophecy of Iſaiah, that of Daniel, (rejecting the ſtories of Suſanna, and Bel and the Dragon, as not extant in Hebrew,) and that of Hoſea, and likewiſe on ſeveral books of the New Teſtament. His apology for the Chriſtian religion againſt Porphyry, in thirty books, is mentioned with commendation by Jerom and others. Some learned men have been of opinion, that he publiſhed a new Greek tranſlation of the books of the Old Teſtament, compiled from the Greek verſions that had been made before; but this does not ſeem to have been a fact, though Fabricius enumerates this as one of his works. Sozomen (Eccl. Hiſt. l. v. c. 18. p. 624.) mentions a valuable work of this author, addreſſed to the emperor himſelf and the Greek philoſophers, intitled, "Of the truth;" in which he ſhewed, by reaſon alone, without alleging the divine ſcriptures, that they did not think rightly of the deity. It is ſaid, that Julian writing to ſome Chriſtian biſhops concerning this book, made this remark; "I have read, underſtood and condemned;" to which he received this anſwer, "You have read, but you did not underſtand; if you had underſtood, you would not have condemned." Beſides all theſe, Apollinarius wrote divers books againſt thoſe called heretics; and he employed his poetical talents in compoſing ſhort pſalms and hymns fitted for feſtivals and for all ſeaſons, on a variety of ſubjects; ſome of which were uſed in their religious aſſemblies, and others were ſung by the men at their works and entertainments, and by the women at their ſpindle. For an account of the doctrine of Apollinaris, and of the ſect of which he is ſaid to have been the founder, ſee Apollinarians.

The character of Apollinarius has been very differently appreciated by modern writers. Lord Chancellor King, the reputed author of "The Apoſtle's Creed," &c. calls him the great Apollinaris, the ornament and ſplendor of the church of that age, the moſt ſignalized champion for the faith, and an illuſtrious example of piety and virtue; by all eſteemed the greateſt man of his age both for learning and piety; a moſt accurate and nervous defender of the faith againſt all its enemies, whether heathens or heretics. Dupin ſays, he was beloved and eſteemed by St. Athanaſius, St. Baſil, St. Epiphanius, and all the great men of his age, for learning and knowledge. St. Jerom ſays, that he had often ſeen him at Antioch, that he honoured him, and that he learned many things of him. Philoſtorgius, the Arian hiſtoriographer, ſays, that he and Baſil, and Gregory Nazianzen, defended the divinity of Chriſt better than any either before or after them; in compariſon of whom, the great Athanaſius was eſteemed to be but a child; and the moſt conſidered and eſteemed of theſe three was this Apollinaris; and that theſe three were wanting in nothing neceſſary for underſtanding and reading the ſcriptures; and eſpecially this Apollinaris, who underſtood the Hebrew language. He wrote againſt the Arians and other heretics, &c. in many volumes, overthrew hereſies, and confuted errors oppoſite to the faith; and in thirty large and noble books, moſt convincingly baffled

fied the calumnies of Porphyry: and his moral character was as conſpicuous as either Gregory's or Baſil's. His writings ſurpaſſed in beauty and ſtrength every thing that had been written by Euſebius, or any of the ancients. Nevertheleſs he was excommunicated by George biſhop of Laodicea, for taking the part of Athanaſius againſt him. To theſe teſtimonies in favour of Apollinarius, we ſhall ſubjoin a very different kind of judgment formed concerning him by M. Tillemont. "He mantained to the end his impiety, and died in his hereſy: ſo that we cannot admit the hope of any other lot for him, but the condemnation of hell." Dupin having mentioned Apollinarius's paraphraſe of the pſalms, adds, "All the other works of this author are loſt, except ſome fragments. His error in all probability occaſioned this loſs: the catholics had ſuch a dread of the books of heretics, that they have not preſerved ſo much as thoſe which had no relation to their hereſy, and which might have been uſeful to the church."—"If that be ſo (ſays the candid and impartial Dr. Lardner), we muſt acknowledge that the catholics were to blame; it is like rooting up tares and good corn altogether. And we may hence receive this inſtruction, to be upon our guard that we admit not too great an averſion for men on account of difference of ſentiment in things of a ſpeculative nature; leſt by violence in oppoſing error, we ſhould obſtruct the progreſs of knowledge, and the cauſe of truth which we are deſirous to ſerve." Apollinarius died, according to Jerom, in the reign of Theodoſius, and probably not long after the beginning of it, in 382, or ſoon after; for Epiphanius, in 376 or 377, calls him a venerable old man. Lardner's works, vol. iv. p. 380—397. Moſheim's Eccl. Hiſt. vol. i. p. 223, &c. Cave, Hiſt. Lit. vol. i. p. 250, &c.

APOLLINIS URBS, or APOLLINOPOLIS MAGNA according to Ptolemy, or APOLLONOS according to the Itinerary of Antonine, or APOLLONIAS according to Hierocles, in *Ancient Geography*, the capital of the fifty-ſecond nome of the ſame name in the ſouthern part of Upper Egypt, about twenty-five leagues nearly north of the great cataracts. M d'Anville, Savary, and Denon, agree in aſſigning to it the ſituation of the preſent village of *Edfou* or *Etfu*, governed by an Arabian ſcheik.

The ſite of this ancient city is ſingularly advantageous, as it commands the river and the whole valley of Egypt: and its magnificent temple, ſeated on a riſing ground, towers over the reſt like a large citadel which keeps the adjacent country in awe; and, indeed, it is known to the natives merely by the name of "the fortreſs." The extent, majeſty, magnificence, and high preſervation of this edifice, ſays M. Denon, ſurpaſſed every thing he had before ſeen in Egypt, or elſewhere. The building itſelf is a long ſuite of pyramidal gates, of courts decorated with galleries, of porticoes, and of covered naves, conſtructed, not with common ſtones, but entire rocks. The excellent preſervation of this ancient edifice forms a wonderful contraſt with the grey ruins of modern habitations built within its vaſt incloſure; a part of the population of this village being contained in huts built in the courts, and around the fragments of the temple. This temple is the moſt beautiful in Egypt, and, next to thoſe of Thebes, the largeſt. As it was built at a period when the arts and ſciences had acquired all their ſplendour, the workmanſhip of every part is equally beautiful, the hieroglyphics are admirably executed, the figures more varied, and the architecture of a higher order than in the Theban edifices, the building of which muſt be referred to an earlier age. At the foot of this greater temple, and on a much lower level, is a ſmaller one, at preſent almoſt buried; but in a hollow ſurrounded with rubbiſh may be ſeen a little portico of two columns, and as many pilaſters, a periſtyle, and the ſanctuary of the temple incloſed within a pilaſtered gallery. A ſingle column with its capital riſing from the ruins to the height of forty feet above the portico, and the angle of a wall forty feet beyond, ſhew that there formerly exiſted a court in front of the temple. The gates, it is obſerved, are not exactly in the middle of the ſides. It ſeems to have been dedicated to the evil genius; for the figure of Typhon is ſeen in relief on the four ſides of the plinth which ſurrounds each of the capitals: the whole friezes and all the paintings within appear deſcriptive of Iſis defending herſelf againſt the attacks of this monſter. M. Denon has illuſtrated his deſcription of theſe temples by appropriate drawings. See Denon's Travels into Upper and Lower Egypt, &c. vol. ii. p. 107. 277.

APOLLINIS *urbs*, or *Apollinopolis Parva* or *Minor*, another city of Egypt, called alſo *Vicus Apollinis* in the Itinerary. According to Ptolemy, it belonged to the forty-eighth nome of Coptos; and was ſituated between Coptos to the north, and Thebes to the ſouth-weſt, on the right of the Nile. M. d'Anville refers this to the preſent ſituation of *Kous*. Denon found in the middle of the ſquare the ſummit of a large and well-proportioned gate, ſunk into the ground to the cornice. This ſingle fragment, which muſt have belonged to a great edifice, and which appears larger than all the reſt of the city, proves, ſays this traveller, that Kous was built on the ſite of Apollinopolis Parva. The other parts of the edifice are, without doubt, buried under the mountain of rubbiſh that is occupied by the preſent town. The inſcription, engraved on the liſtel of the gate, was poſterior to the monument, and affords a curious example of ingenious flattery in a præfect of Upper Egypt, at the time of the Ptolemies; who, on account of ſome repairs twenty or thirty centuries after the building of the temple, ventured to dedicate it to his maſters, to inſcribe the gate with their names, and thus to tranſmit them to poſterity. Denon's Travels, vol. ii. p. 236. 297.

APOLLINIS *Fanum*, or *Temple of Apollo*, a town of Lydia, according to the periplus of Scylax, which became a biſhop's ſee. This is alſo the name of a place of Africa propria, according to Ptolemy, ſituate probably north-eaſt of Tabraca.

APOLLINIS *inſula*, an iſland of Africa, according to Steph. Byz.

APOLLINIS *lucus*, a grove conſecrated to Apollo in that part of Ciſalpine Gaul called Tranſpadana, among the Libici, to the north-weſt of Vercellæ.

APOLLINIS *oppidum*, a ſmall town of Ethiopia, in the country of the Megabores, according to Pliny.

APOLLINIS *Phæſii portus*, a port of Greece, attributed by Pliny to the Ozole Locrians.

APOLLINIS *promontorium*, *Ras-Zebib*, was ſituated to the eaſt of Utica, and to the north of Carthage. Another promontory of the ſame name is placed by M. d'Anville after Ptolemy, in Mauritania Cæſarienſis, north-weſt of Cæſarea.

APOLLINIS *regio*, a name given to the country of Ethiopia.

APOLLINIS *templum*, or *Temple of Apollo*, was ſituated in Thrace, and called Zerinthium. Another of this name was ſituated in Lycia, upon the gulf of Myra. Another was in Theſſaly, upon the Pelaſgic gulf, near Pagaſæ.

APOLLINIS *urbs*, or *city of Apollo*, was a name given to Delos, called alſo Aſtena, in the iſle of Delos.

APOLLO, in *Entomology*, a ſpecies of PAPILIO, in the

ſection Parnaſſius. The wings are white ſpotted with black: on the upper ſide of the poſterior wings are four eye-ſhaped ſpots, and on the underſide ſix. It inhabits Europe and Styeria: and is the PAPILIO RUMIA of Poda. Gmelin.

APOLLO, in *Mythology*, a pagan deity worſhipped by the Greeks and Romans. Cicero (De Nat. Deor. l. iii. c. 23. Oper. t. ii. p. 635. ed. Olivet.) diſtinguiſhes four deities of this name: the firſt and the moſt ancient was the ſon of Vulcan, and the guardian of Athens; the ſecond was the ſon of a Corybant, and born in Crete; the third was the ſon of Jupiter and Latona, who was born in the iſland of Delos at the ſame time with his ſiſter Diana, and who was, according to Euſebius, the moſt ancient of the three, and, in many reſpects, the moſt celebrated; the fourth was born in Arcadia, and called by the Arcades, Nomius, or the legiſlator, becauſe he enacted laws for them. Of theſe four, the three laſt were Greeks, and the firſt an Egyptian, who, according to Herodotus, was the ſon of Oſiris and Iſis, and called *Orus* or *Horus*. Pauſanias agrees with Herodotus, and ranks Apollo among the Egyptian divinities. Diodorus Siculus alſo, after ſaying that Iſis had invented the practice of medicine, adds, that ſhe taught this art to her ſon *Orus*, named Apollo, who was the laſt of the gods that reigned in Egypt. Indeed, all the Grecian fables and mythologies may be eaſily traced to Egypt. To this purpoſe, it is obſerved, that if the Apollo of the Greeks was ſaid to be the ſon of Jupiter, it was becauſe Horus, the Apollo of the Egyptians, had for his father Oſiris, whom the Greeks confounded with Jupiter. If the Greek Apollo was reckoned the god of eloquence, muſic, medicine, and poetry, the reaſon was, that Oſiris, the ſymbol of the ſun among the Egyptians, as well as his ſon Horus, had there taught thoſe liberal arts. If the Greek Apollo was the god and conductor of the muſes, it was becauſe Oſiris carried with him, in his expedition to India, ſinging women and muſicians. The parallel might be purſued, and ſufficient evidence is thus obtained, that the true Apollo was that of Egypt. Cicero ſays (De Nat. Deor. l. ii. c. 27. Oper. t. ii. p. 578.), that Apollo is a Greek name, and that he repreſents the ſun; and that the ſun is ſo called, becauſe this luminary is alone ſo great compared with the other ſtars, or becauſe this alone appears when it is riſen, all the others being obſcured. Accordingly the etymology may be deduced from α priv. and πολλος, *many*; as the Latins derive *ſol* from *ſolus*, alone. Voſſius thinks (De Idol. vol. i. l. ii. c. 17. p. 391.), that the Apollo of Greece and Rome was the ſame as the Abelion of the eaſt; and Abelion was, in the etymological ſyſtem of Bryant (Mythol. vol i. p. 17), a combination of the terms Ab-El-Eon, denoting "Pater ſummus Sol", or "Pater Deus Sol." The ſun was alſo worſhipped, adds this writer, under the title of Abaddon; which, as we are informed by the Evangeliſt, was the ſame as Apollo, or as he terms him (Rev. c. ix. v. 11), Απολλυων.

Apollo has been peculiarly diſtinguiſhed by the poets, in preference to the other deities; and many extraordinary diſcoveries and performances have been aſcribed to him. He has been eſteemed the inventor of all the fine arts, ſuch as poetry, muſic, and eloquence, and regarded as the protector of the poets, muſicians, and orators. No one has performed like him on the lyre; and he has been thought to poſſeſs an intimate acquaintance with all the ſecret powers of medicine. The muſes were under his protection, and he preſided on Mount Parnaſſus at all their concerts. None of the gods was endowed to the ſame degree with himſelf, with the knowledge of futurity; and therefore he was the god of divination, and had a greater number of oracles than any other deity. Of theſe the Delphian claimed the firſt rank on account of its antiquity, truth, and the perſpicuity of its anſwers, as well as the magnificence of its ſtructures, the variety and value of its *Anathemata* or preſents, and the multitudes that reſorted thither. There were others at Cirrha, Delos, among the Mileſians, at Abæ, at Claros, at Lariſſa, in Bœotia at Eutreſis, Teggyræ, and Ptous, at Orope in Eubœa, at Corypæ in Theſſaly, at Hybla, at Iehnæ in Macedonia, &c. He had alſo temples through all Greece and Italy; and he was honoured and worſhipped, as the repreſentative of the ſun, among the Gauls and Britons. It has indeed been doubted whether Apollo was a real perſonage, or merely a ſymbolical deity repreſenting the ſun. Voſſius (*ubi ſupra*) adopts the latter opinion, and maintains that there was never any other Apollo beſides the ſun: thus he was ſtyled the ſon of Jupiter, becauſe that god was reckoned by the ancients, the maker of the world. His mother was called Latona, ſignifying "hidden," becauſe all things were enveloped in the obſcurity of Chaos, before the creation of the ſun. He is repreſented as a beardleſs youth, becauſe the ſun never grows old and decays; and his bow and arrows denote his piercing beams. Beſides, according to this writer, all the ceremonies that were performed to his honour bore an obvious relation to the great ſource of light which he repreſented. It is in vain then, he concludes, to ſeek for any other divinity than the ſun, which was adored under the name of Apollo. There is reaſon, however, to imagine, that there might have exiſted ſome illuſtrious perſonage named Apollo, who after his apotheoſis was made the emblem or ſymbol of the ſun; as we know to have been the caſe with reſpect to the Egyptian deities, Horus and Oſiris.

To the diſtinguiſhing qualities above enumerated and aſcribed to Apollo, the poets have joined beauty, gracefulneſs, eternal youth, and the art of charming the ear by the ſweetneſs of his eloquence, and the melodious ſounds of his lyre, and of thus captivating both gods and men. Accordingly he is principally diſtinguiſhed in ancient ſtatues by the beauty of his face, and the gracefulneſs of his figure: and hence Virgil (Æn. iii. v. 119.) calls him "the beautiful;" and Tibullus (l. ii. el. 3. v. 11.), "the well-ſhaped god." We need not wonder then at the amours and love-conqueſts that have been attributed to him. His muſical conteſts, and ſome of his other feats, will be related in their proper places, in the courſe of this work. See MARSYAS, MIDAS, PAN, PYTHON, and THAMYRIS.

Apollo is uſually repreſented as a beautiful, beardleſs youth, with long hair (hence called "intonſus and crinitus;" Ovid. Triſt. iii. 1. 60.), holding a bow and arrows in his right hand, and in his left hand a lyre or harp. He is crowned with laurel, which was ſacred to him, and from this circumſtance his favourite poets wore the ſame crown. In the character of the ſun, his head is ſurrounded with rays. He is often repreſented on the coins of the Syrian princes. The animals conſecrated to him were the wolf and hawk, as ſymbols of his piercing eyes; the crow and raven, from their ſuppoſed faculty of predicting the future; the cock, from his announcing the dawn of morning and riſing of the ſun; the graſshopper, on account of his tuneful powers, recorded and celebrated by Anacreon (od. 43); and the ſwan, partly from his prediction of futurity, and partly from his extraordinary vocal powers. The various appellations which were appropriated to Apollo, were derived either from ſome of his chief attributes, or from the places where he was worſhipped. It would be endleſs to enumerate them all: we ſhall therefore content ourſelves with ſome of the principal, and refer for their more particular explanation to the articles under which they occur. He was called *Actian*, in reference

to

to ACTIUM; Ακτιοκομης, in his hymn, attributed to Homer; and "Intonſus," by Propertius, Ovid, &c. on account of his long hair; *Alexicacus*, from his power of healing; *Arciteneus* and *Argyrotoxus*, from his bow and arrows made of ſilver; *Comæus*, from κομη, on account of his fine hair, under which appellation he was worſhipped at Seleucia; *Conſervator*, on a golden medal of Aurelian; *Coryphæus*, from *Coryphe*, where he had an oracle; *Cynthius*, from a mountain of this name in Delos; *Delian*, from *Delos*; *Delphian*, from *Delphi*; *Didymæus*; Εκαεργος, or *longe ejaculator*, in alluſion to his arrows and the rays of the ſun; *Latous* and *Latonian*, from his mother Latona; *Medicus*, from his being the inventor of medicine; *Navalis*, from Auguſtus's having aſcribed his victory at Actium to him; Νομιος, or *Nomius*, either from his ſuperintending herds and paſturage, or from the fertility which the earth derives from the influence of the ſun; *Pæan*, formed of παιειν to ſtrike, becauſe he wounded with his arrows; *Patareus*, from Patara in Lycia, where he had a temple and oracles; *Phœbus*, from Phœbe the mother of Latona, or from his ſplendour; *Pythian*, from his victory over the ſerpent Python; *Smintheus*, from σμινθα, *rats*, a name given by the Cretes, who, having neglected his worſhip, were puniſhed by the deva-ſtations of theſe, and reſcued by his interpoſition; *Sortilegus*, from his preſiding over lots; *Thuræus*, from θυρα, a *gate*, becauſe he preſided at the gates, among the Greeks, who adorned them with his ſtatues; *Thymbræus* (Virgil Æn. iii. 85.), from Thymbra, where he had a grove and temple, &c.

APOLLO BELVIDERE, in *Sculpture*, a very celebrated antique ſtatue, eſteemed by the majority of artiſts the moſt excellent and ſublime of all the ancient productions. It was found towards the end of the fifteenth century, at Capo d'Anzo, upon the ſea coaſt, about twelve leagues from Rome, in the ruins of ancient Antium. It was purchaſed by pope Julius II. when only cardinal, and placed in his palace near the church of Santi Apoſtoli; but ſoon after, being made pope, he removed it to the Belvidere of the Vatican; from whence it takes its name, and where it was for three hundred years the admiration of the world; until Rome was taken and plundered by the French, who have tranſported this divine ſtatue to the muſeum at Paris.

The marble out of which this ſtatue was worked, is of ſo peculiar a kind, as to occaſion much doubt about the quarry it was taken from. The ſculptors of Rome are all of opinion that the marble is Grecian; with the exception of one or two, who call it marble of Luni or Carrara. However poſitive theſe opinions may be, it came moſt probably from a quarry totally unknown at this day.

Some accounts have ſtated, that this ſtatue was the work of Agathias the Epheſian; but the French artiſts, who were ſent to Rome at the time of the incurſion of the French into Italy, to explore the different works of art and their hiſtory, ſtate that the author is certainly unknown.

This ſtatue is a ſtanding figure, almoſt naked, and more than ſeven feet in height: it has a freedom, grace, and majeſty in the whole attitude, and eſpecially in the turn of the head, that ſurpaſſes any other antique known. The god is here repreſented with his quiver hanging behind his right ſhoulder, and his pallium over his left arm, which is extended, and has in the hand the remains of a bow, out of which he is ſuppoſed to have juſt diſcharged an arrow at the ſerpent Python. On this account the ſtatue is called Apollo Pythius. The mind of the god is here ſo nobly exhibited, that without ſaying too much, he evidently appears watching the event of his aim; but with ſuch confidence and majeſty, as proceed from a certainty of ſucceſs in the attempt; forming a ſublime contraſt to the tremulous anxiety of Diſcobulon, who, in another ſtatue, is repreſented as having juſt thrown the diſcus. On the ſtump of a tree, introduced in order to ſtrengthen the figure, is executed a ſerpent, the ſymbol of phyſic, of which Apollo was god. To deſcribe this figure in few words; it is a complete compoſition of ſublimity, elegance, activity, and youthful beauty. The right fore-arm and the left hand, which were wanting, have been reſtored by Giovanni Angelo da Montorſoli, pupil of Michael Angelo.

In the eighth year of the French Republic, Bonaparte, accompanied by the third conſul Lebrun, was preſent at the inauguration of this ſtatue; and on the occaſion, a bronze tablet was preſented, in the name of the artiſts, by Citizen Vien, and placed on the pedeſtal of the ſtatue, on which was engraved the following inſcription:

La ſtatue d'Apollon, qui s'éléve ſur ce piédeſtal
trouvée à Antium ſur la fin du XV^e ſiécle,
placée au Vatican par Jules II. au commencement du XVI^e,
conquiſe l'an V. de la République par l'armée d'Italie,
ſous les ordres du géneral Bonaparte,
a été fixée ici le 21 Germinal, an VIII.
premiere annee de ſon conſulat.

On the oppoſite ſide of the pedeſtal is engraved:

Bonaparte, I^er Conſul.
Cambacerés, II^e Conſul.
Lebrun, III^e Conſul.
Lucien Bonaparte, Miniſtre de l'intérieur.

Beſides the above, there are many other ſtatues of Apollo; ſome of which poſſeſs great merit. In the Villa Medicis were the following.

One ſmaller than life, grouped with a figure of the God Pan, who is teaching him to play on the ſyrinx. (One, the ſame as this, was in poſſeſſion of the Earl of Beſborough at Roehampton.)

Another Apollo, leaning his left elbow on the ſtump of a tree; his right arm reſts upon his head. A very elegant and beautiful ſtatue. The left arm and the feet are modern. This is called the Apollo de Medicis.

Another, leaning on the ſtump of a tree; with his legs croſſed. This was originally playing on a lyre; though the lyre is now wanting. Over the tree hangs the pallium of Apollo, and at the bottom is a ſwan. The air of the head, and the ſweep of the body of this figure, are very elegant.

Two others, of the ſame deſign; except that their heads are more elevated. Theſe are not quite equal in merit to the firſt.

Another, is alſo leaning on the ſtump of a tree, with his lyre: very fine.

In the palace Farneſe, was an Apollo of black marble, leaning on his lyre, with his right hand over his head.

Another in the palace Giuſtiniani, where he holds the ſkin of Marſyas: very fine.

A group of Apollo and Marſyas was in the palace Chigi, in which Apollo has one hand on the ſhoulder of Marſyas, with a knife in the other. They regard each other, in this group, with an expreſſion that is ſurprizingly well told. The air of Apollo's head is divine.

There are ſome ſmall beautiful ſtatues of Apollo at Wilton houſe: ſeveral at Paris, and very many in different parts of Europe, beſides a great many celebrated buſtos and baſſo-relievos.

APOLLO was alſo the name of a kind of pantomime dance, which exhibited ſome actions of this god.

APOLLODORUS, in *Biography*, a grammarian of Athens, was the ſon of Aſclepiades, and a diſciple of Ariſtarchus the grammarian, and of the two ſtoic philoſophers Panætius and Diogenes the Babylonian. He flouriſhed about

the 158th olympiad, or 148 years before Chriſt, under Ptolemy Philometor. None of his works are extant but the three books of his "Bibliotheca," which contain a compendious hiſtory of the Grecian divinities and heroes, from Inachus, who is believed to have founded the kingdom of the Argives in the time of Abraham, to the time of Theſeus, prince of Athens. This hiſtory was written in the reign of Attalus king of Pergamus, who died in the 3d year of the 160th olympiad, or 138 years before Chriſt. Heyne's preface proves this to be a very ingenious and elegant performance, from which we may derive ſome acquaintance with ancient hiſtory, as the fables are founded on hiſtorical truth, and as the perſons whom it records actually exiſted, though their actions are exaggerated or diſguiſed. He adds, that we may extract from Apollodorus a more certain and better founded chronology, than from the rhapſodies of Diodorus; and Voſſius is of opinion, that by ſeparating the fabulous ſtories from real events, we may form from his writings a true hiſtory. The firſt edition of this work was publiſhed by Sylburgius at Rome, in 1555, 8vo.; but the beſt edition is that of Gale, among "the five ancient Greek writers of fabulous hiſtory;" to which he has annexed notes, and a genealogical table, in 1655. Fabr. Bibl. Græc. l. iii. c. 27. t. ii. p. 670, &c.

Apollodorus, a famous Athenian painter, flouriſhed about the year before Chriſt 408. He is ſaid to have poſſeſſed the reſources, in which his predeceſſor Polygnotus failed, and to have diverſified the tone of his colours, and to have produced a happy mixture of light and ſhade. Heſychius ſays, that he was ſo ſenſible of his ſuperiority in the exerciſe of his art, that he wore a ſort of regal tiara, as the prince of his profeſſion. Zeuxis improved upon his diſcovery, and Apollodorus, in a poem written on the occaſion, records and exalts that of his rival. "I had diſcovered," ſays he, "for the diſtribution of ſhades, ſecrets unknown till our days; they have been wreſted from me; the art is in the hands of Zeuxis." Pliny, Hiſt. Nat. l. xxxv. c. 9. Anacharſis's Travels, vol. i. p. 448.

Apollodorus, a famous architect, was born at Damaſcus, and flouriſhed under Trajan and Adrian. In the year of Chriſt 104, he built the ſtone bridge over the Danube, which was one of the moſt conſiderable works of Trajan; and he alſo conſtructed the edifices round the Forum Trajanum in Rome, among which were a triumphal arch, and the ſculptured column of Trajan, now exiſting. His offenſive reply to Adrian, who ſeems to have envied his talents and fame, was reſented with a ſeverity which muſt be univerſally condemned. Whilſt Apollodorus was converſing with Trajan on ſome plans of architecture, Adrian interfered, and gave an opinion, which the artiſt treated with contempt: "Go," ſays he, "and paint gourds," (an amuſement which Adrian was fond of,) "for you are very ignorant of the ſubject on which we are converſing." When Adrian became emperor, the affront was remembered, and it prevented Apollodorus from being employed: nor was the opinion, which Apollodorus gave with reſpect to the plans of a ſumptuous temple of Venus, which the emperor was building, at all conciliatory. Adrian, meanly jealous, and inexcuſably revengeful, baniſhed the architect; and having cauſed him to be accuſed of various crimes, put him to death. Crevier's Rom. Empr. vol. vii. p. 171. Gen. Dict.

Apollodorus, born at Lemnos, was phyſician to Ptolemy Soter, to whom he is ſaid by Pliny to have dedicated a book on the qualities and uſe of wine. There were two other phyſicians of that name, both mentioned by Pliny; one of them is ſuppoſed to have invented an antidote againſt the bite of a viper, deſcribed by Galen. Haller, Bibl. Med. Pract.

Apollonia, in *Antiquity*, feaſts ſacred to Apollo at Ægialus. It is ſaid, that Apollo, after the deſeat of Pythius, having retired to Egialea with his ſiſter Diana, was driven thence by the inhabitants, and obliged to ſeek a retreat in the iſland of Crete. In a little while, a plague made great ravages in this place, and upon conſulting the oracle, information was received, that ſeven young women, and as many young men, ſhould be ſent to Apollo and Diana to requeſt their return to Egialea. As ſoon as theſe deities arrived, the plague ceaſed; and in commemoration of this event, they annually depated the ſame number of young women to go, as it were, in ſearch of Apollo and Diana.

Apollonia, in *Biography*, a female Chriſtian Martyr of Alexandria, was of an advanced age at the beginning of the Decian perſecution, in 248, and yet felt a ſacrifice to her profeſſion. Her perſecutors ſtruck her upon the cheeks, and beat out all her teeth; then lighting a fire without the city, they threatened to burn her alive, unleſs ſhe would join with them in pronouncing certain profane words; but ſhe begging a ſhort reſpite, and being releaſed, threw herſelf into the fire, and was conſumed to aſhes. Euſeb. Eccl. Hiſt. lib. vi. c. 41. p. 237. Lardner's Works, vol. viii. p. 147.

Apollonia, in *Ancient Geography*, the name of ſeveral ancient cities; viz. a town of Aſſyria, ſituate, according to Steph. Byz. between Babylon and Suza. M. d'Anville places it upon the river Delas, to the north-eaſt of Artemita.—A town of Paleſtine, between Cæſarea and Joppa, called Apollonias by M. d'Anville, and placed to the north-weſt of Antipatris. It was re-eſtabliſhed by Gabinius, preſident of Syria, after having ſuffered much in wars of this province.—A town which ſome authors place in Piſidia, but which M. d'Anville places in Caria, near the Mæander, at ſome diſtance to the weſt of Antiochia Mæandri.—A town of Myſia, according to Steph. Byz.—A town of Aſia Minor, in Bithynia, on the north bank of a lake of the ſame name, and near the Rhyndachus, now Abouillona: this was once a city of great note, and maintained its luſtre till the reign of the emperor Alexis Comnenus, when it was taken and pillaged by the Turks. Apollo is repreſented on the reverſe of ſeveral medals of this city. There are many Imperial Greek medals that have been ſtruck in this city, in honour of M. Aurelius Verus, Septimius Severus, Caracalla, Gordian, Plautilla, and Geta.—A town of Pontus, according to Pliny.—A town of the ſmall iſland of Syphnos, one of the Cyclades. A town of Thrace, now Sizeboli, ſituate on the ſouth ſide of a ſmall gulf of the Euxine ſea: this town was ruined by Lucullus, when he was governor of Macedonia.—A town of Macedonia in Chalcidica, ſituate upon the Chabrius to the north of Chalcis. Another town in Macedonia, in Mygdonia, ſouth-eaſt of Theſſalonica, and ſouth-weſt of Amphipolis. A town dependent on Macedonia, when it extended to the weſt as far as the Adriatic ſea. It was ſituate at a ſmall diſtance north of the Aous, and was an epiſcopal ſee.—A town of the Phocide, on mount Parnaſſus, and formerly called *Eranus*, and alſo *Cyparifſus*.—A town in an iſland near Acarnania.—A town of Sicily, near the promontory of *Pachinum*, where was a temple of Apollo. The medals of bronze ſtruck in this city, had the legend "Tauromenitan."—A town of Crete, near Gneſſus, according to Steph. Byz.—Another town of Crete, formerly called *Eleuthera*. It was, ſays Steph. Byz. the country of Linus, and of Diogenes the phyſician.—An iſland in the vicinity of Lycia, Steph. Byz.—A town of Lybia.—A town of the Cyrenaica, towards the north weſt, and near the ſea. Under the lower empire it took the name of Sozuſa, and its modern name is *Marza-Suſa*.—A town of Illyria, on the Ionian ſea, near Epidamnus,

Epidamnus, and not far from the port of Oricum, according to Herodotus.

Apollonia, *Cape*, in *Geography*, a promontory on the Ivory coaſt of Africa, in N. lat. 4° 50′, and in the midway between Rio Suero da Coſta, and Cape Threepoints, from which it is diſtant W. by N. 15 leagues. It is remarkable for its height, and the lofty trees with which it is covered. The ſurf at the Cape is ſo violent that no boats can land there; and though it has a fort, it is of little or no importance.

APOLLONIAN *Hyperbola* and *Parabola*, in *Mathematics*. See Hyperbola, Parabola, and Conic Sections.

APOLLONIATIS, in *Ancient Geography*, a country of Aſſyria, ſo called from its metropolis Apollonia, lay eaſt of Adiabene, and is placed by Ptolemy between the rivers Gorgus and Silla.

APOLLONIUS Pergæus, in *Biography*, an eminent mathematician of Perga in Phamphylia, flouriſhed under the reign of Ptolemy Euergetes, about 240 years before Chriſt. He ſtudied under the diſciples of Euclid at Alexandria, and there laid the foundation of that celebrity which entitled him to the diſtinguiſhing appellation of the "Great Geometrician." Of the various mathematical works which he is ſaid to have compoſed, the only one now extant is his Treatiſe on the Conic Sections; and even this has been tranſmitted to us in an imperfect ſtate. It appears by the author's dedicatory epiſtle to Eudemus, to have originally conſiſted of eight books, but of theſe ſeven only remain. Heraclius, in a life of Archimedes, charges Apollonius with having appropriated to himſelf the diſcoveries and writings of that eminent mathematician; but Eutocius repels the charge, and vindicates him from any diſhoneſt plagiariſm. Whilſt it might naturally be imagined that he would avail himſelf of the works of his predeceſſors, it nevertheleſs ſufficiently appears, that he has made ſeveral valuable improvements on Euclid and Archimedes. Eutocius informs us, that before the time of Apollonius, it was uſual for mathematicians to deduce the properties of the conic ſections from three different ſorts of cones; thoſe of the parabola from a right-angled cone; thoſe of the ellipſe from an acute cone; and thoſe of the hyperbola from an obtuſe cone; becauſe they admitted only one mode of cutting the cone, which was by a plane perpendicular to the ſide: but Apollonius, by varying the poſition or inclination of the cutting plane, derived all theſe ſections from any ſingle cone. This valuable improvement, now univerſally adopted, had been for a conſiderable time aſcribed by Eutocius, Pappus, and others, to Apollonius. Guido Ubaldus, however, in his Commentary on the 2d book of Archimedes's "Equiponderantes," publiſhed at Piſa, in 1588, has ſhewn, that he was acquainted with this method of obtaining the ſeveral ſections of the cone. Archimedes is ſaid to have appropriated the name of parabola to one of theſe ſections; and the appellations of ellipſe and hyperbola are ſaid to have been introduced by Apollonius, in imitation, probably, of the former. However this be, it is univerſally allowed, that the conic ſections of Apollonius rank among the moſt valuable remains of antiquity. The firſt four books have been preſerved in the original Greek; and the 5th, 6th, and 7th, have been tranſmitted to us in an Arabic tranſlation. The tranſlation of Apollonius's conics was begun under the caliph Almamon, in the year 830; and Thebit Ben Corah took pains to reviſe and augment it with that of the three laſt books, in the courſe of the ſame century. Abalphat made a new tranſlation, under the caliph Abu-Calighiar, in 994; and this verſion fortunately fell into the hands of Borelli, in the manner recited in the ſequel of this article. This celebrated work of Apollonius, in its imperfect ſtate of four books, was firſt known among the weſtern Chriſtians towards the middle of the 15th century, when Regiomontanus projected an edition of it, which he was prevented from completing by his death. In 1537, a Latin tranſlation was made by Memmius, a noble Venetian, and publiſhed after his death by his ſon. This ſeems to have been the firſt edition, and its being the firſt was the only merit that belonged to it. A better tranſlation of the firſt four books by Commandinus, with the Commentary of Eutocius, and the Lemmas of Pappus, was publiſhed at Bologna, in 1566; they were alſo printed in 12mo. by H. Stephens, at Paris, in 1626; in folio, at Antwerp, in 1655; and in 4to. at London, by Dr. Barrow, in 1675. The loſs of the other three books of Apollonius was much regretted by the Europeans; and attempts were made to recover them. Maurolycus, a Sicilian geometrician of the 16th century, ſketched out the theory of the 5th and 6th books, and it was publiſhed by Borelli, as a Supplement to Apollonius, in 1654. Father Richard, the Jeſuit, promiſed a work of the ſame nature, but it never appeared: however, his prolix Commentary on the firſt four books was printed at Antwerp, in 1655, in folio. Whilſt Viviani was collecting materials for the reſtoration of the loſt books, Golius returned from the eaſt with a great number of Arabian MSS. among which were the ſeven firſt books of Apollonius's Conics. This diſcovery was ſpeedily announced; and in 1644, it was noticed by Merſennus. Golius delayed the tranſlation that was expected; and in 1658, Borelli, viſiting Florence, found in the library of the Medicis, an Arabian MS. the Italian title of which announced the eight books of Apollonius. Ferdinand II. duke of Tuſcany, generouſly entruſted him with this MS. which he carried to Rome; and with the aſſiſtance of Abraham Ecchellenſis, an oriental linguiſt, it was tranſlated into Latin, and publiſhed with notes, and a preface, maintaining that theſe books are not ſuppoſititious, in 1661. The 8th book was ſtill wanting; and Golius affirmed, that it was not contained in the Greek copies from which the other books were tranſlated by the Arabians. However, the learned Merſennus, who publiſhed Apollonius's Conics, in his "Synopſis of the Mathematics," found an Arabian work of Aben Neden, written about the year 1020, in which the 8th book is mentioned; and it is aſſerted that all the books were extant in Arabic. A ſplendid edition of all the eight books has been publiſhed at Oxford, in folio, by Dr. Halley, in 1710; together with the Lemmas of Pappus, and the Commentaries of Eutocius; the firſt four books in Greek and Latin; the reſt in Latin only; and the laſt reſtored by the editor. An 8vo. edition was alſo publiſhed at Oxford by Dr. Halley.

This excellent work was begun by Dr. Gregory, whoſe death prevented his proceeding farther than the 44th page; and completed by Dr. Halley, with the aſſiſtance derived from an Arabic verſion in the Bodleian library, made by Thebit Ben Corah; and another Arabic MS. in the ſame library, made by Abdolmelech Schirazita, a Perſian, about 600 years ago, and brought out of the Eaſt by Chriſtianus Ravius, and principally the MS. of Golius, purchaſed of his heirs by Dr. Marſh, archbiſhop of Armagh, and communicated to him for the public benefit. This MS. contains the firſt ſeven books of Apollonius's Conics; was tranſlated by Thebit Ben Corah; and after ſeveral amendments, completed, in 1303, at Maraga, a city on the confines of Media and Aſſyria.

With reſpect to the conic ſections, we ſhall merely obſerve, that their properties are derived in the moſt ſcientific and

and ſatisfactory manner from the cone; and this has been done by ſeveral moderns, and among others, with peculiar advantage, by Dr. Hamilton. Others have, in a manner more operoſe, deduced their properties from deſcriptions of the ſeveral curves on a plane; and a late very ingenious attempt, which, in the conſtruction and demonſtration, is almoſt wholly original, has been made to deduce all the properties of the three conic ſections, from the 24th propoſition of ſir Iſaac Newton's Univerſal Arithmetic, in Mr. Walker's Treatiſe "on the Conic Sections," the firſt book of which was publiſhed in London, in 1794.

The other writings of Apollonius, mentioned by Pappus, are the following: "The Section of a Ratio, or proportional Sections;" "The Section of a Space;" "Determinate Section;" "The Tangencies;" "The Inclinations;" "The Plane Loci;" each of theſe comprehended in two books. Pappus delivers many Lemmas relating to them; and attempts have been made for reſtoring them by modern mathematicians. Montucla. Hiſt. des Math. tom. i. p. 243—253. Voſſ. de Scient. Math. Fabric. Bib. Græc. lib. iii. c. 22. § 17. tom. ii. p. 556. Gen. Dict. Halley's Preface.

Apollonius, ſurnamed *Diſcolus*, or the *Ivan*, on account of the poverty of his condition, a celebrated grammarian of Alexandria, lived in the reigns of Adrian, and Antoninus Pius. Such was his indigence, that having no money to buy paper, he was obliged to write on oyſter ſhells. Priſcian prefers Apollonius and his ſon Herodian to all preceeding grammarians, and profeſſes to follow Apollonius as his guide. His treatiſe "on Syntax," written in Greek, is highly commended by Priſcian. A correct edition of this work, with a Latin tranſlation and notes, was publiſhed in 4to. at Frankfort, by Sylburgius, in 1590. Another treatiſe aſcribed to this writer, intitled, "Ιστορικαὶ θαυμασίαι, or Wonderful Hiſtories," was publiſhed, with other pieces, by Antonius Liberalis, Phlegon and Antigonus, and the works of M. Antoninus, in 8vo. at Baſil, in 1568; and a better edition in 4to. at Leyden, in 1620, by Meurſius. Suidas. Fabr. Bibl. Græc. lib. v. c. 7.

Apollonius *Rhodius*, ſo called from his long reſidence at Rhodes, was a native of Alexandria, and flouriſhed in the 3d century before Chriſt, under Ptolemy Euergetes. Callimachus was his preceptor, by whom he was ſeverely ſatirized for his ingratitude; and he ſucceeded Eratoſthenes in the care of the Alexandrian library. Of his works, the moſt diſtinguiſhed is a poem, in four books, on the Argonautic expedition. The author, mortified by the cenſures paſſed upon it at its firſt publication, removed to Rhodes, and opened a ſchool of rhetoric; but having afterwards corrected and improved it, the Rhodians applauded it, and conferred on him the freedom of the city. This poem has been differently appreciated both by ancient and modern critics. Quinctilian and Longinus give it only the praiſe of mediocrity, and repreſent it as having no claim to real genius, and as diſplaying the rhetorician rather than the poet. By others it has been commended as exhibiting beauties of a ſentimental and deſcriptive kind; and Virgil has borne teſtimony to its value, by copying ſeveral incidents from the relation of the loves of Medea and Jaſon, into his beautiful ſtory of Dido and Æneas. Rapin, in his "Reflections upon Poetry," (Part ii. Refl. 15.) declares, that his ſtyle has no manner of elevation or ſublimity, and that the ſtructure of the fable is very injudicious; that the catalogue of the Argonauts is deſtitute of variety; and that the poem becomes extremely languid from the firſt book: beſides, Apollonius has egregiouſly erred in making this expedition to continue but four months.

The beſt editions of the "Argonautics," are Apoll. Rhod. impref. in literis majuſculis, ed. princeps; 4to. Florent. 1496. Apoll. Rhod. Gr. ed. 2d. 8vo. apud Ald. 1513. Apoll. Rhod. Gr. with the Scholia. 4to. H. Stephan. 1574. Apoll. Rhod. Gr. & Lat. by Hoelzlin, Leyden. 8vo. 1641. Gen. Dict.

Apollonius, a famous Rhodian ſculptor. The fame who, with his contemporary Tauriſcus, executed the celebrated groups of Niobe in the Villa Medicis; and of Zethus and Amphion, in the Farneſe palace.

Apollonius, a Roman ſenator and Chriſtian martyr, lived in the time of Commodus, and ſuffered death at Rome, probably in the year 186 or 187. Being accuſed before Perennis, præfect of the prætorium, he pronounced an eloquent apology for the faith before the ſenate; and was then ſentenced by their decree, to have his legs broke, and then to be beheaded: according to an ancient law, which enacted, that if any Chriſtian were in a court of juſtice, he ſhould be puniſhed, unleſs he denied himſelf to be a Chriſtian. Euſebius ſays, that he was celebrated for learning and philoſophy; and Jerom mentions him among ſome of the moſt eminent Chriſtian writers. Euſeb. Eccl. Hiſt. l. v. c. 21. p. 189. Lardner's works, vol. ii. p. 303. v. viii. p. 339.

Apollonius, a ſophiſt and grammarian, was the preceptor of Apion, and lived in the time of Julius and Auguſtus Cæſar. He was the author of a Greek lexicon to the Iliad and Odyſſey of Homer, which was publiſhed for the firſt time with a Latin tranſlation, after remaining long unknown, in 2 volumes 4to. by J. Baptiſt de Villoiſin, at Paris, in 1773, under the title of "Apollonii Sophiſtæ Lexicon Græcum Iliadis & Odyſſeæ." Nouv. Dict. Hiſt.

Apollonius, a ſtoic philoſopher, was a native of Chalcis in Syria, and a preceptor of Marcus Aurelius. When this ſtoic came to Rome, at the requeſt of Titus Antoninus, inſtead of haſtening to take the charge of his princely ſcholar, he replied to a meſſage ſent to him by the emperor deſiring his attendance; "It is not fit for the maſter to go to his ſcholar, but for the ſcholar to come to his maſter." Antoninus, upon receiving this arrogant and rude reply, mildly and jocoſely ſaid, "Apollonius could come from Syria to Rome, but cannot come from his houſe to the palace." Crevier's Rom. Emp. vol. iii. p. 241.

Apollonius *Tyanæus*, a Pythagorean philoſopher and notorious impoſtor, was born about the commencement of the Chriſtian æra, at Tyana, a city of Cappadocia. At 14 years of age he was ſent by his father to Tarſus, to be inſtructed by Euthydemus a rhetorician; but diſſatisfied with the luxury and indolence of the inhabitants, he removed with his preceptor to Ægæ, in which there was a temple of Æſculapius. Here he acquainted himſelf with the doctrines of the Platoniſts, Stoics, Peripatetics, and Epicureans: but the Pythagorean tenets and diſcipline being more conſonant to his own views and temper, attached his chief regard; and he made choice of Euxenus for his preceptor in philoſophy, and determined to conform in the ſtricteſt manner to the Pythagorean diſcipline. Accordingly he abſtained from animal food, and lived wholly upon fruits and herbs; he made no uſe of the ſkins of animals for his clothing; he went bare-footed, and ſuffered his hair to grow to its full length; and he ſpent the greateſt part of his time in the temple of Æſculapius with the prieſts, by whom he was much admired, and who, without doubt, initiated him by their adulation and inſtruction into the myſteries of impoſture. During his abode at Ægæ, he does not ſeem to have attempted any thing miraculous, but availed himſelf of the authority of the god, in whoſe temple he reſided, to enforce moral leſſons. To an Aſſyrian youth, who repaired to Æſculapius for the cure of a dropſy occaſioned by intemperance, he recommended abſtinence, and thus cured his diſeaſe. A wealthy citizen, who was profuſe

in his ſacrifices and oblations in the temple, that he might obtain the reſtoration of an eye that had been loſt in puniſhment of conjugal infidelity, Apollonius diſmiſſed as unworthy of admiſſion into the temple: and he alſo inſtructed the people who reſorted thither, that when they entered into the temples of the wiſe, juſt, and all-knowing gods, they ſhould pray for obtaining what it is fit for them to receive; and that the wicked, however laviſh they might be in the diſpoſal of their wealth, would be rejected; becauſe they made their offerings not to honour the deity, but to purchaſe exemption from deſerved puniſhment. Upon the death of his father, he attended his funeral at Tyana, and having given the greateſt part of his wealth to his brother, and admoniſhed him to reform his vicious conduct, he returned to Ægæ, where he erected a temple, and eſtabliſhed a ſchool of philoſophy. In order to qualify himſelf for the office of preceptor in the Pythagorean philoſophy, he determined to paſs through the noviciate of five years' ſilence, which the Pythagorean ſyſtem required; and during this period he chiefly reſided in Pamphylia and Cilicia, conveying inſtruction and admonition by his looks and geſtures. At Aſpenda he is ſaid to have quelled a tumult occaſioned by famine, and to have relieved the diſtreſſed people, by writing on a tablet the following reproof to the covetous engroſſers of the grain; "The earth, the common mother of all, is juſt; but ye, being unjuſt, would make her a bountiful mother to you alone: deſiſt from your iniquitous proceedings, or ye ſhall no longer be ſuffered to live." The terrified corn-merchants opened the granaries, the people were ſupplied, and the tumult was ſuppreſſed. When his term of ſilence was expired, he viſited Antioch, Epheſus, and other cities, and aſſociated chiefly with the prieſts. At ſun-riſing he performed certain religious rites, which he diſcloſed only to thoſe who had paſſed through the diſcipline of ſilence, the reſt of the day was ſpent in the inſtruction of his diſciples, and in communicating counſel and reproof to the people. His ſtyle was neither too florid nor too refined, but truly Attic. Avoiding verboſe declamation, and ironical raillery, he delivered his doctrine with conciſeneſs, and with the authority of a legiſlator. Being aſked why he did not purſue his inquiries, inſtead of dogmatically aſſerting his tenets, he replied; "I ſought for truth when I was young, it is now my duty to teach what I have found; a wiſe man ought to ſpeak as a law-giver, and make the doctrines which he embraces, injunctions to the people." Apollonius now reſolved to travel through diſtant nations; and having propoſed his deſign to ſome of his diſciples, they declined accompanying him. He therefore entered upon his expedition attended only by two ſervants. At Ninus, however, he engaged Damis as his aſſociate; and to him he boaſted, that he was acquainted with all languages, though he had never learned them; and that he even underſtood the language of beaſts and birds: the Aſſyrian youth believed him, honoured him as a god, and accompanied him in his journey. At Babylon, Apollonius converſed with the magi; and in an interview with the king, whom he viſited in his illneſs, he diſcourſed ſo excellently concerning the ſoul, that the ſick monarch acknowledged to his attendants, that this Greek had taught him not only to deſpiſe a kingdom, but even death itſelf. At the expiration of the term which he had fixed in his prediction, he took his leave of Babylon; and furniſhed with camels and proviſions for his journey over Caucaſus, he purſued his route to Taxella, the reſidence of Phraotis the Indian king. With Phraotis he had many philoſophical conferences; and being diſmiſſed with preſents, he was recommended to Jarchas, the chief of the Indian philoſophers or gymnoſophiſts reſiding between the Hyphaſis and the Ganges. After a reſidence of four months with theſe Indian ſages, Apollonius returned to Babylon; and from thence paſſed into Ionia, where he viſited Epheſus and ſeveral other places, every where reproving the people for their miſconduct, and enforcing the Pythagorean doctrine and diſcipline. In his viſit to Pergamus and the ancient ſeat of Troy, he paſſed a night by himſelf near the tomb of Achilles; and he afterwards informed his companions, that by the power of an incantation which he had learned in India, he raiſed that hero from his tomb, and held a converſation with him. In the iſland of Leſbos he converſed with the prieſts of Leſbos, and from thence proceeded to Athens. He arrived there at the time when they were performing their ſacred myſteries, and preſented himſelf for initiation, but was refuſed becauſe he was an enchanter; at a future period, however, he was admitted. After paſſing through ſome other Grecian cities, where he pretended to perform miracles and to predict future events, he purſued his courſe through the iſland of Crete to Rome. Juſt before his arrival, Nero had iſſued an edict, that all thoſe who practiſed magic ſhould be baniſhed from the city. His friends were alarmed on his account, and though twenty-ſix out of the thirty-four perſons who were his ſtated aſſociates, deſerted him, he perſevered in his purpoſe, and under the protection of the ſacred habit obtained admiſſion into the city, and alſo leave from the conſul Teleſinus to viſit the temples and converſe with the prieſts. From Rome, Apollonius travelled to Spain; and after the death of Nero, he returned to Italy in his way to Greece, whence he proceeded to Egypt, where Veſpaſian was trying every expedient to eſtabliſh his power. This prince engaged the philoſopher in his favour; and he in return adapted his meaſures to the views of the new emperor, and uſed all his influence among the people in ſupport of Veſpaſian's authority. Whilſt he was in Egypt, he viſited Æthiopia; and on his return he was favourably received by Titus the ſucceſſor of Veſpaſian, to whom he wrote the following laconic epiſtle, on his refuſing a crown of victory upon his taking Jeruſalem: "Apollonius to Titus emperor of the Romans ſendeth greeting: ſince you refuſe to be applauded for bloodſhed and victory in war, I ſend you the crown of moderation; you know for what kind of merit crowns are due." Upon the acceſſion of Domitian, he was concerned in exciting a ſedition in Egypt againſt that tyrant, and in favour of Nerva. An order was iſſued for ſeizing him and bringing him to Rome; but as ſoon as he heard of the order, he repaired thither of his own accord; and was brought to trial before the prætor Elian, who acquitted him. Apollonius now paſſed over into Greece, and viſited the temple of Jupiter at Olympia, the cave of Trophonius in Arcadia, and other celebrated ſeats of religion; and wherever he went the number of his followers increaſed. At length he ſettled at Epheſus, and there eſtabliſhed a Pythagorean ſchool, and had many diſciples. Of his fate, after he ſettled at Epheſus, nothing certain is related. The time, the place, and the manner of his death, are unknown. It is probable that he lived to an extreme old age, and died in the reign of Nerva. After his death, Damis became his firſt memorialiſt. His memoirs were communicated by a friend, to the empreſs Julia, the wife of Severus, and by her to Philoſtratus, with a requeſt that he would tranſcribe and embelliſh the narrative. Philoſtratus undertook the taſk, and ſo loaded his account of the life of this extraordinary man with marvellous tales, that it is very difficult to aſcertain the credit due to his narrative. He relates, for example, that while the mother of Apollonius was pregnant, the Egyptian divinity, Proteus, appeared

peared to her, and told her that the child ſhe ſhould bring forth was a god; that his birth was attended with a celeſtial light; that in the Æſculapean temple at Ægæ he predicted future events; that at the tomb of Achilles, he had a conference with the ghoſt of that hero; and that whilſt he was publicly diſcourſing at Epheſus, he ſuddenly pauſed, as if ſtruck with a panic, and then cried out, "Slay the tyrant;" at the very inſtant when Domitian was cut off at Rome. If to theſe tales we add the accounts which Philoſtratus gives of the efficacy of the mere preſence of Apollonius, without the utterance of a ſingle word, in quelling popular tumults; of the chains of Prometheus which he ſaw upon mount Caucaſus; of ſpeaking trees, of pigmies, phœnixes, ſatyrs, and dragons, which he met with in his eaſtern tour; and of other things equally wonderful; it will be impoſſible to heſitate in aſcribing the marvellous parts at leaſt of Philoſtratus's narrative to his ingenuity, or his credulity. Nevertheleſs, the narrative of Philoſtratus, with all its inconſiſtencies, was, about a century after its appearance, referred to in preference to other accounts of Apollonius then extant, by Hierocles, who firſt endeavoured to form a compariſon between Chriſt and this philoſopher; and Euſebius, in refuting this attack upon Chriſtianity, admits, in general, the accounts of Philoſtratus, and ſhews that, according to his account, Apollonius does not deſerve to be compared with Chriſt.

Dr. Lardner indeed has fully ſhewn that Philoſtratus did not write the life of Apollonius with any reference to the life of Chriſt: and that his deſign was to exhibit this philoſopher as a counterpart to Pythagoras. The narrative of Philoſtratus may be admitted, in concurrence with other collateral evidence, as a ſufficient teſtimony to the exiſtence of ſuch a man as Apollonius, and to his having been an eminent philoſopher of the Pythagorean ſect, who travelled through almoſt every part of the civilized world, exhibiting an example of ſtrict and rigid morality, teaching leſſons of moral wiſdom, and doctrines of ſpeculative philoſophy, and attracting popular attention and reverence by pretending to ſupernatural powers. After all, very different opinions have been entertained concerning his character. Some have even ſuppoſed that the whole ſeries of extraordinary events related concerning him has been the mere invention of Philoſtratus and others, for the purpoſe of obſtructing the progreſs of Chriſtianity, and providing a temporary ſupport for the falling edifice of paganiſm; and it muſt be acknowledged that ſeveral writers on the ſide of infidelity have availed themſelves of his hiſtory to caſt a ſhade over the character of Chriſt, and to perplex and weaken the evidence afforded by his miracles, of his divine origin and miſſion. Some, allowing that ſuch a perſon as Apollonius exiſted, of which there is no ſufficient reaſon to doubt, have apprehended that he was intimately acquainted with nature, and deeply ſkilled in magical arts; and that he applied his knowledge and ſkill to the purpoſes of impoſture, that he might thus delude a credulous multitude, and induce them to believe that he was ſomething more than human; whilſt others imagine, that he accompliſhed his fraudulent deſigns by means of a real intercourſe with evil ſpirits. Perhaps the truth of the caſe is, that Apollonius was one of thoſe impoſtors who profeſſed to practiſe magical arts and perform other wonders for the ſake of acquiring fame, influence, and profit among the vulgar. In this light he was regarded by his contemporaries: Lucian, who lived in the time of Trajan, and Apuleius, who flouriſhed under Antoninus Pius, rank him among the moſt celebrated magicians.

How ſucceſsfully Apollonius practiſed the arts of impoſture, ſufficiently appears from the events which followed. The dominion over the minds of men which he found means to eſtabliſh during his life, remained and increaſed after his death, ſo that he long continued to be ranked among the divinities. The inhabitants of Tyana dedicated a temple to his name. The Epheſians conſecrated a ſtatue to him, in commemoration of his having delivered them from the plague. The emperor Adrian collected his writings, and preſerved them in his library. Caracalla dedicated a temple to him, as to a divinity among men. Alexander Severus kept, in his domeſtic temple, the image of Apollonius with thoſe of Abraham, Orpheus, and Chriſt. Aurelian ſhewed the Tyaneans particular favour, from reſpect to his memory. Euſebius cites Hierocles, as aſcribing to Apollonius a divine and hidden wiſdom, by which, and not by magical art, he had performed great wonders: and it is added, that in his time there were perſons who pretended to perform magical incantations by invoking the name of Apollonius. Ammianus Marcellinus (l. xxi. c. 14.), ranks this philoſopher among thoſe eminent men who have been aſſiſted by the ſupernatural aid of a dæmon or genius, as Socrates and Numa: and Eunapius, who was indeed a credulous and fantaſtical Platoniſt, ſpeaks of him as ſomething between a god and man, and adds, that Philoſtratus ought to have intitled his hiſtory, "The Deſcent of a God upon Earth." The common people ranked him in the number of deified men, and made uſe of his name in incantations; and even among the philoſophers of the Eclectic ſect, he was regarded as a being of a ſuperior order, who partook of a middle nature between gods and men.

Of the writings aſcribed to Apollonius, none remain except his "Apology to Domitian," and his "Epiſtles." The firſt, in its ſubſtance, is genuine, but ſtrongly marked with the ſophiſtic manner of Philoſtratus: the latter abound with philoſophical ideas and ſentiments, and are written in a laconic ſtyle, which affords a preſumption in favour of their authenticity. From theſe epiſtles it appears, that Apollonius blended with the Pythagorean ſyſtem concerning the nature and origin of things, according to which God and nature are primary, independent principles, the notion of the Heraclitean ſchool, viz. that the primary eſſence of all things is one, endowed with certain properties by which it aſſumes various forms; and that all the varieties of nature are modifications of the univerſal eſſence which is the firſt cauſe of all things, or God. Hence Apollonius taught, that all things ariſe in nature according to one neceſſary or immutable law; and that a wiſe man, being acquainted with the order of nature, can predict future events. Thus Apollonius connected ſuperſtition with impiety, and made both ſubſervient to impoſture. The epiſtles of Apollonius were edited by Commelin, in 8vo. in 1603; and by Stephens, in 1577. Philoſtrat. Vit. Apoll. Brucker's Hiſt. Philoſ. by Enfield, vol. ii. p. 42—49. Gen. Dict. Lardner's works, vol. viii. p. 256—292.

APOLLOS, a native Jew of Alexandria, and a Chriſtian convert, was celebrated in the time of the apoſtles for his eloquence and his knowledge of the ſcriptures; Acts, xvii. 24. In the year 54, he went to Epheſus; and, during the abſence of the apoſtle Paul, preached the goſpel in the ſynagogue, and demonſtrated from the ſcriptures that Jeſus was the Chriſt. Having been more fully inſtructed by Aquila and Priſcilla, he went to Corinth, and preached with ſuch acceptance and ſucceſs, that he made many converts; and ſuch was his popularity, that they conſidered him as their leader, in oppoſition to Peter and Paul; 1 Cor. iii. 7. But this diviſion did not alienate the affections of Paul and Apollos from each other. St. Jerom ſays, Apollos was ſo diſſatisfied with the diviſion which had happened on his account

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at Corinth, that he retired into Crete with Zeno, a doctor of the law; but when the diſturbance was appeaſed by the letter of St. Paul to the Corinthians, Apollos returned to this city, and became biſhop there.

APOLLYON, in *Scripture Hiſtory*, a Greek appellation correſponding to the Hebrew ABADDON, which ſee; ſee alſo APOLLO.

APOLOGETIC, APOLOGETICAL, ſomething ſaid or written by way of excuſe or apology for any action or perſon.

The Apologetic, or Apology of Tertullian, is a work full of ſtrength and ſpirit. He there vindicates the Chriſtians from all that had been objected to them; particularly from the abominable crimes ſaid to be perpetrated at their meetings, and their want of love and fidelity to their country. The ground of this laſt accuſation was, their refuſing to take the accuſtomed oaths, and ſwear by the tutelary gods of the empire. Tertullian addreſſes his Apologetic, written at Carthage about the year 200, to the magiſtrates of Rome, the emperor Severus being then abſent, or rather to the governors of provinces, or perhaps to the proconſul of Africa, and the chief magiſtrates reſiding at Carthage. His Apologetic addreſſed to Scapula, proconſul of Africa, on account of his ſevere treatment of the Chriſtians, is ſuppoſed by Cave (Hiſt. Lit. t. i. p. 93.), to have been written in the year 217.

APOLOGOS, in *Ancient Geography*, *Obolch*, a town of Aſia, upon the bank of the Paſitigris.

APOLOGUE, APOLOGUS, a moral fable, or a feigned relation intended to inform and amend the manners. Jul. Scaliger derives the name απο λοξου, inaſmuch as the apologue means ſomething more than what at firſt ſight it expreſſes. Such are the fables of Æſop: whence, moral fables are uſually denominated *Æſopic Fables*.

F. de Colonia makes it eſſential to the apologue, that it contain what paſſes among brutes; and diſtinguiſhes it from the parable by this, that the latter, though feigned, conſiſts of poſſible circumſtances, which the former does not, ſince beaſts cannot ſpeak. There is this farther difference between them, that the latter is a ſimilitude drawn from natural, moral, or any other branches of knowledge; the former only from moral topics. See PARABLE.

Apologue, according to ſome, differs from fable, as the former is uſed in ſpeeches and harangues, to perſuade; the latter in tragedies, comedies, and other pieces of poetry, to inſtruct, and correct the manners. See FABLE. Apologue alſo differs from *anus*, as the latter is only calculated for the uſe of men, and carries a graver and weightier admonition; whereas apologues are propoſed to children. We find many things in authors concerning the origin of apologues, the diſtinguiſhing characters of apologues, the uſe and advantage of the way of teaching by apologues. See Bayle, Dict. Crit. in voc. & Shafteſb. Charact. tom. iii.

APOLOGY, formed of απολογια, *to refute, defence*; a diſcourſe or writing in vindication of a perſon or performance.

The principal ancient apologies in favour of the Chriſtians are thoſe of Quadratus, written about the year 126, and addreſſed to the emperor Adrian, which is ſaid by Jerom and Euſebius to have had a good effect on the emperor; of Ariſtides, written at the ſame time with the former, and preſented to the ſame emperor; two of Juſtin Martyr, one of which was written in the year 150, and addreſſed to Antoninus Pius, Marcus Antoninus, Lucius Verus, and the ſenate and people of Rome, which is extant entire, and the other in 162, preſented to Marcus Antoninus, the beginning of which is wanting; one of Melito, in 177, preſented to the ſame emperor; one of Athenagoras, written between the years of Chriſt 177 and 180, and preſented to M. Antoninus and Commodus; one of Apollinaris, addreſſed to M. Antoninus about the year 176 or 177; one of Miltiades, about the year 180, addreſſed to the princes of this world; three books in defence of the Chriſtian religion, by Theophilus, written a little before his death, in the beginning of the reign of Commodus, A. D. 181, and addreſſed to Autolycus, a learned heathen; that of Apollonius before the Roman ſenate, A. D. 186 or 187; the apologetic of Tertullian, and the dialogue of Minucius Felix, called *Octavius*, written in the beginning of the third century.

We have two excellent treatiſes by the learned and ingenious Dr. Watſon, biſhop of Landaff, under the title of Apology: one, an "Apology for Chriſtianity," in a ſeries of letters addreſſed to the well-known hiſtorian, Mr. Gibbon, and printed in 1776; and another, "An Apology for the Bible," in a ſeries of letters addreſſed to Thomas Paine, author of "The Age of Reaſon," and printed in 1796. The name of the author will ſufficiently recommend theſe tracts in defence of our common faith.

APOLYSIS, from απολυω, *I releaſe*, in a general ſenſe, the ſolution or reſolution of any thing. Thus we read of the apolyſis of a diſeaſe, the apolyſis of a bandage, or the like.

APOLYSIS, in a more particular ſenſe, denotes the excluſion of any thing. Thus we read of the apolyſis of the *fœtus*, the fecundines, and the like.

APOMELI, in *Medicine*, a kind of decoction prepared of honey, or a honeycomb, mixed with vinegar, and boiled a ſhort time, till the qualities of both be united, and the acrimony of the vinegar allayed.

The *apomeli* is repreſented as a kind of medium between mulſe and oxymel. It was anciently of great uſe among the Greeks, as a detergent, promoter of ſtool, urine, &c.

APOMYOS DEUS, from απο, and μυια, *fly*, in the *Heathen Mythology*, a name under which Jupiter was worſhipped at Elis; and Hercules, as well as Jupiter, at the Olympic games. Theſe deities were ſupplicated under this name, to deſtroy or drive away the vaſt number of flies which always attended at the great ſacrifices; and in thoſe which accompanied the Olympic games, the firſt was always to the *Apomyos* or *Myiagrus Deus*, that he might drive the flies away from the reſt. The uſual ſacrifice was the bull.

APONEUROSIS, compounded of απο, *from*, and νευρον, *a nerve*, in *Anatomy*, ſignifies an expanded tendon. See the deſcription of the Aponeuroſis of the *muſculus obliquus externus abdominis*.

APONEUROTICUS MUSCULUS, a name given by Spigelius, and ſome others, to a muſcle of the thigh, called by Cowper and Winſlow, the *muſculus lati tendinis*, and *muſculus faſciæ latæ*. Winſlow has called it, with more propriety, the *muſculus vaginæ femoris*.

APONIA, from α, and πονος, *labour*, among *Phyſicians*, a ſtate of indolence, or the abſence of pain. In which ſenſe, the word amounts to the ſame with *anodynia*. Hence alſo aponia is uſed by ſome for medicines which do not excite pain.

APONIANA, in *Ancient Geography*, a name given by Hirtius (De bell. Afr. c. 2.), to an iſland near Sicily, oppoſite Lilybæum, and ſuppoſed by Cluvier to be the ſame with Œguſa.

APONO, PETER DE, in *Biography*, a celebrated philoſopher and phyſician, born at a village of that name near Padua, about the year 1250, went early to Conſtantinople to acquire a knowledge of the Greek language, and from thence to Paris, where he was inſtructed in mathematics and in medicine. He appears alſo to have viſited England

and Scotland. In 1302, he was invited to Padua, to fill the Professor's chair. He afterwards went to Bologna, and so great was his reputation for his skill in medicine, that he is said to have received fifty crowns for every visit he made out of the city. On being sent for to Pope Honorius the fourth, he stipulated to receive four hundred ducats a day while he continued at Rome. As he pretended to a knowledge of astrology, and thence to foretel the termination of the diseases for which he was consulted, he was accused of being a magician, and cited before the tribunal of the inquisition. On this charge, however, he was at that time acquitted, as appears by the following inscription placed over one of the gates of the palace, at the foot of his statue erected there in the year 1420:

> "Petrus Aponus Patavinus,
> Philosophiæ medicinæ qua ferentissimus,
> Ob idque Conciliatoris cognomen adeptus:
> Astrologiæ vero adeo peritus,
> Ut in magiæ suspicionem inciderit,
> Falsóque de hæresi postulatus, absolutus fuit."

But being again accused of the same crime, he died before the process was finished, aged 66 years. Not appearing, therefore, to answer the charges against him, he was condemned, and his body ordered to be taken up and committed to the flames. The officers not being able to find the body, his friends having removed and privately interred it, they burned him in effigy. Frederic, duke of Urbino, honoured him with a statue, which he placed among those of other illustrious persons in his castle.

While at Paris, he wrote, "Conciliator differentiarum philosophorum, et præcipue medicorum," which was so much esteemed as to acquire for him the title of "Conciliator." This book, which has passed through several editions, was first printed at Mantua, in 1472, in folio; in the same year was printed his book "De Venenis, eorumque remediis;" also in folio, in 1474, "La Fisionimie du Pierre de Apono;" at Padua in 8vo. in 1505, "Textus Mesue emendatus," Lugduni, 8vo. For the titles of various other works, and their different editions, see Eloy's Diction. Histor. de la Medicine. Gen. Dict.

APONOGETON, in *Botany*, Lin. supp. 32. Schreb. gen. 835. Thunb. nov. gen. 72. Juss. 19. Class, *dodecandria tetragynia*. Nat. order. *inundatæ: naiades*, Juss.

Gen. char.: *cal.* none, except a spathaceous scale surrounding the flower, simple, sessile, ovate, obtuse, entire, erect, smooth, coloured; *cor.* none; *stam.* filaments eleven to nineteen, in the upper flowers fewer, inserted between the spathe and the capsules, subulate, smooth, white, many times shorter than the spathe; *pist.* germ usually four; *styles* none; *stigmas* subulate, bent inwards; *per.* capsules four, seldom three or five, ovate, subulate, acute, gibbous on the outside, flat on the inner side, smooth, one-celled; *seeds* three in each capsule, attached to its base, sessile, obovate, very blunt, smooth, sub-compressed.

Ess. gen. char.: *cal.* an amentum; *cor.* none; *caps.* three-seeded.

Species 1. A. *monostachyon*, single-spiked aponogeton: spike simple; leaves cordate-oval; root bulbous; leaves very long, petioled, radical, entire, floating, spike hexangular: bractes instead of a corolla, two below each floret; stamens six, longer than the bractes. Observed by Koenig to be common in the fields in the East Indies that are flooded for rice. 2. A. *distachyon*, broad-leaved aponogeton: spike bifid; leaves linear oblong, floating; bractes entire; flowers many-stamened. Thunb. nov. gen. 4.; root bulbous; spike imbricated within; flowers white, fragrant, alternate, erect, with an ovate bracte: pistils three or four; stamens vary from six to twelve; it flowers almost all the year. Thunberg found it in brooks at the Cape of Good Hope, whence it was introduced here by Mr. F. Masson in 1788. 3. A. *angustifolium*, narrow-leaved aponogeton: spike bifid; leaves linear lanceolate, erect; bractes two-parted; flowers six-stamened. The stamens of this species are in the Supp. Plant. said to vary from six to twelve, whereby it has been confounded with the preceding plant. A native of the Cape of Good Hope, introduced by Mr. F. Masson, in 1788. It flowers during the greatest part of the year.

Propagation and culture: these plants are inhabitants of the green house or cape-stove, and may be increased by offsets from the bulbs. See Miller's Dict. by Martyn.

APONUS, in *Ancient Geography*, an hamlet near Patavium or Padua, and celebrated by Martial as the birth place of Livy, and on account of its baths: now ABANO.

APOPEMPTIC, from ἀποπέμπω, *I dismiss*, in the *Ancient Poetry*, a hymn addressed to a stranger on his departure from a place to his own country.

The ancients had certain holy days, wherein they took leave of the gods with apopemptic songs, as supposing them each returning to his own country.

APOPHASIS, from ἀποφημι, *I declare*, and *I deny*, in the *Civil Law*, an answer or rescript of the prince.

Among *Logicians*, the word is also used for a negation or denial.

APOPHASIS was also used for the account given of estates, at the exchange of them, for avoiding public employments. When any man would excuse himself from any troublesome and chargeable trust, by casting it on another richer than himself, the person produced had power to challenge him to make an exchange of estates, and thereby compel him to undergo the office he had before refused.

APOPHASIS, in *Rhetoric*, a figure whereby we really say or advise a thing, under a feigned show of passing over or dissuading it.

Quinctilian makes the apophasis a species of irony. Scaliger holds it the same with what is otherwise called *occupatio*.

APOPHLEGMATIZANTIA, (from ἀποφλεγματίζω, *pituita purgo*), MASTICATORIA, SALIVANTIA.—SIALAGOGUES. This term is applied to those remedies, by which a discharge of saliva is produced, or the evacuation of the saliva promoted. They are, properly speaking, evacuant, stimulating remedies, which, when they are chewed, or made to operate upon the internal parts of the mouth or throat, partly contribute to render the viscid fluid thinner, and partly produce a more copious flow of the saliva and other fluids, and their evacuation from the glands situated within the cavity of the mouth, about the palate, pharynx, larynx, uvula, and tonsils. To this class of remedies belong all those solid substances, which can be moved backwards and forwards in the mouth, without injury; as in consequence of the pressure which they give to the salivary glands, and in mastication, the discharge from those passages is increased: on this account such substances are chosen for this purpose as possess at the same time a degree of acrimony. As a security against the infection of contagious diseases, it has therefore always been recommended to chew cubebs, cardamom, cinnamon bark, juniper berries, wax, marjoram, sage, angelica root, and to spit out the saliva thus secreted. More stimulant remedies of this kind are, tobacco-smoke, the leaves of tobacco, mustard-seed, horse-radish, ginger, pepper, pimpinella, &c.

To the true sialagogues belong those powerfully resolvent medicines, which dissolve the mucous and acrid lymph to that

that degree, as to enable it to be ſeparated and diſcharged by the ſmalleſt veſſels of the glands:—to theſe belongs MERCURY.—However the uſe of ſialagogues cannot be recommended without diſtinction, as they are detrimental to debilitated conſtitutions, and thoſe that are much inclined to vomiting. They are prejudicial to ulcers within the cavity of the mouth, and are frequently fatal to emaciated and phthiſical conſtitutions.

APOPHORETA, from αποφερω, *I carry away*, in *Antiquity*, preſents made to the gueſts at a feaſt or other entertainments, which they carry away with them.

APOPHRADES, from αποφρας, *unfortunate*, derived again from απο, and φραζω, *I ſpeak*, in *Phyſic*, denote a ſort of unhappy days, wherein either no *criſis*, or an ill one, is to be expected.

APOPHTHEGM, from απο and φθεγγομαι, *I ſpeak*, a ſhort, ſententious, and inſtructive ſaying or maxim, delivered by a perſon of diſtinguiſhed character.

Such is that of Cyrus: "He is unworthy to be a magiſtrate, who is not better than his ſubjects." Or this: "He that will not take care of his own buſineſs, will be forced to take care of that of others." Or that of Artaxerxes Mnemon, when reduced to hunger by the loſs of his baggage: "How much pleaſure have I hitherto lived a ſtranger to!" Or that of Cato, "Homines nihil agendo diſcunt malè agere." Or, finally, that of Auguſtus, "feſtina lente." The apophthegms of Plutarch are well known.

APOPHYGE, in *Architecture*, that part of a column where it begins to ſpring out of its baſe, and ſhoot upwards.

The word in its original Greek ſignifies *flight*; whence the French alſo call it *eſcape*, *congé*, &c.; and we, ſometimes, the *ſpring* of the column.

The apophyge, in its original, was no more than the ring or ferril heretofore faſtened at the extremities of wooden pillars, to keep them from ſplitting; which afterwards was imitated in ſtone-work.

It is properly a large concave or arched member, ſerving either to connect two flat members together, or to join a flat member to another not flat.

In this ſenſe we may diſtinguiſh two apophyges, the upper and lower.

APOPHYGE, *upper*, is that part, or ſweep, whereby a large flat member of the upper part of an order is connected to the lower.

This is alſo called by the French *le congé d'enhaut*; and by the Italians, *il cavo di ſopra*.

APOPHYGE, *lower*, *apophygis inferior*, is a concave member, which connects two flat parts in the lower part of an order.

This the French call *le congé d'embas*; and the Italians, *il cavo di baſſo*, ſometimes alſo, *il vivo di baſſo*.

APOPHYSIS, in *Anatomy*, a protuberance of a bone; or a part eminent, and jutting out beyond the reſt. The word literally denotes a production outwards; formed from απο τε αποφυεσθαι, *to ariſe from*. It is the ſame with what we otherwiſe call proceſs, eminence, probole, projecture, protuberance, ecphyſis, head, and the like. *Apophyſes* differ from *epiphyſes*, as theſe latter are only appendages adhering or contiguous to a bone; whereas the former are productions or continuations of the bone itſelf, ſhooting out from it like branches from the trunk of a tree. For an account of the kinds of proceſſes or apophyſes, which are found in the ſkeleton, ſee SKELETON.

APOPHYSIS, or *Proceſſus mammillaris*, a name given to the olfactory nerves, when they lie on the cribriform lamella of the ethmoid bone.

APOPHYSIS *mammillaris*, or *maſtoidea*, is a proceſs in the petrous part of the TEMPORAL BONE.

APOPHYSIS *raviana*, denotes a large proceſs of the MALLEUS of the ear, formed to give attachment to muſcles.

APOPHYSES is alſo applied by Hippocrates to certain fleſhy excreſcences found in moles, and female *fatuſes* of ſeven months, as appearing rather proceſſes, and origins of members, than diſtinct members, ſuch as he ſays may be found in male *fœtuſes*.

APOPHYSES, in *Botany*, excreſcences from the receptacle of the *muſci*.

APOPLANESIS, from αποπλαναω, *I deceive*, in *Oratory*, a kind of fallacious defence, and ſlurring over, darkening, and concealing things, in order to blind the judges, or the audience.

APOPLANESIS, in a more particular ſenſe, denotes a ſort of confutation, wherein the ſpeaker promiſes to anſwer what the adverſary objects in another place, but which being too difficult to anſwer, is afterwards forgot and left to paſs unanſwered.

APOPLEPTIC, relating to an apoplexy. Thus we ſay, an apoleptic fit, an apoplectic water, &c.

APOPLECTIC *veins*, a name ſometimes given to the *jugulars*.

APOPLECTICA, *apoplectical medicines*, a name uſed by ſome for what we more properly call *antapoplectics*.

APOPLECTICAL *balſams* is a name given by ſome writers, to a ſort of ſweet ſcented balms, prepared of diſtilled oils, and uſed by way of perfume.

APOPLEXY, APOPLEXIA, in *Medicine*, a ſudden privation of all the ſenſes, and all the ſenſible motions of the body, excepting thoſe of the heart and lungs, attended with a great depravation or ſuſpenſion of the principal faculties of the mind.

The word comes from αποπλησσειν, to *ſtrike*, or *aſtoniſh*; this diſtemper ſtriking ſuddenly, and, as it were, like a flaſh of lightning.

Hippocrates diſtinguiſhes two kinds of apoplexies, the one *ſtrong*, the other *weak*; only differing in the greater or leſs difficulty of reſpiration and the circulation: in the former the pulſe and breath ſeem almoſt entirely ſtopped; in the latter there are conſiderable remains of them.

The more modern authors diſtinguiſh apoplexies from their *cauſes* (affecting the brain, or nervous ſyſtem in general), into *ſanguineous*, *ſerous*, *nervous*, *ſpaſmodic*, *ſymptomatic*, &c. Diſſections diſcover the *ſanguineous* only; unleſs HYDROCEPHALUS may be conſidered as producing caſes of *ſerous* apoplexy. The ſpeedy recovery of the patient, in a conſiderable number of inſtances, together with ſome other conſiderations, have induced medical writers to admit the other ſpecies. Whenever apoplexy is followed by paralyſis, it appears from diſſections, that it always is of the ſanguineous kind. For Dr. Cullen's other ſpecies, ſee HYDROCEPHALUS, CATALEPSIA, ASPHYXIA, &c.

The fit of apoplexy is uſually preceded by a violent pain in the head, a dimneſs and loſs of ſight or memory: ſometimes by an univerſal indolence. It is attended with a ſtertor and difficulty of breathing; ſometimes with a fever, rarely with a foaming at the mouth; frequently with a ſweat, hæmorrhoids, or diarrhœa.

With reſpect to the *proximate* cauſe, a multitude of the moſt accurate obſervations have made it appear, that this diſorder ariſes from any cauſe that is capable of preventing either totally, or in part, the influx of the nervous fluid, ſuppoſed to be ſecreted in the *cerebrum*, to the organs of ſenſe

and voluntary motion; and the reflux of the ſame fluid from the above mentioned organs to the common ſenſory in the brain; whilſt the progreſs, and perhaps the return of the fluid, ſupplied by the *cerebellum* to and from the heart and organs of reſpiration, is preſerved in a degree ſufficient to ſupport in ſome meaſure their functions.

All the remote, prediſpoſing, or occaſionally exciting cauſes, as obſerved and delivered by authors, may for the greater perſpicuity be reduced to claſſes; in the firſt of which may be reckoned,

1. The natural make of the body. Thus, when the head is naturally large, the neck ſhort, and as it ſometimes happens, conſiſting only of ſix *vertebræ*, whereas there ought to be ſeven; this ſtructure diſpoſes to apoplexy, as it favours the congeſtion of blood in the head. Thus alſo, if the body is corpulent, the capillary arteries will in general be ſubject to compreſſions, or the circulation in them will be more languid in proportion to that in the larger trunks; hence ariſe local congeſtions of blood; and the face and neck in particular are obſerved to be turgid, florid, or bloated.

2. To the ſecond claſs belong all thoſe cauſes which induce ſuch a change in the blood, lymph, and nervous fluid, as to render them incapable of circulating freely through their reſpective veſſels in the brain; till lately, this claſs of cauſes was conſidered as more generally applicable to pathology than any other. At preſent, the exiſtence of ſuch cauſes is more generally doubted than believed. So great, indeed, is the inſtability of Medical Theories at this time, that many phyſicians of great reſpectability have ſeriouſly recommended our return to profeſſed Empiriciſm. As this, however, is not likely to take place ſoon, we ſhall mention the cauſes which have been aſſigned by eminent Pathologiſts, and leave their adoption or rejection to the judgment of the public. Among theſe are—polypous or grumous concretions in the carotid or vertebral arteries, whether formed originally about the heart, or within the *cranium*; theſe are diſcovered by a palpitation of the heart, an unequal pulſe, a vertigo, and temporary loſs of ſight often recurring, and which are increaſed by motion or heat: an inflammatory ſizineſs of the blood, which may be known by an acute continual fever, an inflammatory pain in the head, eyes, &c. —a thick, glutinous, and ſluggiſh diſpoſition of the whole maſs of blood; whence old people, thoſe who are much ſubject to catarrhs, whoſe conſtitutions are cold and moiſt, and who are pale and leucophlegmatic, are very ſubject to apoplexies. It is not difficult to preſage an apoplexy from this cauſe, as it is generally preceded by an univerſal liſtleſſneſs and dulneſs of the ſenſes, unuſual flowneſs of ſpeech, tremors, ſtertors, *incubi* (night mares), frequent diſcharges of viſcid phlegm by vomit, vertigoes, ſhortneſs of breath on the leaſt motion, with a compreſſion of the cartilages of the noſe.

3. To the third claſs belongs whatever *compreſſes* the arteries themſelves, or the nervous fibrillæ of the brain, ſo as to prevent a free circulation of the fluids through them. People who are plethoric and bloated are much ſubject to this ſpecies of apoplexy; eſpecially if extraordinary motion or heat increaſe the velocity of the circulation. To ſuch, therefore, high feeding, ſpirituous liquors, acrid medicines, intenſe and long-continued thought, are pernicious. All humours extravaſated or effuſed within the cranium properly belong to this claſs; as alſo a too great velocity of the blood in the veſſels of the head, determined thither by ſome impediment to the circulation in the inferior parts, which may ariſe from an infinite number of cauſes. Hither alſo may be referred all compreſſions, from whatever cauſe, of the veins without the head, which convey the refluent blood from the contents of the cranium toward the heart; as alſo effuſions of blood, pus, ichor or lymph, which preſs externally on the *dura* or *pia mater*.

4. To the fourth claſs belong all thoſe cauſes, which by any means ſo diſſolve the texture or wear down the coats of the arteries, veins, or lymphedučts, belonging to the internal parts of the cerebrum, as to cauſe an extravaſation of their reſpective fluids, which then preſs upon and injure the medullary origin of the nerves of the cerebrum.

5. Some ſorts of poiſons, which are ſuddenly deleterious, may be ranked in the fifth claſs: but theſe may either be reduced to the ſecond, third, or fourth, or may be more properly ſaid to act on the nervous ſyſtem or the blood, than the brain. Among theſe are the fumes of mineral ſulphurs, of charcoal, or that *gas* which exhales from vegetable juices during fermentation.

The anatomical inſpection of bodies which have died of apoplexies, and the hiſtorical obſervation of ſuch circumſtances as occur in the treatment of theſe caſes, furniſh us with a knowledge of their cauſes: and a due reflection upon theſe naturally leads us to a diſtribution of them into the preceding claſſes, which are well adapted to the inveſtigation of the beſt methods of cure. The part affected in a perfect, violent, or what Hippocrates calls a *ſtrong apoplexy*, appears to be the entire ſenſorium commune, or what has been called the whole *brainular ſyſtem*; but in a *parapoplexia*, thoſe parts only of the common ſenſory which are more compreſſed than the reſt; whilſt the *cerebellum*, and its dependencies, remain in the beginning of the diſorder unaffected. Boerhaave.

As to the *prevention and cure* of apoplexy, no invariable rules can be laid down; for as the predilpoſing and exciting cauſes, together with the parts principally affected, are various, the method of relief muſt alſo vary; and muſt be attempted before the prediſpoſition grows inveterate, otherwiſe ſucceſs will be very precarious.

In general, however, to prevent an apoplexy, wine, hard labour, exceſs in eating, and ſleeping after dinner, are to be avoided: exerciſe is to be kept up, anxiety and chagrin to be reſtrained. To *cure* an apoplexy, the *indications* muſt be taken from the appearance and age of the patient; but more particularly from the remote and proximate cauſes. The perſon being placed and ſupported as nearly in the ſitting poſture as poſſible; and a free acceſs of freſh air ſecured; we muſt, during the fit, in the *ſanguineous* kind, employ copious evacuations of blood, ſerum, and fæces.

The jugulars or temporal arteries ſhould be opened as ſoon as a proper operator can be procured. In default of one, the vein of the arm or leg ſhould be tried; or cupping, or leeches applied to the occiput and back of the neck, ſo as to take away nearly a pint of blood. The head ſhould be ſhaved, and as ſoon as a ſinapiſm has inflamed the ſkin, an active bliſter muſt be applied to the whole occiput and back of the neck. Sinapiſms alſo ſhould be applied to the legs.

When theſe ſteps have been taken, the patient ſhould be laid on his ſide, with his head raiſed; and a ſtimulating clyſter with aloes and ſpirit of turpentine injected as ſoon as poſſible; if no urine is evacuated with the return of the clyſter, the catheter ſhould be introduced.

As ſoon as ſwallowing becomes practicable, ten or fifteen grains of calomel ſhould be got down, and repeated if neceſſary. If theſe means, duly employed, produce no relief in twenty-four or thirty-ſix hours; the patient's recovery will be very doubtful, if not impoſſible.

In the *ſerous* kind, that is, where the patient has not ſigns of fulneſs of blood, but on the contrary a poverty or defect

defect of that fluid, blifters and evacuations of the bowels conftitute the principal means of relief: bleeding, even with leeches, fhould be admitted with caution.

In the *nervous* or *fymptomatic* fpecies, the treatment will vary with the cauſe. When noxious gaſſes have been inhaled, or poiſon ſwallowed, the offending cauſe ſhould be removed, and its place ſupplied by ſalubrious air, or medicated food.

Dr. Flemmyng recommends trepanning for the cure of apoplexies. Med. Muſ. vol. ii. p. 300, &c.

Termination. The diſeaſe ſometimes degenerates into a *paralyſis*; and ſometimes only half the body is affected, in which caſe it is called ſimply a *hemiplegia*.

Apoplexy differs from *carus*, *lethargy*, and *coma*, as in thoſe three diſtempers the ſtupor is not ſo profound, nor is all ſenſation quite deſtroyed.

It differs from *ſyncope*, in that there is little or no ſenſible pulſe in this laſt; whereas in an apoplexy, the pulſe is often full, and perceptible almoſt till death.

It differs from *epilepſy*, becauſe all motion is not aboliſhed in that, as in this; and it differs from the *palſy*, inaſmuch as the palſy is not attended with any ſtupor, nor does it deprive the patient of ſenſe and perception.

APOPLEXY is alſo reckoned among the diſeaſes of hawks; being a diſtemper which ſeizes their heads, occaſioned by too much greaſe and blood, or their having ſtood too long expoſed to the heat of the ſun, or having taken too long flights in the heat of the day.

Horſes are alſo ſaid to be ſubject to apoplexies, occaſioned by want of exerciſe, or too plentiful feeding.

The diſtemper ſhews itſelf by a giddineſs, reeling, trembling, and ſometimes falling ſuddenly down without ſenſe or motion. The cure is by taking a large quantity of blood from the neck, and applying volatile ſpirits to the noſtrils.

APOPLISTÆ, from ἀπο, and ὅπλον, *arms*, in *Ancient Laws*, a ſort of officers in the country, appointed to diſarm all private perſons, or thoſe not entitled to have arms; for the prevention of miſchief and violence.

APOPOMPÆ, in *Antiquity*, certain days in which ſacrifices were offered to the gods called *pompæi*. Who theſe deities were, is doubtful.

APOPSYCHIA, from ἀποψύχω, *I expire*, is ſometimes underſtood of effluvia emitted from the ſun, moon, and other heavenly bodies; to which their influence on ſublunary things was aſcribed by aſtrologers.

APOQUENEMY *Creek*, in *Geography*, a creek of America, which falls into Delaware-bay from Middle-town, in Newcaſtle-county in Delaware, a mile and a half below Reedy iſland.

APORIA, from ἀπορέω, *I doubt*, in *Rhetoric*, denotes a ſtate of doubt or wavering, wherein the orator appears undetermined whether to ſay any thing or not: e. gr. "*Eloquar, an ſileam?* Shall I ſpeak out, or hold my tongue?"

The uneaſineſs ariſing from ſuch a diſorder of thought, and the heſitation produced by it, are naturally very moving. Of this kind is that of Cicero for Cluentius (c. i.): "I know not which way to turn myſelf. Shall I deny the ſcandal thrown upon him of bribing the judges? Can I ſay the people were not told of it? that it was not talked of in the court? mentioned in the Senate? Can I remove an opinion ſo deeply and long rooted in the minds of men? It is not in my power. You, judges, muſt ſupport his innocence, and reſcue him from this calamity." Orators ſometimes begin their diſcourſe with this figure; and as it expreſſes a diffidence of mind, and has an air of modeſty, it tends very much to conciliate the affections of the hearers. Livy gives us a very elegant example of this, in a ſpeech of Scipio Africanus to his ſoldiers, when he called them together after a ſedition: "I never thought I ſhould have been at a loſs in what manner to addreſs my army.—I am in doubt what or how to ſpeak to you, not knowing what name to give you. Shall I call you citizens, who have revolted from your country? Soldiers, who have diſowned the authority of your general, and violated your military oath? Enemies? I perceive the mien, the aſpect, and habit of citizens; but diſcern the actions, words, deſigns, and diſpoſitions of enemies." Livy, lib. xxviii. c. 27. tom. iv. p. 228. ed. Drakenb.

APORON, or APORIME, a problem difficult to reſolve, though it be not certain that the reſolution of it is impoſſible.

The word is derived from ἄπορος, which ſignifies ſomething very difficult and impracticable; being formed from the privative α and πορος, *paſſage*.

Such we conceive the quadrature of the circle; the duplicature of the cube; the triſection of an angle, &c.

When a queſtion was propoſed to any of the Greek philoſophers, eſpecially of the ſect of academiſts; if he could not give a ſolution, his anſwer was, ἀπορεω, q. d. "I cannot conceive it: I am not able to explain it."

This word is alſo uſed by ſome law-writers for an inexplicable ſpeech or diſcourſe.

APORRHOEA, APORRHOES, in *Philoſophy*, ſulphureous effluvia, or exhalations, emitted from the earth and ſubterraneous bodies.

The word is formed from ἀποῤῥέω, *defluo, to flow from*.

APORRHOEA, in *Phyſic*, is ſometimes particularly uſed for morbid or contagious *miaſmata*, or effluvia from unwholeſome bodies. The word is alſo uſed to denote a ſhedding or falling of the hair. See ALOPECIA.

APOSIOPESIS, from ἀποσιωπάω, *I am ſilent*, in *Rhetoric*, otherwiſe called *reticency*, and *ſuppreſſion*; a figure, by which a perſon really ſpeaks of a thing, at the ſame time that he makes a ſhow as if he would ſay nothing of it. See PRETERITION.

It is commonly uſed to denote the ſame with ELLIPSIS. Jul. Scaliger diſtinguiſhes them. The latter, according to him, being only the ſuppreſſion of a word; as "me, me: adſum qui feci;" the former, the omitting to relate ſome part of the action; as,

> "Dixerat, atque illam media inter talia ferro
> Collapſam adſpiciunt————————."

Where the poet does not mention how Dido killed herſelf. This figure is of uſe to keep up the grandeur and ſublimity of a diſcourſe.

This figure denotes different paſſions; as anger, which, by reaſon of its heat and vehemence, cauſes perſons to break off abruptly in their diſcourſe. Thus the old man in Terence, when he was jealous that his ſervant obſtructed his deſigns, uſes this imperfect but threatening expreſſion: And. act i. ſc. i. v. 137. "Whom if I find." And alſo Neptune, when deſcribed by Virgil as very angry, that the winds ſhould preſume to diſturb the ſea without his permiſſion, after he has called them to him to know the reaſon of it, threatens them in this abrupt manner: "Whom I—but firſt I'll lay the ſtorm." Æn. lib. i. v. 139.

Cicero, in writing to Atticus, applies it to expreſs grief; "I know nothing of Pompey, and believe he muſt be taken, if he is not got on ſhipboard: O incredible ſwiftneſs! But of our friend.—" Ad Fam. lib. vii. ep. 22. And in a letter to Caſſius, he uſes it to expreſs his fear: "Brutus could ſcarcely ſupport himſelf at Mutina: if he is ſafe, we have carried the day. But if—heaven avert the omen,"

omen," &c. His meaning is, "if Brutus should be defeated." Ad Fam. lib. xii. [illegible]

APOSCEPARNISMUS, a species of fracture of the skull or other bone, wherein a piece is taken clearly off, as if cut out with a hatchet; from [illegible], an ax, or *hatchet*.

APOSPASMA, from [illegible], *I tear off*, [illegible] denotes a solution of continuity in some org[illegible] as a membrane, ligament, or the like.

APOSPHACELISIS, from [illegible], *mortification*, &c. in the *Ancient Surgery*, denotes a mortification of a fleshy part, happening in cases of wounds and fractures, from too tight a ligature.

APOSPHRAGISMA, from [illegible] and [illegible], *I seal*, in *Antiquity*, the figure or impression of a seal.

It was forbid among the ancients to have the figure or image of God on their rings and seals. To this purpose the precepts of Pythagoras, [illegible]! But in process of time, this was little regarded; it was usual enough to have the figures of Egyptian and other deities, as well as of heroes, monsters, friends, ancestors, and even brutes, on their *[illegible]*, or ring-seals. Thus Cæsar had the image of Venus, Pollio of Alexander, Augustus of the *sphinx*, Pompey of a frog, Lentulus of his grandfather, &c.

APOSTASIS, from αφιστημι, *I depart*, &c. in *Physic*, usually signifies the same with abscess.

In which sense the word is used by Hippocrates and others, promiscuously with αποστημα, *apostem*.

Apostasis, in a more particular sense, denotes a departure or removal of the morbid matter, in the crisis or solution of a disease.

Apostasis is also used by Hippocrates for a fracture of a bone, wherein some part is entirely separated or broken off.

APOSTASY, a deserting or abandoning of the true religion.

The word is borrowed from the Latin *apostatare*, or *apostare*, to *despise*, or *violate*, any thing. Hence *apostatare leges* anciently signified to transgress the laws. *Qui leges apostabit terræ suæ reus sit apud regem.* LL. Edw. Confess. The Latin *apostatare*, again, comes from απο, *from*, and ιστημι, *I stand*.

Among the Romanists, apostasy also signifies the forsaking of a religious order, whereof a man had made profession, without a lawful dispensation.

The ancients distinguished three kinds of apostasy: the first, *à supererogatione*, is committed by a priest, or religious, who abandons his profession, and returns to his lay state; the second, *à mandatis Dei*, by a person of any condition, who abandons the commands of God, though he retains his faith; the third, *à fide*, by him who not only abandons his works, but also the faith.

There is this difference betwixt an *apostate* and a *heretic*; that the latter only abandons a part of the faith, whereas the former renounces the whole.

The primitive Christian church distinguished several kinds of apostasy. The first was that of those who relapsed from Christianity into Judaism: the second, that of those who blended Judaism and Christianity together; the third, that of those who so far complied with the Jews as to communicate with them in many of their unlawful practices, without making a formal profession of their religion: and the fourth, was that of those who, after having been Christians, voluntarily relapsed into Paganism. The perversion of a Christian to Judaism, Paganism, or other false religion, was punished by the emperors Constantius and Julian with confiscation of goods; to which the emperors Theodosius and Valentinian added capital punishment, in case of the apostate's perverting others to the same iniquity: a punishment, says Blackstone, too severe for any temporal laws to inflict upon any spiritual offence, and yet the zeal of our ancestors imported it into this country: for we find by Bracton, that in his time apostates were to be burnt to death. It is also said to have been anciently punishable, in England, by burning, and tearing to pieces by horses. Thus Fleta, lib. i. c. 37. § 2. "Apostatæ & sacrilegi, & hujusmodi, detractari debent & comburi." And, § 4. "Si inde convincantur, detracteatur, & suspendantur." Where Du Cange interprets, *detractari*, by *tirer à quatre chevaux*.

This punishment has long ago become obsolete, and the offence of apostasy was for a long time the object only of the ecclesiastical courts, which corrected the offender "pro salute animæ." Nevertheless, it was enacted by statute 9 and 10 Will. III c. 32., that if any person educated in, or having made profession of, the Christian religion, shall, by writing, printing, teaching, or advised speaking, deny the Christian religion to be true, or the holy scriptures to be of divine authority, he shall, upon the first offence, be rendered incapable to hold any office or place of trust; and, for the second, be rendered incapable of bringing any action, being guardian, executor, legatee, or purchaser of lands, and shall suffer three years imprisonment, without bail. To give room, however, for repentance, if, within four months after the first conviction, the delinquent will, in open court, publicly renounce his error, he is discharged for that once from all disabilities. Such, however, is the spirit of toleration which has prevailed in this country, that penal statutes in the province of religion, though they still exist, have long lain dormant, and find few advocates in modern times.

APOSTATA *capiendo*, a writ which anciently lay against one, who having entered and professed some order of religion, broke out again, and wandered through the country, contrary to the rules of the order.

APOSTATE, in a general sense, signifies a deserter from the true religion.

In which sense *apostate* amounts to much the same with lapsed, perverted, &c.

APOSTERIGMA, from απο and στηριζω, *I support*, in the *Ancient Physic*, denotes a rest or support for a diseased part, without binding.

Such are pillows, cushions, and the like.

The word seems also to have been used by Hippocrates for a stoppage, or obstruction of some vascular part.

A POSTERIORI. Demonstration *à posteriori*. See Demonstration.

APOSTHUME, or Apostem, Apostema, in *Surgery*, a preternatural tumor; called also abscess, and imposthume.

The word comes from αφιστημαι, *abscedo*, *I depart from one place and fix in another*, alluding to the manner wherein the tumor is usually formed of a translated humour.

Aposthume is particularly used for a disease of hawks, which occasions swellings in the head, arising from a redundancy of humours, and a preternatural heat of that part.

The aposthume discovers itself by a swelling of the eyes, a moisture issuing from the ears, and their wings extremely slothful.

APOSTIL, *apostilla*, in *Matters of Literature*, a marginal addition, or note to a book, passage, or the like.

APOSTLE, αποστολος, one of the twelve disciples of Jesus Christ, commissioned by him to preach his gospel, and propagate it to all the parts of the earth. The word originally signifies a person *delegated* or *sent*; from αποστελλω, *mitto*; in which sense it occurs in Herodotus, and other profane authors. Hence, in the New Testament, the term is applied

applied to divers ſorts of delegates; and to the twelve diſciples by way of eminence. They were limited to the number twelve, in alluſion to the twelve tribes of Iſrael. (See Mat. xix. 28 Luke, xxii. 30. Rev. xxi. 12. 14.; and compare Exod. xxiv. 4. Deut. i. 23. and Joſh. iv. 2, 3.;) accordingly care was taken, on the death of Judas, to chuſe another, to make up the number, Acts, i. 21, 22. 26. This ſeems to have been a token of reſpect to the Jews, previous to the offer of the Goſpel to them; whereas, when they had generally rejected it, two more, Paul and Barnabas, were added, without any regard to the number of twelve. Of the firſt ſelection and commiſſion of the twelve apoſtles, we have an account, Luke vi. 13, &c. Mat. x. 1, &c. Having choſen and conſtituted twelve perſons, under the name of Apoſtles, our bleſſed Lord determined that for ſome time they ſhould be continually with him, not only to attend upon his public miniſtry, but to enjoy the benefit of his private converſation, that he might furniſh them the better for the great work in which they were to be employed; and that, at length, after ſuitable preparation, he might, with greater advantage, ſend them abroad to preach his Goſpel, and thus make way for his own viſits to ſome more diſtant parts, where he had not yet been. And to enable them more effectually to do it, he endowed them with the power of working miracles, of curing diſeaſes, and caſting out dæmons; well knowing that ſuch endowments would command a regard, notwithſtanding the meanneſs of their origin and appearance. About the commencement of the third year of his miniſtry, according to the common account of its duration, he ſent them out two by two, or in pairs, that they might be agreeable companions and aſſiſtants to each other in their work; and he commanded them to reſtrict their teaching and ſervices to the people of Iſrael, and to avoid going to the Gentiles or to the Samaritans; to declare the approach of the kingdom of heaven, and the eſtabliſhment of the Goſpel diſpenſation; to exerciſe the miraculous powers with which they had been endowed gratuitouſly, and to depend for their ſubſiſtence on the providence of God, and on the donations of thoſe to whom they miniſtered. Their names were: Simon-Peter; Andrew, his brother; James the greater, the ſon of Zebedee; and John his brother, who was the beloved diſciple; Philip of Bethſaida; Bartholomew; Thomas, called Didymus, as having a twin-brother; Matthew or Levi, who had been a publican; James, the ſon of Alpheus, called James the leſs; Lebbeus, ſurnamed Thaddeus, and who was alſo called Judas or Jude, the brother of James; Simon, the Canaanite, ſo called, as ſome have thought, becauſe he was a native of Cana, or, as Dr. Hammond thinks, from the Hebrew קנא *kana*, ſignifying the ſame with Zelotes, or the Zealot, a name given to him on account of his having before profeſſed a diſtinguiſhing zeal for the law; and Judas Iſcariot, or a man of Carioth (Joſh. xv. 25.), who afterwards betrayed him, and then laid violent hands on himſelf. Of theſe four, *viz.* Simon, Andrew, James the greater, and John, were fiſhermen; two, *viz.* Matthew, and James, the ſon of Alpheus, were publicans; and the other ſix were probably fiſhermen, though their occupation is not diſtinctly ſpecified.

After the reſurrection of our Saviour, and not long before his aſcenſion, the place of Judas the traitor was ſupplied by Matthias, ſuppoſed by ſome to have been Nathaniel of Galilee, to whom our Lord had giving the diſtinguiſhing character of an "Iſraelite indeed, in whom there was no guile:" and the twelve apoſtles, whoſe number was now completed, received a new commiſſion, of a more extenſive nature than the firſt, to preach the Goſpel to all nations, and to be witneſſes of Chriſt, not only in Jeruſalem, in all Judea, and in Samaria, but unto the uttermoſt parts of the earth; and they were qualified for the execution of their office by a plenteous effuſion of miraculous powers and ſpiritual gifts, and particularly the gifts of tongues. In conſequence of this commiſſion, they preached firſt to the Jews, then to the Samaritans, and afterwards to the idolatrous Gentiles. Their ſignal ſucceſs at Jeruſalem, where they opened their commiſſion, alarmed the Jewiſh Sanhedrim, before which Peter and John were ſummoned, and from which they received a ſtrict charge never more to teach, publicly or privately, in the name of Jeſus of Nazareth. The noble reply, and ſubſequent conduct of the apoſtles, are well known. This court of the Jews was ſo awed and incenſed, as to plot the death of the twelve apoſtles, as the only effectual meaſure for preventing the farther ſpread of Chriſtianity. Gamaliel interpoſed, by his prudent and moderate counſel; and his ſpeech had ſo good an effect upon the Sanhedrim, that inſtead of putting the apoſtles to death, they ſcourged them, renewed their charge and threats, and then diſmiſſed them. The apoſtles, however, were not diſcouraged nor reſtrained; they counted it an honour to ſuffer ſuch indignities, in token of their affection to their maſter, and zeal in his cauſe; and they perſiſted in preaching daily in the courts of the temple, and in other places, that Jeſus of Nazareth was the promiſed and long-expected Meſſiah. Their doctrine ſpread, and the number of converts in Jeruſalem ſtill increaſed. During the violent perſecution that raged at Jeruſalem, ſoon after the martyrdom of St. Stephen, ſeveral of the leading men among the Chriſtians were diſperſed; ſome of them travelled through the regions of Judea and Samaria, and others to Damaſcus, Phœnicia, the iſland of Cyprus, and various parts of Syria; but the twelve apoſtles remained, with undaunted firmneſs, at Jeruſalem, avowing their attachment to the perſecuted intereſt of Chriſt, and conſulting how they might beſt provide for the unforeſeen emergencies of the church, and its infant and oppreſſed ſtate.

When the apoſtles, during their abode at Jeruſalem, heard that many of the Samaritans had embraced the Goſpel, Peter and John were deputed to confer upon them the gift of the Holy Spirit; for to the apoſtles belonged the prerogative of conferring upon others ſpiritual gifts and miraculous powers. In their return to Jeruſalem, from the city of Samaria, they preached the Goſpel in many Samaritan villages. The manner of its being ſent to Ethiopia, by the converſion of the eunuch who was chief treaſurer to Candace, queen of the country, is related in Acts, viii. 26. &c. After the Chriſtian religon had been planted in Jeruſalem, Judea, and Samaria, and ſent into Ethiopia, one of the uttermoſt parts of the earth (Acts, i. 8.); and after it had been preached about eight years to the Jews only; God, in his wiſe and merciful providence, diſpoſed things for the preaching of it among the Gentiles. With this view, about the year 41, the next tranſition was to the devout Gentiles within the borders of Paleſtine. As they had caſt off idolatry on the one hand, and on the other hand had not ſubmitted to the ceremonial part of the Jewiſh law, they were better diſpoſed and prepared for receiving the Goſpel. Cæſarea was the ſcene in which the apoſtle Peter was to open his commiſſion for this purpoſe; and Cornelius, one of the devout Gentiles, and a man diſtinguiſhed by his piety and charity, was a proper perſon to be ſelected as the firſt proſelyte to Chriſtianity. After Peter had laid the foundation of a Chriſtian church among the devout Gentiles,

other

other Chriſtians imitated his example, and a great number of perſons of this deſcription embraced the Chriſtian faith, more eſpecially at Antioch, where the diſciples, whom their enemies had hitherto called Galileans, Nazarenes, and by other names of reproach, and who, among themſelves, had been called diſciples, believers, the church, the ſaints, and brethren, were denominated, poſſibly not without a divine admonition, Chriſtians.

When Chriſtianity had been preached, for about eight years, among the Jews only, and for about three years more among the Jews and devout Gentiles, the next gradation of its progreſs was to the id latrous Gentiles, in the year of Chriſt 44, and the 4th year of the emperor Claudius. Barnabas and Saul were ſelected for this purpoſe, and conſtituted in an extraordinary manner apoſtles of the Gentiles, or uncircumciſion. Barnabas was probably an elder of the firſt rank; he had ſeen Chriſt in the fleſh, had been an eye-witneſs of his being alive again after his crucifixion, and had received the Holy Spirit on the day of Pentecoſt, as being one of the 120. Saul alſo, ſince his converſion, had preached as a ſuperior prophet, about ſeven years to the Jews only, and about two years more to the Jews and devout Gentiles. They had both been born in Gentile countries; and therefore may be ſuppoſed to have had more reſpect and affection for the Gentiles, than moſt of the Jews who were natives of Judæa. Saul had been converted, and had hitherto preached chiefly on Gentile ground; and he had joined with Barnabas in teaching devout Gentiles for a whole year, at Antioch in Syria; by all which previous ſteps they were regularly conducted to the laſt gradation, or the converſion of the idolatrous Gentiles. But it was neceſſary, in order to the being an apoſtle, to have ſeen our Lord Jeſus Chriſt alive after his crucifixion, for the apoſtles were in a peculiar manner the witneſſes of his reſurrection. Some have ſuppoſed that Saul ſaw the perſon of Jeſus, when he was converted, near the city of Damaſcus; but others, who conceive from attention to the hiſtory of this event, that this could not have been the caſe, as he was inſtantly ſtruck blind, are of opinion that the ſeaſon, when his apoſtolic qualification and commiſſion were completed, was that mentioned by himſelf (Acts, xxii. 17.), when he returned to Jeruſalem the ſecond time after his converſion; when he ſaw the Lord Jeſus Chriſt in perſon, and received the command to go quickly out of Jeruſalem, and was informed that he ſhould be ſent unto the Gentiles. See alſo, Acts, xxvi. 16—20., where he gives an account of the object of his commiſſion. He alſo received a variety of gifts and powers, which, ſuperadded to his own genius and learning, as well as fortitude and patience, eminently qualified him for the office of an apoſtle, and for that particular exerciſe of it which was aſſigned to him. St. Paul is frequently called the *Apoſtle*, by way of eminence; and the *Apoſtle of the Gentiles*, becauſe his miniſtry was chiefly employed for the converſion of the Gentiles, as that of St. Peter was for Jews, who is therefore ſtyled the *Apoſtle of the Circumciſion*.

The apoſtles having continued at Jeruſalem twelve years after the aſcenſion of Chriſt, as tradition reports according to his command, determined to diſperſe themſelves in different parts of the world. But what were the particular provinces aſſigned to each does not certainly appear from any authentic hiſtory. Socrates (Hiſt. Eccl. lib. i. c. 19.) ſays, that Thomas took Parthia for his lot; Matthew, Ethiopia; and Bartholomew, India. Euſebius (Hiſt. Eccl. lib. iii. *ad init.*) gives the following account: "Thomas, as we learn by tradition, had Parthia for his lot; Andrew, Scythia; John, Aſia; who having lived there a long time, died at Epheſus. Peter, as it ſeems, preached to the diſperſed Jews in Pontus and Galatia, Bithynia, Cappadocia, and Aſia: at length, coming to Rome, he was crucified with his head downward, as he had deſired. What need I to ſpeak of Paul, who fully preached the Goſpel of Chriſt, from Jeruſalem to Illyricum, and at laſt died a martyr at Rome, in the time of Nero." From this paſſage we may conclude, that at the beginning of the 4th century there were not any certain and well atteſted accounts of the places out of Judæa, in which any of the apoſtles of Chriſt preached; for if there had, Euſebius muſt have been acquainted with them.

The ſtories that are told concerning their arrival and exploits among the Gauls, the Engliſh, the Spaniards, the Germans, the Americans, the Chineſe, the Indians, and the Ruſſians, are too romantic in their nature, and of too recent a date, to be received by an impartial inquirer after truth. Theſe fables were for the moſt part forged after the time of Charlemagne, when moſt of the Chriſtian churches contended about the antiquity of their origin, with as much vehemence as the Arcadians, Egyptians, and Greeks, diſputed formerly about their ſuperiority and precedence.

It appears, however, that all of them did not die by martyrdom. Heraclion, the Valentinian, cited by Clemens Alexandrinus (Strom. lib. iv. p. 522), reckons among the apoſtles who did not ſuffer martyrdom, Matthew, Thomas, Philip, and Levi, probably meaning Lebbeus.

To the apoſtles belonged the peculiar and excluſive prerogative of writing doctrinal and preceptive books of authority in the Chriſtian church; and it ſufficiently appears that no epiſtles or other doctrinal writings of any perſon who was of a rank below that of an apoſtle, were received by Chriſtians as a part of their rule of faith. With reſpect to the writings of Mark and Luke, they are reckoned hiſtorical, not doctrinal or dogmatical: and Auguſtine ſays, that Mark and Luke wrote at a time when their writings might be approved not only by the church, but by apoſtles ſtill living. The credit of men, not apoſtles, though they were companions of apoſtles, was admitted no farther than as hiſtorians, or reporters of what they had ſeen, or of what they had heard from apoſtles, or eye-witneſſes, and miniſters of the word.

The ſeveral apoſtles are uſually repreſented with their reſpective badges or attributes: St. Peter with the keys; St. Paul, with a ſword; St. Andrew, with a croſs or ſaltier; St. James minor, with a fuller's pole; St. John, with a cup, and a winged ſerpent flying from it; St. Bartholomew, with a knife; St. Philip, with a long ſtaff, whoſe upper end is formed into a croſs; St. Thomas, with a lance; St. Matthew, with a hatchet; St. Matthias, with a battle-ax; St. James major, with a pilgrim's ſtaff, and a gourd bottle; St. Simon, with a ſaw; and St. Jude, with a club.

This appellation of Apoſtles was alſo given to the ordinary travelling miniſters of the church. Thus St. Paul, in the epiſtle to the Romans, xvi. 7. ſays, "Salute Andronicus and Junia, my kinſmen and fellow-priſoners, who are of note among the apoſtles." In this inferior ſenſe the appellation is applied by Clement of Alexandria, to Barnabas; and it is alleged that he was not an apoſtle in the higheſt ſenſe of the word, ſo as the twelve and Paul were apoſtles. Tertullian calls all the ſeventy diſciples, apoſtles; and Clement calls Barnabas apoſtolical only in another place, and ſays, that he was one of the ſeventy, and fellow-labourer of Paul. Theſe, ſays Dr. Lardner, are the higheſt characters which he really intends to give to Barnabas, and what he means when he ſtyles him apoſtle; therefore he need not be ſup-

poſed to aſcribe to Barnabas that large meaſure of inſpiration and high authority, which was peculiar to the apoſtles, ſtrictly and properly ſo called. In a ſimilar ſubordinate form St. Clement of Rome is called apoſtle. Timothy alſo is called by Salvian, apoſtle, meaning merely apoſtolical, or a companion and diſciple of apoſtles.

APOSTLE was likewiſe a title given to thoſe ſent by the churches to carry their alms to the poor of other churches. This uſage they borrowed from the ſynagogues, who called thoſe whom they ſent on this meſſage, by the ſame name; and the function or office itſelf αποστολη, *apoſtle*, q. d. *miſſion*. Thus St. Paul, writing to the Philippians, tells them, that Epaphroditus, their *apoſtle*, had miniſtered to his wants, ch. ii. 25. It is applied in like manner to thoſe perſons who firſt planted the Chriſtian faith in any place.

Thus Dionyſius of Corinth is called the *apoſtle of France*; Xavier, the *apoſtle of the Indies*, &c. In the Eaſt Indies the Jeſuit miſſionaries are alſo called *apoſtles*.

In ſome ages of the church, the pope was peculiarly denominated the *apoſtle*.

APOSTLE, is alſo uſed among the Jews, for a kind of officer anciently ſent into the ſeveral parts and provinces in their juriſdiction, by way of viſitor, or commiſſary; to ſee that the laws were duly obſerved, and to receive the monies collected for the reparation of the temple, and the tribute payable to the Romans.

The Theodoſian code, lib. xiv. *De Judæis*, calls thoſe *apoſtoli, qui ad exigendum aurum atque argentum a patriarcha certo tempore diriguntur*. Julian the Apoſtate remitted the Jews the *apoſtle*, αποστολη; that is, as he himſelf explains it, the tribute they had been accuſtomed to ſend him.

Theſe apoſtles were a degree below the officers of the ſynagogues called *patriarchs*, and received their commiſſions from them. Some authors obſerve, that St. Paul had borne this office; and that it is this he alludes to in the beginning of the Epiſtle to the Galatians: as if he had ſaid, Paul, no longer an apoſtle of the ſynagogue, nor ſent thereby to maintain the law of Moſes, but now an apoſtle and envoy of Jeſus Chriſt, &c. St. Jerom, though he does not believe that St. Paul had been an apoſtle of this kind, yet imagines that he alludes to it in the paſſage juſt cited.

APOSTLE, in the Greek *Liturgy*, is particularly uſed for a book containing the Epiſtles of St. Paul, printed in the order wherein they are to be read in churches, through the courſe of the year. Another book of the like kind containing the Goſpels, is called Ευαγγελιον, *Goſpel*.

The apoſtle, of late days, has alſo contained the other canonical Epiſtles, the Acts of the *Apoſtles*, and the Revelations. Hence it is alſo called *Acts of the Apoſtles*, Πραξ-αποστολος; that being the firſt book in it.

APOSTLE is alſo thought by many to have been the original name for biſhops, before the denomination *biſhop* was appropriated to their order. Thus Theodoret ſays expreſsly, the ſame perſons were anciently called promiſcuouſly both biſhops and preſbyters, whilſt thoſe who are now called biſhops were called *apoſtles*.

In the arſenal of Bremen, there are twelve pieces of cannon, called the *Twelve Apoſtles*; on a ſuppoſition that the whole world muſt be convinced, and acquieſce in the preaching of ſuch *apoſtles*.

APOSTLES' *Creed*. See CREED.

APOSTLES, in *Eccleſiaſtical Hiſtory*. See APOSTOLICI.

APOSTOLA THADEIA, in *Geography*, a cape on the eaſt coaſt of Siberia, at the weſt end of the Anadirſkoi gulf in the North Pacific Ocean. N. lat. 63°. E. long. 178° 14′.

APOSTOLÆUM, or APOSTOLIUM, in *Eccleſiaſtical Writers*, denotes a church dedicated to, and called by the name of an *apoſtle*.

Sozomen ſpeaks of the apoſtolæum of St. Peter at Rome, and the apoſtolæum of St. Peter and St. Paul a Quercus near Chalcedon.

In this ſenſe apoſtolæum ſtands diſtinguiſhed from *prophæteum*, *martyrium*, &c.

APOSTOLARE, APOSTOLICARE, *apoſtoliziug*, in ſome *Middle Age Writers*, denotes the being preferred to the dignity of POPE.

APOSTOLATE, in a general ſenſe, is uſed for miſſion. In this ſenſe, Olearius has a diſcourſe concerning the apoſtolate of Chriſt. Lip. 1681. 4to.

APOSTOLATE more properly denotes the dignity or office of an apoſtle of Chriſt: but it is alſo uſed in ancient writers for the office of a biſhop.

In this ſenſe, we meet with ſeveral letters, petitions, requeſts, &c. directed to biſhops under the title of your *apoſtolate*, or *apoſtolatus veſter*.

But as the title *apoſtolicus* had been appropriated to the pope, ſo that of *apoſtolate* became at length reſtrained to the ſole dignity of the popedom.

Every biſhop's ſee was anciently dignified with the title of *ſedes apoſtolica*, an apoſtolical ſee, which is now the peculiar denomination of the ſee of Rome.

APOSTOLI, in *Law*, denotes thoſe letters miſſive which are demanded in caſes of appeal.

APOSTOLIC, APOSTOLICAL, ſomething that relates to the apoſtles, or deſcends from them.

Thus we ſay, the *apoſtolical* age, *apoſtolical* doctrine, *apoſtolical* character, conſtitutions, traditions, &c.

APOSTOLIC, in the *Primitive Church*, was an appellation given to all ſuch churches as were founded by the *apoſtles*; and even to the biſhops of thoſe churches, as being the reputed ſucceſſors of the *apoſtles*.—Theſe were confined to four, *viz.* Rome, Alexandria, Antioch, and Jeruſalem.

In after-times, other churches aſſumed the ſame quality, on account, principally, of the conformity of their doctrine with that of the churches which were *apoſtolical* by foundation, and becauſe all biſhops held themſelves ſucceſſors of the apoſtles, or acted in their dioceſes with the authority of apoſtles.

The firſt time the term *apoſtolical* is attributed to biſhops, as ſuch, is in the letter of Clovis to the council of Orleans, held in 511; though that king does not there expreſsly denominate them *apoſtolical*, but *apoſtolica ſede digniſſimi*, highly worthy of the *apoſtolical* ſee. In 581, Guntram calls the biſhops, met at the council of Maſon, *apoſtolical* pontiffs, *apoſtolici pontifices*.

In progreſs of time, the biſhop of Rome growing in power above the reſt; and the three patriarchates of Alexandria, Antioch, and Jeruſalem, falling into the hands of the Saracens, the title *apoſtolical* was reſtrained to the pope, and his church alone. Though ſome of the popes, and St. Gregory the great, not contented to hold the title by this tenure, began at length to inſiſt that it belonged to them by another and peculiar right, as being the ſucceſſors of St. Peter. The council of Rheims, in 1049, declared that the pope was the ſole *apoſtolical* primate of the univerſal church.

And hence a great number of *apoſtolicals*; *apoſtolical* ſee, *apoſtolical* nuncio, *apoſtolical* notary, *apoſtolical* brief, *apoſtolical* chamber, *apoſtolical* vicar, &c.

APOSTOLIC *clerks*, ſee JESUATES.

APOSTOLICAL *canons*, and *conſtitutions*; ſee CANONS, and CONSTITUTIONS.

APOSTOLICAL *traditions*, ſee TRADITION.

APOSTOLICAL *Fathers* is an appellation uſually given to the writers of the firſt century, who employed their pens in the cauſe of Chriſtianity, and who had converſed with the apoſtles, or their diſciples. To this claſs are referred, Cle-

ment, Barnabas, Hermas, Ignatius, and Polycarp. We may obſerve, in general, that theſe apoſtolic fathers, and the other writers in favour of Chriſtianity, during the infancy of the church, were remarkable neither for their learning nor their eloquence. On the contrary, they expreſs the moſt pious and admirable ſentiments in the plaineſt ſtyle. This indeed is honourable rather than reproachful to the Chriſtian cauſe; ſince we ſee, from the converſion of a great part of mankind to the goſpel by the miniſtry of weak and unlearned men, that the progreſs of Chriſtianity is not to be attributed to human means, but to a divine power. Their teſtimony to the books of the New Teſtament is important; for in their writings they take all the notice of them that could be expected. From them ſucceeding writers received great part of that full and ſatisfactory evidence, which they appear to have had concerning the ſeveral books of the New Teſtament. Of theſe writers, Cotelerius, and after him Le Clerc, have publiſhed a collection in two volumes, accompanied with both their own annotations, and the remarks of other learned men.

APOSTOLICI, Apostoli, or Apostles, in *Eccleſiaſtical Hiſtory*, was a name aſſumed by three different ſects, on account of their pretending to imitate the manner and practice of the apoſtles. The firſt *Apoſtolici*, otherwiſe called *Apotactitæ*, and *Apotactical*, roſe out of the Encratitæ, and Cathari, in the third century. They made profeſſion of abſtaining from marriage, and the uſe of wine, fleſh, money, &c. See Apotactitæ.

Gerhard Sagarelli was the founder of the ſecond ſect; he obliged his followers to go about from place to place as the apoſtles did, to wander about cloathed in white, with long beards, diſhevelled hair, and bare heads, accompained with women, whom they called their ſpiritual ſiſters. They likewiſe renounced all kinds of property and poſſeſſions, inveighed againſt the growing corruption of the church of Rome, predicted its overthrow, and the eſtabliſhment of a purer church on its ruins. With this practice, they made little or no alteration in the doctrinal part of the public religion; but they principally aimed to introduce among Chriſtians, the ſimplicity of the primitive times, and more eſpecially the manner of life that was obſerved by the apoſtles. Sagarelli was burnt alive at Parma in the year 1300, and was afterwards ſucceeded by Dulcinus, a native of Novara, who added to the character of an apoſtle thoſe of a prophet and general, and carried on a bloody and dreadful war for the ſpace of more than two years againſt Raynerius, biſhop of Vercelli; he was at length defeated, and put to death in a barbarous manner, in the year 1307, together with Margaret, whom he had choſen for his ſpiritual ſiſter, according to the cuſtom of the ſect. Nevertheleſs this ſect ſubſiſted in France, Germany, and in other countries, till the beginning of the fifteenth century, when it was totally extirpated under the pontificate of Boniface IX.

The other branch of *Apoſtolici* were of the twelfth century. Theſe alſo condemned marriage, preferring celibacy, and calling themſelves the chaſte brethren and ſiſters; though each was allowed a ſpiritual ſiſter, with whom he lived in domeſtic relation; and on this account they have been charged with concubinage: they held it unlawful to take an oath; they ſet aſide the uſe of baptiſm; and in many things imitated the Manichees. Bernard wrote againſt this ſect of *Apoſtolici*.

APOSTOLICUM is a peculiar name given to a kind of ſong or hymn, anciently uſed in churches.

The Apoſtolicum is mentioned by Greg. Thaumaturgus as uſed in his time. Voſſius underſtands it as ſpoken of the apoſtles' creed. Suicer thinks this impoſſible, becauſe this creed was then unknown in the churches of the Eaſt.

APOSTOLIUS, Michael, in *Biography*, a learned Greek, flouriſhed in the fifteenth century, about the years 1450 and 1460; at the time when the empire of the Greeks founded by Conſtantine the Great was extinguiſhed under Conſtantine Palæologus, the laſt Chriſtian emperor. His diſtinguiſhed learning appears from many ſmall tracts written by him, and ſtill remaining in manuſcript in ſeveral libraries. When Conſtantinople, after a long ſiege, fell into the hands of the Turks, he wrote a funeral oration upon the emperor Conſtantine, who loſt his life on that occaſion. After the deſtruction of the eaſtern empire, he left Greece ſome time after the year 1453, and paſſed over into Italy; for he appears in 1462 to have lived at Viterbo. Diſſatisfied with the neglect he experienced, and with the dependent condition to which he was reduced, he wrote againſt ſeveral perſons of diſtinction amongſt the learned men who flouriſhed at that time; and having thus incurred the reſentment of Beſſarion, to whom he was indebted for ſupport, he was compelled by his poverty to retire to the iſland of Crete, where he maintained himſelf, in a very mean manner, by tranſcribing books and inſtructing children. His averſion to the Roman church induced him likewiſe to compoſe a tract againſt it, "Concerning the proceſſion of the Holy Ghoſt." His collection of proverbs, amounting to more than 2000 in Greek and Latin, illuſtrated with notes, was publiſhed in quarto by Pontinus at Leyden in 1619. His ſon Arſenius publiſhed at Rome a collection of Apophthegms, which was probably taken from the "Ιωνια" of Apoſtolius. Fabr. Bibl. Græc. l. v. c. 41. § 8. t. x. p. 222. Gen. Dict.

APOSTOLORUM Unguentum, the *apoſtles' ointment*, in *Pharmacy*, is a kind of detergent or cleanſing unguent, compoſed of twelve drugs, the number of the apoſtles; whence its name.

It was invented by Avicenna, and is otherwiſe called *unguentum veneris*. The principal ingredients are turpentine, reſin, wax, gum ammoniac, birth-wort roots, olibanum, bdellium, myrrh, and galbanum, opoponax, verdegris, litharge, oil of olives, and vinegar.

APOSTOOLIANS, in *Eccleſiaſtical Hiſtory*, a ſect of the Mennonites, which firſt ſprung up in the year 1664, and derived its name from Apoſtool, one of the Mennonite miniſters at Amſterdam. They concurred with them in doctrine, and admitted to their communion thoſe only who profeſſed to believe all their ſentiments which are contained in their public confeſſion of faith.

APOSTROPHE, or Address, in *Rhetoric*, a figure whereby the orator, in an extraordinary commotion, turns his diſcourſe from the audience, and directs it to ſome other perſon, preſent or abſent, living or dead, or to inanimate nature as endued with ſenſe and reaſon. The word is formed of απο, *ab*, *from*, and στρεφω, *verto*, *to turn*. By this figure the ſpeaker has an opportunity of uſing greater freedom than would perhaps be conſiſtent with decency, if he addreſſed the perſons themſelves; he can admoniſh, chide, or cenſure, without giving offence; nor is there any paſſion that may not be advantageouſly expreſſed by this figure.

Thus Cicero, in his oration for Milo, addreſſes himſelf to the great patriots who had ſhed their blood for the public; and calls them to the defence of his client. So the ſame orator, in his firſt *Catilinarian*, directs himſelf to Jupiter the protector of the city and empire, and beſeeches him to repel the parricide, &c.

The apoſtrophe is alſo frequently addreſſed to inanimates, as tombs, monuments, defuncts, &c. Cicero's apoſtrophe to Tubero, in his oration for Ligarius, is judged one of the fineſt paſſages in his works. In his oration for Balbus, he thus

thus calls upon dumb nature to witneſs to Pompey's virtues: "I invoke you, remote regions, moſt diſtant countries, you ſeas, havens, iſlands, and ſhores! For what coaſt, what land, what place is there, in which the marks of his courage, humanity, wiſdom, and prudence, are not extant?"

That apoſtrophe of Demoſthenes, wherein he addreſſes himſelf to the Greeks ſlain at the battle of Marathon, is alſo famous: cardinal Perron ſays, it has procured the orator as much glory as if he had raiſed them from the dead.

An appeal to heaven, or any part of inanimate nature, has a ſublimity and ſolemnity, which frequently occurs in the ſacred writings, "Hear, O heavens!" ſays Iſaiah, ch. i. 2. "and give ear, O earth! for the Lord hath ſpoken." In like manner, the prophet Jeremiah exclaims (ch. ii. 12), "Be aſtoniſhed, O ye heavens! at this."

APOSTROPHE, or *Apoſtrophus*, in *Grammar*, alſo denotes a note or character placed over a letter in lieu of a vowel, to denote that the vowel is cut off, and not to be pronounced: as *ev'n* for *even*; *th'angelic hoſt* for *the angelic*, &c.

The affectation of frequent *apoſtrophes*, ſo uſual among ſome Engliſh writers, is a great abuſe.

In proſe, apoſtrophes are indefenſible, and tend to vitiate the language; their uſe in poetry is to reduce a line to the proper meaſure.

APOSTROPHIA, in *Mythology*, a ſurname of Venus, under which her votaries applied to her to be preſerved from irregular deſires.

APOSYRMA, from αποσυρω, *I take off*, in *Surgery*, denotes a diſquamation or ſcaling of the ſkin. In which ſenſe the word amounts to much the ſame with ABRASION.

APOTACTITÆ, or APOTACTICI, formed from αποτασσω, or αποταττω, *to renounce*, in *Eccleſiaſtical Hiſtory*, an ancient ſect, who, affecting to follow the evangelical counſels of poverty, and the examples of the apoſtles and primitive Chriſtians, renounced all their effects and poſſeſſions.

It does not appear, that they gave into any errors during their firſt ſtate: ſome eccleſiaſtical writers aſſure us, they had divers holy virgins and martyrs, under the perſecution of Dioclefian, in the fourth century; but they afterwards fell into the opinions of the Encratitæ, and taught, that the renouncing of all riches was not only a matter of counſel and advice, but of precept and neceſſity. And hence the ſixth law in the Theodoſian code joins the *Apotactitæ* with the Eunomians and Arians.

APOTEICHISMUS, from αποτειχιζω, derived from απο, and τειχιζω, *I raiſe a wall*, or τειχος, in the *Ancient Military Art*, a kind of line or circumvallation drawn round a place, in order to beſiege it.

This was alſo called *periteichiſmus*.

The firſt thing the ancients went about, when they deſigned to lay cloſe ſiege to a place, was the apoteichiſmus; which ſometimes conſiſted of a double wall, or rampart, raiſed of earth; the innermoſt to prevent ſudden ſallies from the town; the outermoſt to keep off foreign enemies from coming to the relief of the beſieged. This anſwered to what we call lines of contravallation and circumvallation among the moderns.

APOTELESMA, from αποτελεω, *I perform*, in a general ſenſe, denotes an effect of ſome cauſe. It is alſo uſed for a prognoſtic, or natural prediction of an event.

In which ſenſe Scaliger ſpeaks of the apoteleſmata of Hippocrates. The anſwers of aſtrologers deduced from the conſideration of the ſtars are particularly called apoteliſms or apoteleſmata; which were the expreſſions they uſed to denote the effects of the ſtars and planets on ſublunary bodies; in which ſenſe apoteleſmata amount to the ſame with influences.

APOTELESMATICA, the ſcience of *apoteliſms*, or the art of foretelling future events, from the aſpects and configuration of the heavenly bodies.

In this ſenſe the word amounts to the ſame with what we otherwiſe call *judicial aſtrology*.

APOTHECARY, a perſon who profeſſes the practice of pharmacy, or that part of phyſic, which conſiſts in the preparation and compoſition of medicines.

The word is derived from αποθηκη, *ſhop*, the place where he makes up and expoſes his medicines to ſale.

The *apothecaries* in England are obliged to make up their medicines according to the formulas preſcribed in the College Diſpenſatory.

Their ſhops are ſubject to the viſitation of the cenſors of the College, who are empowered to deſtroy ſuch medicines as they think not good.

The company of apothecaries was incorporated by charter from James I. procured at the ſolicitation of Dr. Mayerne and Dr. Atkins; till that time they only made a part of the grocers' company; plums, ſugar, ſpice, Venice-treacle, mithridate, &c. were ſold in the ſame ſhop, and by the ſame perſon. The reaſon of ſeparating them was, that medicines might be better prepared, and in oppoſition to divers perſons who impoſed unwholeſome remedies on the people. Obſerv. on Caſe of Will. Roſe, ſect. 2.

In the year 1712, the 10th of queen Anne, an act paſſed for reviving and continuing ſeveral acts therein mentioned, one whereof was for exempting the apothecaries from ſerving the offices of conſtable and ſcavengers, and other pariſh and ward offices, and from ſerving upon juries; which act was made perpetual in the ninth year of George I.

They have a hall in Black-Friars, where there are two fine laboratories, out of which all the ſurgeons' cheſts are ſupplied with medicines for the royal Britiſh navy.

To his majeſty belong two *apothecaries*: the ſalary to the firſt, 320 *l.* to the ſecond, 275 *l.* To the houſhold belong alſo two.

The charitable diſpenſation of medicines by the Chineſe is well deſerving notice. They have a ſtone, which is ten cubits high, erected in the public ſquares of their cities; and on this ſtone are engraven the name of all ſorts of medicines, with the price of each; and when the poor ſtand in need of any relief from phyſic, they go to the treaſury, where they receive the price each medicine is rated at.

APOTHECARY, *apothecarius*, in *Writers of the Middle Age*, denotes a ſhop-keeper, or warehouſe-keeper.

APOTHECARIUS is alſo uſed to denote a ſtore-keeper, or officer appointed to have the direction of a magazine, GRANARY, &c.

In which ſenſe *apothecarii* is ſometimes rendered by *horrearii* and *rationarii*.

APOTHEOSIS, derived from απο and Θεος, *God*, in *Antiquity*, a heathen ceremony, whereby their emperors and great men were placed among the gods.

After the apotheoſis, which they alſo called *deification* and *conſecration*, temples, altars, and images were erected to the new deity; ſacrifices, &c. were offered, and colleges of prieſts inſtituted. Dio, 47. 56. 59. Suet. Aug. 5. Tib. 40. Paterc. 1. Ovid. Pont. 4.

Images were erected to them, with the attributes of divinity (Lucan 7. Dio, 53. Capitolin. Antonin.); and to demoliſh them was deemed treaſon (Venul. lib. vi. D. ad Leg. Jul. Mal.); and even the ſenate decreed that oaths ſhould be taken in their names (Dio, 44. 59, 60. Tac. Ann. 1.). Vide Kirchm. de Fun. Rom. 4. 14.

The Perſians, according to Herodotus (l. i. c. 131. l. viii. c. 143.), never conceived that their gods were deified men; and Jablonſki, in the prolegomena to his

"Panthcon Egyptiorum," maintains that it was a fundamental principle in the mythology of the Egyptians, not to deify any mortal. The Greeks, it is faid, were the firft who admitted this practice; and the heroes of the firft ages were of this defcription. Under the Cæfars, the Romans imitated the Greeks: at firft they contented themfelves with deifying Romulus, their founder; but having loft their liberty under Julius Cæfar, they allowed Auguftus, his fucceffor, to acknowledge him as a god, to build temples in honour of him, and to offer facrifices to him. Auguftus, at the age of twenty-eight years, was declared the tutelary god of all the cities of the empire. The example was followed by fucceeding emperors; fo that they elevated to the rank of gods, not only the moft ftupid, fuch as Claudius, but the moft wicked and abandoned: and the appellation "Divus" was affumed among their ordinary titles.

It was one of the doctrines of Pythagoras, which he had borrowed from the Chaldees, that virtuous perfons, after their death, were raifed into the order of gods. And hence the ancients deified all the inventors of things ufeful to mankind; and thofe who had done any important fervice to the commonwealth. Tiberius propofed to the Roman fenate the apotheofis of Jefus Chrift, as is related by Eufebius, Tertullian, and Chryfoftom. Juvenal, rallying the frequent apotheofes, introduces poor Atlas complaining that he was ready to fink under the burden of fo many new gods as were every day added to the heavens. Seneca ridicules the apotheofis of Claudius with admirable humour. Herodian, lib. iv. in fpeaking of the apotheofis of Servius, gives us a very curious defcription of the ceremonies ufed in the apotheofis of the Roman emperors. After the body of the deceafed emperor (faid he) had been burnt, with the ufual folemnities, they placed an image of wax, perfectly like him, but of a fickly afpect, on a large bed of ivory, covered with cloth of gold, in the veftibule of the palace. The greateft part of the day, the fenate fat ranged on the left fide of the bed, dreffed in robes of mourning; the ladies of the firft rank fitting on the right fide, in plain white robes, without any ornaments. This lafted for feven days fucceffively, during which the phyficians came from time to time to vifit the fick, always making their report that he grew worfe, till at length they publifhed that he was dead.

This done, the young fenators and Roman knights took the bed of ftate upon their fhoulders, carrying it through the Via Sacra, the Old Forum, where the magiftrates were ufed to divefl themfelves of their offices. There they fet it down between two kinds of amphitheatres, in the one whereof were the young men, and in the other the maidens, of the firft families of Rome, finging hymns fet to folemn airs, in praife of the deceafed. The hymns ended, the bed was carried out of the city into the Campus Martius, in the middle of which place was erected a kind of fquare pavilion, the infide whereof was full of combuftible matters, and the outfide hung with cloth of gold, and adorned with figures of ivory, and various paintings.

Over this edifice were feveral others, like the firft in form and decoration, but lefs; always diminifhing and growing flenderer towards the top. On the fecond of thefe was placed the bed of ftate; and a great quantity of aromatic perfumes, and odoriferous fruits and herbs were thrown all around; after which the knights made a proceffion or cavalcade in folemn meafures around the pile; feveral chariots alfo run round it, thofe who conducted them being clad in purple robes, and bearing the images of the greateft Roman emperors and generals.

This ceremony ended, the new emperor came to the *catafalca*, or pile, with a torch in his hand; and, at the fame time, fire was fet to it on all fides; the fpices and other combuftibles kindling all at once.

While this was doing, they let fly from the top of the building an eagle, which, mounting into the air with a firebrand, carried the foul of the dead emperor along with it into heaven, as the Romans believed; and thenceforward he was ranked among the gods. It is for this reafon, that the medals, wherein apotheofes are repreſented, have ufually an altar with fire upon it, or elfe an eagle taking its flight into the air, and fometimes two eagles.

There are feveral curious and celebrated monuments of antiquity under the denomination of apotheofes: the firft and principal is the apotheofis of Homer, faid to have been the work of Archelaus of Priena, a famous ancient fculptor, and difcovered, in 1668, in the Appian way near Albano, in a place formerly called *Ad Bovillas*, but now *Frattochia*, belonging to the prince of Colonna, where the emperor Claudius had a houfe of pleafure. This is now one of the principal ornaments of the palace of thofe princes at Rome. To decypher the figures upon this monument, has been the labour of feveral celebrated antiquarians, fuch as Kircher, Cuper, Spanheim, Heinfius, Gronovius, Wetftein, Schott, and Winkelman. The apotheofis of Homer has alfo been repreſented on a filver vafe, in the form of a mortar, and found at Herculaneum. The apotheofis of Romulus was publifhed at Florence, in 1716, and by Montfaucon, in the third volume of the Supplement to his Antiquities. This work was executed at the time when the arts declined, and was intended to be prefented in the Quirinal feafts, or in fome other games celebrated by horfe races in honour of Quirinus, and called Quirini Circenſes. The apotheofis of Julius Cæfar is exhibited on a gem in the mufeum of Brandenburg. Cæfar is mounted on a celeftial globe, and holding in his hand an helm and a large crown of laurel. The apotheofis of Auguftus is repreſented on a beautiful agate, which the emperor Baldwin II., when in 1244, he fought fuccour of the Chriftian princes, and particularly of St. Louis, is faid to have fold to the pious monarch, who depofited it in the mufæum of the holy chapel at Paris. See AGATE. The apotheofis of Germanicus is the fubject of a precious gem; that of Claudius is a baffo-relievo; that of Titus is exhibited in the arch of Titus at Rome; and that of the younger Fauftina, repreſented in baffo-relievo in the Capitol, is mentioned by Montfaucon in the fifth volume of his Supplement.

APOTHERAPIA, from *αποθεραπευω*, *I cure*, in *Phyfic*, properly denotes a complete or finifhed cure.

APOTHERAPIA is alfo ufed, in the *Gymnaſtic Art*, for the laft part of all regular exercife, viz. friction or unction with oil, before as well as after bathing.

The deſign of this was partly to cleanſe the ſkin from any filth or duft it might have contracted during the exercife, and partly to remove wearinefs.

APOTHERMUM, from *απο*, and *θερμος*, *hot*, in *Ancient Writers*, a ſharp kind of ſauce, like that prepared of muſtard, oil, and vinegar, or of vinegar alone.

APOTOME, in *Mathematics*, the difference of two incommenſurable quantities: ſuch is the difference between $\sqrt{2}$ and 1: and ſuch is the exceſs of the diagonal of a ſquare above its ſide.

The word is derived from *αποτεμνω*, *I cut off*.

Euclid (lib. x.) makes ſix ſorts of *apotomes*.

APOTOME *prima*, is when the greater number is a rational number, and the difference of the ſquares of both numbers is a ſquare number, e. g. $3-\sqrt{5}$.

APOTOME *ſecunda*, is where the leſſer number is a rational number, and the ſquare root of the difference of the ſquares of both numbers has a ratio expreſſible in numbers to the greater

greater number; ſuch is $\sqrt{18-4}$, ſince the difference of the ſquares 18 and 16 is 2, and $\sqrt{2}$ is to $\sqrt{18}$ as 1 to 3, becauſe $\sqrt{18}=3\sqrt{2}$.

Apotome *tertia*, is when both the numbers which are ſubſtracted from each other are irrational numbers, and the ſquare root of the difference of their ſquares has a ratio in numbers to the greater. This holds in $\sqrt{24}-\sqrt{18}$, for the difference of their ſquares 24 and 18 is 6, and $\sqrt{6}$ is to $\sqrt{24}$ as 1 is to 2, for $\sqrt{24}=2\sqrt{6}$.

Apotome *quarta*, is when the greater number is a rational number, and the ſquare root of the difference of the ſquares of both numbers has no ratio to it in numbers: ſuch is $4-\sqrt{3}$, for the difference of the ſquares 16 and 3 is 13, but the ſquare root of 13, *viz.* $\sqrt{13}$, has no numerical ratio to 4.

Apotome *quinta*, is when the leſſer number is a rational number, and the ſquare root of the difference of the ſquares of both numbers has no ratio in numbers to the greater number: ſuch is $\sqrt{6}-2$, for the difference of the ſquares 6 and 4 is 2, and $\sqrt{2}$ has to $\sqrt{6}$ no ratio in numbers.

Apotome *ſexta*, is where both numbers are irrational, and the ſquare root of the difference of their ſquares has no ratio in numbers to the greater: ſuch is the caſe in $\sqrt{6}-\sqrt{2}$, for the difference of the ſquares 6 and 2 is 4, and the root thereof 2 has to the $\sqrt{6}$ no ratio in numbers. Peter Ramus cenſures Euclid's doctrine of *apotomes*, and even all the reſt delivered in the tenth book concerning irrational lines.

Apotome, in *Muſic*, is the difference of the tone *major* and limma, expreſſed by $\frac{2187}{2048}$.

The Greeks thought that the greater tone could not be divided into two equal parts; for which reaſon they called the firſt part αποτομη, and the other λιμμα; in this imitating Pythagoras and Plato.

The *apotome* is by ſome authors, as Boethius, called *hemitonium majus;* and the *limma*, *hemitonium minus*. He alſo calls the difference of theſe two, *comma*. The interval of two ſounds expreſſed by $\frac{125}{128}$, was called by the ancients *apotome major*; and that expreſſed by $\frac{2025}{2048}$, *apotome minor*.

APOTOPOTO Bay, or *Round bay*, in *Geography*, lies on the S. W. coaſt of Otaha, one of the Society iſlands, near the iſland of Otaheite, in the S. Pacific Ocean.

APOTROPÆA, from αποτρεπω, *I avert*, in the *Ancient Poetry*, verſes compoſed for averting the wrath of incenſed deities: and the deities invoked for averting any threatened misfortune were called *Apotropæans:* they were alſo called *Alexiaci*, from αλεξω, *I drive away;* and *Averrunci*, from *averrunco*, which denotes the ſame.

APOZEM, derived from αποζεω, *fervefacio*, *I make hot*, in *Medicine*, a form of remedy, otherwiſe called a decoction; which ſee.

APPA, in *Ancient Geography*, a town of Arabia Felix, according to Ptolemy.

APPACK, or Appagh, in *Geography*, a town of Africa, in the country of Ardrah, on the ſlave coaſt.

APPANAGE, or Appenage. See Apanage.

APPARATOR. See Apparitor.

APPARATUS, from *apparo*, *I prepare*, properly ſignifies a formal preparation for ſome public and ſolemn action.

We ſay, the *apparatus* of a feaſt, coronation, &c. The prince made his entry with great apparatus and magnificence.

Apparatus is alſo uſed for the utenſils and appendages belonging to ſome more conſiderable machine; as the furniture or *apparatus* of an air-pump, microſcope, &c.

The term *apparatus* is uſed in *Chemiſtry*, either generally, to expreſs the whole of the inſtruments and veſſels in which or by whoſe means any proceſs is performed, or in a more limited ſenſe, it is applied to thoſe complicated inſtruments, for the moſt part of modern invention, in which a number of ſeparate parts are combined into one whole. Thus a retort, according to the former application of the term, is an article of chemical apparatus; a receiver is another article; and theſe two when combined form the retort and receiver, one of the ſimpleſt ſpecies of *diſtillatory apparatus*, according to the latter method of applying the term. Thus alſo the complicated arrangement of veſſels invented by Woulfe, is called Woulfe's apparatus, that executed by Nooth is called Nooth's apparatus. It might ſeem at firſt ſight that this was the proper place to introduce all that we ſhall have to ſay concerning chemical apparatus, but by ſo doing the article would be extended to an unuſual length; we have therefore adopted the method of deſcribing every general article under its proper name; of which the articles Alembic and Aludel, already printed, are examples; and the apparatus for particular experiments is deſcribed where the experiments themſelves are mentioned; thus under the article Alcohol will be found a deſcription of the apparatus invented by Lavoiſier for the combuſtion of that fluid. Certain kinds of apparatus have alſo a neceſſary connection with each other, either in ſimilarity of form, or of the uſes to which they are applied; there will be found therefore in the courſe of the work certain general articles, ſuch as Distillatory *apparatus*, Pneumatic *apparatus*, &c. where theſe topics will be diſcuſſed.

Apparatus, in *Surgery*, conſiſts of ſuch outward applications as are uſually termed Dressings, together with ſuch inſtrumental means as are requiſite for the performance of any ſurgical operation; e. g. bandages, lint, pledgets, tents, compreſſes, ointments, and various machines. Previous to the performance of any chirurgical operation, a ſurgeon ſhould always conſider what ſort of apparatus will be neceſſary; and he ſhould never, for the ſake of parade or oſtentation, bring together any inſtruments which may as well be diſpenſed with. Modern ſurgery has very wiſely laid aſide a number of uncouth, clumſy, and terrific inſtruments employed by our anceſtors, eſpecially the tools named cauterizing-irons (ſee Cautery), and the immenſe levers, &c. for reducing diſlocations or fractures. Whatever is indiſpenſably neceſſary in operations, ſhould be prepared before the time fixed for their performance; and it ought to be an invariable rule among ſurgeons, to prevent the patient from ſeeing his formidable apparatus, leſt he be thereby intimidated and diſcouraged at the very moment he moſt ſtands in need of reſolution: for inſtances are not wanting of patients actually dying from the effects of terror, without having undergone the intended operation.

The term *apparatus* is ſometimes uſed to diſtinguiſh the operation of Lithotomy or Cystotomy; thus we ſay, the greater apparatus, the leſſer apparatus, &c. See Stone, *cutting for the*.

Apparatus is alſo uſed as a title of ſeveral books compoſed in form of catalogues, bibliothecas, dictionaries, &c. for the eaſe and conveniency of ſtudy.

The apparatus to Cicero, is a kind of concordance or collection of Ciceronian phraſes, &c. The *apparatus ſacer* of Poſſevin, is a collection of all kinds of eccleſiaſtical authors, printed in 1611, in three volumes.—Gloſſaries, comments, &c. are alſo frequently called *apparatuſes*.

APPARENT, from *appareo*, *I appear*, that which is viſible to the eye, or evident to the underſtanding.

Apparent, in *Mathematics* and *Aſtronomy*, is uſed to ſignify things as they appear to us in contradiſtinction from real or true; and in this reſpect the apparent ſtate of things is often very different from their real ſtate; as in the caſe of diſtance, magnitude, &c.

APPARENT *Altitude, Conjunction, Diameter, Diſtance, Figure, Horizon, Magnitude, Motion, Place, Time*, &c. See the ſeveral ſubſtantives.

APPARENT, *Heir*, in *Law*. See HEIR.

APPARENT *Iſland*, in *Geography*, lies in Duſky bay, on the coaſt of New Zealand, and is placed by captain Cook on an arm, which captain Vancouver found to be divided into two branches, leaving that iſland a peninſula joined to the main land by a very high though narrow ridge of mountains; the perpendicular height and very extraordinary ſhape of the rocky part fronting the arm, render it a moſt ſingular and majeſtic promontory. As the entrance of theſe arms was called by Cook "Nobody knows what;" Vancouver, having particularly examined them, called them "Somebody knows what." Voyage round the World, vol. i. p. 63.

APPARITION, in *Aſtronomy*, denotes a ſtar's or other luminary's becoming viſible, which before was hid.

In which ſenſe the word ſtands oppoſed to OCCULTATION. Thus the heliacal riſing is rather an apparition than a proper riſing.

APPARITION, *circle of perpetual*. See CIRCLE *of perpetual apparition*.

APPARITION, in a general ſenſe, is the appearance or ſemblance of a thing.

APPARITION is alſo uſed to denote a ſpectre, or præternatural appearance of ſome ſpirit, or the like.

We read of apparitions of angels, genii, dæmons, fairies, witches, departed ſouls, &c. apparitions of God, of Chriſt, the Virgin, ſaints, prophets, and of the devil himſelf.

Among the moſt zealous advocates of the reality of apparitions and witchcraft, we may reckon Dr. Henry More, Baxter, and Glanvil. The latter, in particular, has attempted, in a treatiſe entitled, "Saduciſmus triumphatus," to prove the doctrine of apparitions, by arguments deduced from the nature of the ſoul, the teſtimony of ſcripture, and the evidence of fact; and he expreſsly aſſerts (Part II. p. 2.) that thoſe who deny and deride the exiſtence of apparitions and witchcraft, are prepared for the denial of ſpirits, a life to come, and all the other principles of religion. It is a ſtrong preſumption againſt the reality of apparitions, however anciently and generally the belief of them has prevailed, that they have been connected with ſome cauſes and circumſtances of terror, either real or apprehended; and theſe have previouſly diſpoſed the imagination for being impoſed upon and deluded. The darkneſs of the night, the gloom that has overſpread particular ſituations, the horror produced by the record of ſome diſaſtrous occurrence, ſuch as murder or the like, and a ſtate of mind naturally depreſſed and melancholy, and of courſe eaſily alarmed, have contributed to give riſe to many of thoſe ſtories, that have been credulouſly received and as obſtinately vindicated and ſedulouſly diſſeminated by the vulgar. The ancients alſo entertained ſome notions concerning the ſtate of the ſoul on its eſcape from the body, which favoured this opinion; and they were diſpoſed to ſeek the ſpirits of their deceaſed anceſtors near the habitations in which their bodies were depoſited. Hence they would be eaſily led into deception; and when they fancied that they actually ſaw their departed friends, they diſtinguiſhed the illuſions which were merely the creations of their own fancy, by the name of "ſhades." It ought alſo to be conſidered, that the relation and belief of apparitions have prevailed chiefly in times of ignorance, and amongſt thoſe who had the feweſt opportunities for inquiry and information. In fact, as the night has been the ſeaſon to which the appearance of ghoſts has been referred, the belief of their reality has gradually ſubſided in proportion to the degree in which knowledge has been diffuſed. It ought alſo to be conſidered, that apparitions are machines that on particular occaſions have been of good ſervice to generals, to miniſters of ſtate, to prieſts, and others; to ſay nothing of the very injudicious and culpable uſe that has been made of them by thoſe with whom the care of children, at a period when their imagination is eaſily impreſſed, has been entruſted. Upon the whole, it muſt be allowed, that many of the apparitions that are recorded by writers, or reported by tradition, are mere deluſions; others are fictions contrived merely to amuſe or to anſwer ſome purpoſe; and others have originated in dreams or deliquiums. There are ſeaſons of ſlumber when we are not ſenſible of being aſleep. On this principle, Hobbes (Treatiſe of human nature, part i. c. 2. Works, p. 102.) has endeavoured to account for the ſpectre that is ſaid to have appeared to Brutus. "We read," ſays he, "of Marcus Brutus (one that had his life given him by Julius Cæſar, and was alſo his favourite, and notwithſtanding murdered him), how at Philippi, the night before he gave battle to Auguſtus Cæſar, he ſaw a fearful apparition, which is commonly related by hiſtorians as a viſion; but conſidering the circumſtances, one may eaſily judge to have been a ſhort dream. For ſitting in his tent penſive and troubled with the horror of his raſh act, it was not hard for him, ſlumbering in the cold, to dream of that which moſt affrighted him; which fear, as by degrees it made him awake, ſo alſo it muſt needs make the apparition by degrees to vaniſh; and having no aſſurance that he ſlept, he could have no cauſe to think it a dream, or any thing but a viſion." The well-known ſtory told by Clarendon, of the apparition of the duke of Buckingham's father, has been ſolved in a ſimilar manner. There was no man in the kingdom ſo much the ſubject of converſation as the duke; and his character was ſo corrupt that he was very likely to be miſled by the enthuſiaſm of the times: Sir George Villiers is ſaid to have appeared to him at midnight; and hence it appears probable that the man was aſleep; and as he was terrified by the dream, it muſt have made a ſtrong impreſſion, and was likely to be repeated.

Mr. Andrew Baxter, in his "Eſſay on the phænomenon of dreaming," recurs to the principle "that our dreams are prompted by ſeparate immaterial beings," in order to account for apparitions. If the power of ſuch beings be unreſtrained, this author maintains, that it will equally poſſeſs the fancy with deluſive ſcenes, without waiting for the occaſion of ſleep to introduce them, and obtrude them forcibly upon the organ, amidſt the action of external objects. For it requires but a greater degree of the ſame power to make deluſory impreſſions upon the ſenſory, while real external objects are making true impreſſions upon it, than it would require to make the ſame impreſſions, while no other impreſſion from external objects is made upon it at the ſame time. "If our imaginations," ſays Dr. Tillotſon in one of his ſermons, "were let looſe upon us, we ſhould be always under the moſt dreadful terrors, and frighted to diſtraction with the appearance of our own fancy; and an over-ruling power reſtrains theſe effects:" i. e. as Mr. Baxter conceives, by reſtraining the power of inviſible beings, which would otherwiſe inceſſantly diſtreſs the ſoul with ſuch unpleaſing ſights. Upon this hypotheſis he thinks there is nothing inconſiſtent in thoſe relations of apparitions which we meet with in hiſtory, whether the facts be true or falſe; for theſe ſpirits may, upon ſome important occaſions, be licenſed ſo to affect the ſenſory, according to the exigency of the caſe, that the whole ſcene of viſion, which is then thought to have an exiſtence from without, may be the effect of impreſſions made on the brain only. Thus, for inſtance, that apparition mentioned before which was preſented to Brutus before he came

over from Aſia, and again the night before the battle of Philippi, the noiſe as of one entering into his tent which he heard, and the words ſpoken, "I am, O Brutus, thy evil genius, but thou ſhalt ſee me again near Philippi," might all be only inward repreſentations upon the ſenſory, and any other perſon preſent might neither have heard nor ſeen any thing. This, in our author's opinion, affords a better account of the appearance than that of Hobbes; who makes cold produce dreams and viſions of fear, without either reaſon or experience to ſupport his aſſertion. He makes Brutus to be ſleeping; but Plutarch tells us, that he had ſlept the former part of the night immediately after eating, and had riſen to digeſt ſomething in his own mind; ſo that, according to Hobbes's ſcheme, it was a waking viſion, and it occurred without any previous diſtemper either external or internal. The caſe of Dion, related by Plutarch, is alleged to the ſame purpoſe; for he was ſitting in the porch of his own houſe in a thoughtful and meditating attitude, when the ſpectre appeared to him; and this happened while the aſſaſſins were contriving his death, a little before he was cruelly murdered. No men in antiquity could be leſs liable to the ſuſpicion of weakneſs and credulity than Brutus and Dion; and therefore, according to Mr. Baxter, the terror they experienced muſt have proceeded from the power of ſome ſuperior being. Upon the whole he thinks that although Δεισιδαιμονια, or *a fear of ſpirits*, hath been much abuſed by vain or weak people, and carried to an extreme, perhaps by deſigning and crafty men, the moſt rigorous philoſophy will not juſtify its being entirely rejected. It is true, he adds, no evil can happen to us in God's world but by our own fault; but that ſubordinate beings are never permitted, or commiſſioned to be the miniſters of his will, is a hard point to be proved; and that direct atheiſm is better than this deiſidemony is horrid. See Eſſay on the phenomenon of dreaming, in the "Inquiry into the nature of the human ſoul," vol. ii. p. 111, &c.

The abbé de St. Pierre has a diſcourſe expreſsly on the phyſical method of ſolving or accounting for apparitions; he makes them the effect of feveriſh dreams, diſturbed imaginations, &c.

APPARITOR, or Apparator, a beadle in an univerſity, who carries the mace before the maſters, and the faculties.

Apparitor is alſo uſed in ſome ancient Engliſh laws, for a judge or juſtice.

Apparitor *comitatus*. There was formerly an officer called by this name, for which the ſheriffs of Buckinghamſhire had a conſiderable yearly allowance; and in the reign of queen Elizabeth there was an order of court for making that allowance. But the cuſtom and reaſon of it are now altered.

Apparitors alſo denote meſſengers who ſerved the proceſs of the ſpiritual court. Their duty is to cite the offenders to appear, to arreſt them, and to execute the ſentence or decree of the judges. See ſtat. 21 Hen. viii. c. 5.

Among the Romans, apparitors were the ſame with ſerjeants or tipſtaffs among us: or rather apparitor was a general term, and compriſed under it all the miniſters and attendants of the judges and magiſtrates, appointed to receive and execute their orders. And hence, they ſay, the name was derived, viz. from *apparere, to be preſent, to be in waiting*. Under the name *apparitores* were comprehended the *ſcribæ, accenſi, interpretes, præcones, viatores, lictores, ſtatores*, and even the *carnifices* or hangmen.

They were uſually choſen out of the freedmen of the magiſtrates, and their condition was held in ſo much contempt, that, as a mark of ignominy, the ſenate appointed a city that had revolted from them to furniſh them with apparitors.

There were alſo a kind of *apparitors of cohorts*, called *cohortales* or *conditionales*, as being attached to a cohort, and doomed to that condition. The apparitors of the prætors, *prætoriani*, were thoſe who attended the prætors, or governors of provinces; and who, on their maſters' birth-day, were always changed, and preferred to better poſts. Add, that the pontifices had alſo their apparitors, as appears from an inſcription of an ancient marble in the *Via Appia*:

APPARATORI
PONTIFICVM
PARMVLARIO.

APPAUMEE, in *Heraldry*. See Apaumee.

APPEAL, derived from the French verb neuter *appeller*, of the ſame ſignification, in *Law*, ſignifies the removal of a cauſe from an inferior court or judge to a ſuperior; or the having recourſe to a ſuperior judge to rectify what is amiſs in a ſentence paſſed by an inferior.

Appeals to Rome were firſt introduced into England in the reign of king Stephen; and though they were not ſtrictly regarded in the ſucceeding reigns, they continued till the time of king Henry the eighth, when they were finally aboliſhed by the 24 Hen. 8. c. 12. and 25 Hen. 8. c. 19. 21.: by which appealing to Rome from any of the king's courts, ſuing to Rome for any licence or diſpenſation, and obeying any proceſs from thence, are made liable to the pains of *premunire*.

Appeals lie from the archdeacon or his official to the court of arches, and from the arches to the archbiſhop, and from the biſhop or his commiſſary to the archbiſhop; and when the cauſe concerns the king, appeal may be brought in fifteen days from any of the ſaid courts to the prelates in convocation, ſt. 24 Hen. 8. c. 12.: and by the 25th Hen. 8. c. 29. for lack of juſtice in the archbiſhop's courts, the party may appeal to the king in chancery, where commiſſioners are named, and by reaſon of this appointment they are called *delegates*; and after the deciſion of this court, a commiſſion of review may be granted by the king as ſupreme head, to review the definitive ſentence given in appeal in the court of delegates.

Appeals lie from all the ordinary courts of juſtice, and alſo from the court of equity in chancery, to the houſe of lords, who judge *en dernier reſſort*; i. e. no *appeal* lies from them.

But appeals from a court of equity, and writs of error from a court of law, differ in theſe two particulars: 1. The former may be brought upon any interlocutory matter; the latter upon nothing but only a definitive judgment. 2. On writs of error the houſe of lords pronounces the judgment; on appeals it gives direction to the court below to rectify its own decree.

There are appeals from eccleſiaſtical juſtice to ſecular.

The firſt inſtance of this is that of Paulus Samoſatenus; who being condemned and depoſed by the ſecond council of Antioch, refuſed to ſurrender the epiſcopal houſe to Domnus, who had been elected his ſucceſſor, and appealed to the emperor.

Appeal is alſo uſed, in *Common Law*, in the ſame ſenſe with *accuſatio* among the *Civilians*. And when thus ſpoken of as a criminal proſecution, it is derived from the French verb active *appeller*, to *call upon, ſummon*, or *challenge one*, and denotes an accuſation by a private ſubject againſt another, for ſome heinous crime; demanding puniſhment on account of the particular injury ſuffered, rather than for the offence againſt the public. This method of proſecution is ſtill in force, but very little in uſe. This private proceſs, for the puniſhment of public crimes, had probably

probably its original in thoſe times, when a private pecuniary ſatisfaction, called a *weregild*, was conſtantly paid to the party injured, or his relations, to expiate enormous offences. This was a cuſtom derived to us, in common with other northern nations, from our anceſtors the ancient Germans: and we find in our Saxon laws, particularly thoſe of king Athelſtan, the ſeveral weregilds for homicide, eſtabliſhed in progreſſive order, from the death of the ceorl or peaſant, up to that of the king himſelf. And in the laws of king Henry I. we have an account of the other offences that were redeemable by weregild, as well as of thoſe that were not ſo redeemable. As therefore, during the continuance of this cuſtom, a proceſs was certainly given for recovering the weregild by the party to whom it was due; it ſeems that, when theſe offences by degrees grew no longer redeemable, the private proceſs was ſtill continued, in order to inſure the infliction of puniſhment upon the offender; though the party injured was allowed no pecuniary compenſation for the offence. It was alſo anciently permitted, that any ſubject might appeal another ſubject of high-treaſon, either in the courts of common law, or in parliament; or for treaſons committed beyond the ſeas, in the court of the high-conſtable and marſhal. The cognizance of appeals in the latter ſtill continues in force; and ſo late as 1631, there was a trial by battle awarded in the court of chivalry, in ſuch an appeal of treaſon; but that in the firſt was virtually aboliſhed by the ſtatutes 5 Edw. 3. c. 9, and 25 Edw. 3. c. 4.; and in the ſecond expreſsly by ſtatute 1 Hen. 4. c. 14. So that the only appeals now in force, for things done within the realm, are thoſe of felony and mayhem. Mr. Kyd, the ingenious editor of Comyns's Digeſt, obſerves, "that the appeal of treaſon does not appear to have been taken away by the ſtat. 1 Hen. 4. c. 14. or any other. But as no inſtance occurs of any ſuch appeal, before any court of common law, either ſince that ſtatute was made, or for many years before, the law relating to ſuch appeals ſeems to be wholly obſolete at this day."

Criminal appeals are either capital or not capital. Of the latter ſort, appeals *de pace*, *de plagis*, *de impriſonamento*, and of *mayhem*, are now become obſolete; having been long ſince converted into actions of treſpaſs. Capital appeals are either of treaſon or felony. The latter may be ſubdivided into *appeals of death*, or of *murder*, *appeals of larceny or robbery*, *appeals of rape*, and *appeals of arſon*, which laſt are now entirely obſolete. An *appeal of felony* may be brought for crimes committed either againſt the parties themſelves, or their relations. The crimes againſt the parties themſelves are *larceny*, *rape*, and *arſon*. And for theſe, as well as for mayhem, the perſons robbed, raviſhed, maimed, or whoſe houſes are burnt, may inſtitute this private proceſs. The only crime againſt one's relations, ſays judge Blackſtone, for which an appeal can be brought, is that of killing him; either by murder or manſlaughter: but Mr. Tomlins, in his edition of Jacob's Law Dictionary, obſerves, that this ſeems to be an unguarded aſſertion of the learned commentator, as an appeal is given to the huſband, next of kin, &c. by ſtat. in caſe of rape.

Appeal *of death*, is a vindictive action which the law gives to the wife for the death of her huſband, or to the heir male for the death of his anceſtor; which heirſhip was confined, by an ordinance of king Henry I. to the four neareſt degrees of blood. It is given to the wife on account of the loſs of her huſband; therefore if ſhe marries again, before or pending her appeal, it is loſt and gone: or if ſhe marries after judgment, ſhe ſhall not demand execution. The heir muſt alſo be heir male, and ſuch a one as was the next heir by the courſe of the common law at the time of the killing of the anceſtor. But this rule has three exceptions: 1. If the perſon killed leaves an innocent wife, ſhe only, and not the heir, ſhall have the appeal. 2. If there be no wife, and the heir be accuſed of the murder, the perſon, who next to him would have been heir male, ſhall bring the appeal. 3. If the wife kills her huſband, the heir may appeal her of the death. And by the ſtatute of Glouceſter, 6 Edw. 1. c. 9. all appeals of death muſt be ſued within a year and a day after the completion of the felony by the death of the party, which ſeems to be only declaratory of the old common law. The court muſt ſet forth the fact, and the length and the depth of the wound, the year, day, hour, place where done, and with what weapons; and that the party died in a year and a day; and by the above ſtatute, principal and acceſſaries before and after are to be joined in appeal; and this is to be obſerved, though the acceſſary is guilty in another country. 3 Hen. 7. c. 1. The caſe of other appeals than of murder, as of robbery, rape, &c. are not within this laſt ſtatute, and therefore *autrefoits acquit*, upon an indictment within the year, ſtands at common law, a good bar to an appeal of robbery, or any offence beſides murder or manſlaughter; and yet the judges at this day never forbear to proceed upon an indictment of robbery, rape, or other offence, though within the year, becauſe appeals of robbery eſpecially are very rare, and of little uſe, ſince the ſtatute of 21 Hen. 8. c. 11. gives reſtitution to the proſecutor as effectually as upon an appeal.

The ſeveral appeals above enumerated may be brought previous to any indictment: and if the appellee be acquitted thereon, he cannot be afterwards indicted for the ſame offence. But if the appellant does not proſecute his appeal, the appellee may be indicted. If a man be acquitted on an indictment for murder, or found guilty and pardoned by the king, ſtill he ought not (in ſtrictneſs) to go at large, but be impriſoned, or let to bail till the year and day be paſt, by virtue of the ſtatute 3 Hen. 7. c. 1. in order to be forthcoming to anſwer any appeal for the ſame felony, not having as yet been puniſhed for it; though if he has been found guilty of manſlaughter, on an indictment, and hath had the benefit of clergy, and ſuffered the judgment of the law, he cannot afterwards be appealed, for it is a maxim in law, "that *nemo bis punitur pro eodem delicto*." If the appellee be acquitted, the appealor (by virtue of the ſtatute of Weſtminſter 2. 13 Edw. 1. c. 12.), ſhall ſuffer one year's impriſonment, and pay a fine to the king, beſides reſtitution of damages to the party for the impriſonment and infamy which he has ſuſtained: and if the appellee be incapable of making reſtitution, his abettors ſhall do it for him, and alſo be liable to impriſonment. This proviſion proved a great diſcouragement to appeals, ſo that thenceforward they ceaſed to be in common uſe. If the appellee be found guilty, he ſhall ſuffer the ſame judgment as if he had been convicted by indictment; but with this remarkable difference, that, on an indictment, the king may pardon and remit the execution; but on an appeal, which is at the ſuit of a private ſubject, to make an atonement for the private wrong, the king can no more pardon it, than he can remit the damages recovered on an action of battery. And the ancient uſage was, ſo late as Henry the fourth's time, that all the relations of the ſlain ſhould drag the appellee to the place of execution. However, the puniſhment of the offender may be remitted and diſcharged by the concurrence of all parties intereſted; and as the king of his pardon may fruſtrate an indictment, ſo the appellant by his releaſe may diſcharge an appeal. A peer in appeal of murder, ſhall not be tried by his peers, but by a common jury; though he ſhall upon an indictment for murder. Where appeal of death is brought, the defendant cannot

cannot juſtify *ſe defendendo*; but muſt plead not guilty, and the jury are to find the ſpecial matter.

An appeal is proſecuted two ways, either by *writ*, or by *bill*.

Appeal by *writ* is, when a writ is purchaſed out of chancery, by one for another, to the intent that he may appeal a third perſon of ſome felony committed by him, finding pledges that he ſhall do it.

Appeal by *bill*, is where a man of himſelf gives up his accuſation in writing, offering to undergo the burden of appealing the perſon therein named. The appeal of death may be brought by bill before the juſtices in the King's Bench; before juſtices of gaol-delivery, and commiſſioners of oyer and terminer, &c. or before the ſheriff and coroner in the county-court; but the ſheriff and coroner have only power to take and enter the appeal and count, for it muſt be removed by certiorari into B. R

In appeal by original, principals and acceſſaries are generally charged alike without diſtinction, till the plaintiff counts; but it is otherwiſe in appeals by bill. There is but one appeal againſt the principal and acceſſary: if the principal is acquitted, it ſhall acquit the acceſſary: and both ſhall have damages againſt the appellant on a falſe appeal, or the acceſſary may bring a writ of conſpiracy. If the defendant in appeal is attaint or acquit, or the plaintiff nonſuit after appearance, which is peremptory, no other appeal lies. If an indictment and an appeal be depending at the ſame time, againſt the ſame perſon, the appeal ſhall be tried firſt, if the appellant be ready; otherwiſe the king would deſtroy the ſuit of the party.

Appeal of *Mayhem* is the accuſation of one that hath maimed another; but this being generally no felony, it is in a manner merely an action of treſpaſs, and nothing is recovered by it but damages. Bracton calls this *appellum de plagis & maihemio*, and has a whole chapter upon it. In this appeal, the defendant pleads that the plaintiff had brought an action of treſpaſs againſt him for the ſame wounding, and had recovered, and damages given, &c.; and this was a good plea in bar of the appeal, becauſe in both actions damages only are to be recovered. In king John's time, there is recorded an appeal againſt a Jew, *qui fecit cmentulari quendam nepotem ſuum*.

Appeal of *rape* lies where a rape is committed on the body of a woman. A feme covert without her huſband may bring appeal of rape; and ſtatute 6 R. 2. c. 6. gives power where a woman is raviſhed, and afterwards conſents to it, for a huſband, or a father, or next of kin, there being no huſband, to bring this appeal: alſo the criminal in ſuch caſe may be attainted at the ſuit of the king. If a woman be raviſhed by her next of kin, and conſents to him, and has neither huſband nor father, the next of kin to him ſhall have the appeal; for he has diſabled himſelf by the rape, whereby he becomes a felon. If there be no huſband nor father, the appeal is given to the heir, whether male or female. The ſtatute of Weſtm. 1. c. 13. which reduced the crime of rape to a treſpaſs, enacts that appeal of rape ſhall be brought within forty days; but by ſtatute Weſtm. 2. c. 34. which makes this offence felony, no time is limited for the proſecution, ſo that it may be brought in any reaſonable time. It is to be commenced in the county where the rape was committed. It is held, that though formerly the defendant might have his clergy, it is taken away by the ſtatute 18 Eliz. c. 17. See further on this ſubject, 2 Hawk. P. C. c. 23. §. 58—73.

Appeal of *robbery* or *larceny* is a remedy given by the common law, whereby a perſon robbed of his goods may obtain reſtitution of them. If a man robbed make freſh purſuit after, and apprehend and proſecute the felon, he may bring appeal of robbery at any time afterwards. By ſtatute 21 Hen. 8. c. 11. reſtitution of ſtolen goods may be had on indictments after attainder, as on appeals; and appeals of robbery, as well as of mayhem and rape, are now much out of uſe. By the expreſs proviſion of ſtatute 4 & 5 W. & M. c. 3. an accomplice convicting two others guilty of robbery, ſhall have the king's pardon; and this ſhall be a good bar to an appeal of robbery. Blackſt. Com. vol. iv. Jacob's Law Dictionary by Tomlins, tit. *Appeal*.

APPEARANCE, the exterior ſurface of a thing; or that which firſt ſtrikes the ſenſe, or the imagination.

The Academics maintain, that the ſenſible qualities of bodies are only *appearances*; and the like doctrine is held by ſome later philoſophers.

Our errors ariſe chiefly from a too haſty and precipitate aſſent of the will, which acquieſces too eaſily in the appearance of truth.

Appearance, in *Law*, is the defendant's engaging to anſwer a cauſe or action entered againſt him in ſome court of judicature; and it is done by filing common or ſpecial bail, when he is ſerved with copy of, or arreſted on any proceſs out of the courts at Weſtminſter, and there can be no appearance in the court of B. R. or king's bench, but by ſpecial or common bail. There are four ways for defendants to appear to actions; viz. in perſon, or by attorney, by perſons of full age; and by guardians or next friend, by infants. It is now the common courſe for the plaintiff or defendant, in all kinds of actions where there may be an attorney, to appear by attorney, and put in his warrant without any writ from the king for that purpoſe, as was formerly the caſe by common law. And, therefore, generally, in all actions real, perſonal, and mixt, the demandant or plaintiff, tenant or defendant, may appear by attorney. But in all caſes where the party ſtands in contempt, the court will not admit him to appear by attorney, but oblige him to appear in perſon. In all caſes where proceſs iſſues forth to take the party's body, if a common appearance only, and not ſpecial bail is required, there every ſuch party may appear in court in his proper perſon, and file common bail. In a capital criminal caſe, the party muſt always appear in perſon, and cannot plead by attorney; alſo in criminal offences, where an act of parliament requires that the party ſhould appear in perſon; and likewiſe in appeal or on attachment. On an indictment, information or action, for any crime whatſoever under the degree of capital, the defendant may, by the favour of the court, appear by attorney; and this he may do as well before plea pleaded, as in the proceeding after, till conviction. Attornies ſubſcribing warrants to appear, are liable to attachment, upon non-appearance: and where an attorney promiſes to appear for his client, the court will compel him to appear and put in common bail in ſuch time as is uſual by the courſe of the court; and that although the attorney ſay he hath no warrant for appearance: nor ſhall repealing a warrant of attorney to delay proceedings excuſe the attorney for his not appearing, who may be compelled by the court. The defendant's attorney is to file his warrant the ſame term he appears, and the plaintiff the term he declares, under penalties by ſtat. 4 & 5 Ann. c. 16. An attorney is not compellable to appear for any one, unleſs he take his fee or back the warrant; after which the court will compel him to appear.

In actions by original, appearances muſt be entered with the filazer of the county; and if by bill, they ſhall be entered with the prothonotary; and by ſtatute 5 Geo. 2. c. 27. where defendant is ſerved with a copy of the proceſs, appearances and common bail are to be entered and filed by him within eight days after the return of the proceſs; and if de-

fendant does not appear, plaintiff may, on affidavit of the ſervice of proceſs, enter a common appearance for defendant, and proceed upon it; ſtatute 12 Geo. 1. c. 29. And by ſtat. 25 Geo. 3. c. 80. § 22. a common appearance may be filed by plaintiff, without entering or filing a record, a memorandum or minute for defendant. Jacob's Law Dict. by Tomlins.

Appearance *Day* of *Term*. See Term.

Appearance, in *Perſpective*, is the repreſentation or projection of a figure, body, or like object, upon the perſpective plane.

The appearance of an objective right line is always a right line. See Perspective. The appearance of an opake body and a luminary being given, to find the appearance of the ſhadow, ſee Shadow.

Appearance *of a ſtar or planet*. See Apparition.

Appearances, in *Aſtronomy*, &c. are more uſually called *phenomena* and *phaſes*.

In *Optics*, we uſe the term *direct appearance* for the view or ſight of any object by direct rays, without either refraction or reflection.

Appearances, *to ſave*, is to diſcharge one's duty ſeemingly, or acquit one's ſelf of the formalities and externals thereof; ſo as to ſave the character, and avoid giving ſcandal or offence.

Appearances, in *Phyſiology*. See Phasmata.

APPEASING Remedies, in *Medicine*, are thoſe which aſſuage the pain in a diſeaſe, and give the patient ſome reſt or reſpite; and at the ſame time contribute to the cure. Theſe amount to the ſame with what we otherwiſe call Paregorics, Anodynes, &c.

APPELDOORN, in *Geography*, a town of the united Netherlands, in the duchy of Gueldres, $4\frac{1}{2}$ leagues N. W. of Zutphen.

APPELLANT, in *Law*, denotes a perſon who brings an Appeal.

Appellants, in *Eccleſiaſtical Hiſtory*, is a denomination diſtinguiſhing thoſe among the French clergy who refuſed to ſubſcribe the conſtitution or bull *unigenitus*, iſſued by Clement XI. in 1713, and appealed from it, either to the pope better informed, or a general council.

APPELLATION ſignifies the name by which any thing is known or diſtinguiſhed. See Name.

APPELLATIVE, formed of *appellare, to name a thing*, in *Grammar*, denotes a common name which ſtands for a whole rank of beings, whether general or ſpecial, in contradiſtinction to proper names, which belong only to individuals, e. g. fiſh, man, horſe, tree, &c. are appellatives; and ſo are trout, eel, lobſter; for they all agree to many individuals, and ſome to many ſpecies: but Peter, Gabriel, Bucephalus, are proper names. See Name.

APPELLEE, in *Common Law*, ſignifies the perſon againſt whom an appeal is brought. See Appeal, and Approvement.

In the civil law, *appellee*, *appellatus*, properly belongs only to the judge before whom an appeal is brought.

APPENAGE. See Apanage.

APPENDANT, from *appendo*, *I hang by*, in *Law*, is underſtood of ſuch things as by preſcription have belonged, appertained, and been joined, to ſome other principal thing.

Thus an hoſpital may be appendant to a manor; a common of fiſhing, to a freehold; a ſeat in a church, to a houſe; or the like. As appendants are ever by preſcription, they are thus diſtinguiſhed from appurtenances, which may be created in ſom ecaſes at this day. See Appurtenance.

Appendant, *Advowſon*. See Advowson.

Appendant, *Common*. See Common.

APPENDICULA, or Appendix *vermiformis*, in *Anatomy*, an appendage to the inteſtinum cæcum, or caput coli. See the deſcription of the Intestines.

Appendiculæ *Aſteriarum*, *wires of aſteriæ*, a name given by the writers on *Natural Hiſtory* to certain ſmall branches which are placed in a circular order at different diſtances upon the column of the aſteriæ.

APPENDICULATUS, *Appendage*, in *Botany*, a term moſtly uſed to expreſs an additional ſmall leaf.

APPENDIX, or Appendage, in *Anatomy*, is a part in ſome meaſure diſtinct yet connected to another. Thus, the Fallopian trumpets, ovaries, &c. are called the Appendices Uteri.

Appendix is more particularly uſed in the ſame ſenſe with Epiphysis.

Appendix, or Appendage, a thing neceſſary to, or dependant on another.

The term is chiefly uſed in matters of literature, for an additional diſcourſe, placed at the end of any piece, or writing, to explain or proſecute ſomething there left deficient, or to draw concluſions from it. In which ſenſe the word coincides with Supplement.

APPENSA, from *ad*, and *pendo*, *I hang to*, or Appended *remedies*, ſuch as are outwardly applied, by hanging about the neck.

Such are divers amulets, necklaces, phylacteries, &c.

APPENZELL, in *Geography*, a town of Swiſſerland, and principal place of a canton to which it gives name. N. lat. 47°. 17′. E. long. 9°. 20′. It is ſuppoſed to have derived its name from the Latin, "Abbatis cella," and to have been originally only a religious houſe belonging to the abbey of St. Gal.

Appenzell, the thirteenth canton of Swiſſerland, ſurrounded by the Rhinthal and the lands belonging to the abbey of St. Gal, is about ten leagues from eaſt to weſt, and from ſix to ſeven broad. The whole country is hilly and mountainous. It is divided into twelve communities; ſix of which are Proteſtants, and ſix Roman Catholics. The country formerly belonged to the abbé of St. Gal; but the inhabitants, wearied with exactions and oppreſſions, aſſerted their liberty againſt the troops of the abbot and the Auſtrians ſent to ſuccour them, and ſealed it with their blood. In the year 1513, it was admitted into the Helvetic league, and conſtituted the thirteenth canton. The population is eſtimated at 51,000, 13,000 being catholics, and 38,000 proteſtants; which is a large number in a country of not more than ſixty ſquare leagues, and compoſed for the moſt part of glaciers, inacceſſible rocks and precipices. It yields, however, good paſturage; and, in ſome parts of it, the manufactures have of late been much encouraged. This canton is popularly divided into Innerooden, or the interior part; and Auſſerooden, which comprehends the tracts ſituate near the borders. In the former part, paſturage is the principal employment; and whatever reſpects the feeding the cattle, the management of dairies, and the making of cheeſe, is carried to a high degree of perfection among theſe mountaineers. The rich and poor are cow-keepers; but the poor, having little or no graſs land, employ agents through the canton to inform them where hay may be obtained; and the *ſenn*, or cow-keeper, bargains for it, and drives his cattle, when they return from graſs, to the places where the hay is to be had. The perſon who ſells his hay, furniſhes the ſenn not only with ſtabling for his beaſts, but boards and lodges him and his whole family. In return, the ſenn, beſides paying the ſtipulated price for the hay, allows to his hoſt as much milk, whey, and ziegee (a kind of lean cheeſe), as may be uſed in the houſe, and leaves him alſo the manure of his cows. In the middle of April,

when nature revives, the ſenn again iſſues forth with his herd to the meadows and fertile Alps, which he rents for the ſummer: ſo that the life of theſe people is a conſtant migration, and they enjoy with it health, content, and cheerfulneſs. The original breed of cattle in this canton is of a black and brown caſt; but the ſenns, preferring a motley herd, compoſe it of black, brown, and ſome bay cows: to produce which ſet a black cow with a white belly and a ſtripe of the ſame colour along the back is required. The animals are curried, dreſſed, and tended with the utmoſt care; and thus they have an appearance of ſleekneſs, cleanlineſs, and health, ſuperior perhaps to that of any other cattle in the world. The mountaineer, it is ſaid, lives with his cows in a conſtant exchange of reciprocal acts of gratitude; the latter affording him almoſt whatever he wants; and the ſenn, in return, providing for and cheriſhing them, ſometimes more than his own children. The fine cattle, which are the pride of the cow-keeper who inhabits the Alps, are adorned with large bells ſuſpended from broad thongs; and every ſenn has an harmonious ſet of at leaſt two or three bells. The whole peal, including the thongs, will ſometimes be worth between 140 and 150 guilders; while the whole apparel of the ſenn himſelf, when beſt attired, does not amount to the price of 20 guilders. Theſe ornaments, however, are only worn on particular occaſions; as in the ſpring, when the cows are driven up the Alps, or removed from one paſture to another; or when, in winter, they travel to the different farms, where the owner has contracted for the hay. The ſenn, arrayed in his beſt garb, leads the proceſſion, ſinging the ranz des vaches, conſiſting of ſimple tones moſtly formed within the throat, and without articulate ſounds or words; three or four fine goats follow, then comes the handſomeſt cow with the great bells, and then two others with ſmaller bells; theſe are ſucceeded by the reſt of the cattle; and in the rear is the bull, with a one-legged milking-ſtool hanging on his horns; and the proceſſion is cloſed by a ſledge in which are the implements of the dairy. The cows themſelves, as well as the keeper, ſeem to be pleaſed with their ornaments; and if the leading cow is deprived of her honours, ſhe manifeſts her grief by lowing inceſſantly, abſtaining from food, and becoming lean; and ſhe purſues her rival, who has obtained the badge of ſuperiority, with vengeance, butting, wounding, and perſecuting her in the moſt furious manner. The cows, when diſperſed on the Alps, are brought together by the voice of the ſenn, who allures them to him by ſinging the ranz des vaches. Of the urine of the cattle, the farmers of Appenzell make ſalt-petre by a very ſimple proceſs. Under their ſtables, which are built on ſloping ground, ſo that one ſide of the edifice reſts on the hill and the other is elevated by means of two ſtrong poſts which ſupport it two or three feet above ground, are pits filled with ſandy ſoil. The animal water continually oozes through the planks of the floor; and, having drenched the ſoil contained in the pit for two or three years, the pit is emptied, and the ſaltpetre is collected and refined in the uſual manner.

Among the various modes of induſtry in Innerooden, that of feeding ſnails is one of the moſt ſingular. In the garden grounds along the river Sitter, ſuch numbers of ſnails are kept during the ſummer ſeaſon, that the ſound cauſed by the motion of their denticulated jaws, while they are eating, is diſtinctly heard at ſeveral paces from the ſpot. Young ſnails are collected in the adjacent parts, placed in theſe gardens, and ſupplied (till, on the approach of winter, they incloſe themſelves), with leaves of lettuce, colewort, cabbage, and other vegetables, by which they grow and fatten to a ſurpriſing degree. Some time before Lent, the owners pack up the cloſed ſnails in caſks, and carry them for ſale to the convents of Suabia, Bavaria, and Auſtria, and even as far as Vienna, where they are purchaſed as delicacies. By this traffic ſome have acquired a handſome fortune.

The food of the inhabitants is exceedingly ſimple, conſiſting chiefly of milk, cheeſe, whey, oatmeal, and potatoes. Bread is not in common uſe, except among the rich. Their dreſs is equally plain: and as there is leſs diſparity of fortunes among them than in almoſt every other part of Europe, a great uniformity prevails in diet, dreſs, and manners; and this conſtitutes the main ſupport of their civil and political equality. Some travellers, who have obſerved crowds of beggars in this canton, have been led to draw erroneous inferences concerning the proſperity of the people; but the fact is, that hoſts of beggars, attracted by the charitable diſpoſition of the Appenzellers, flock thither from Suabia, and other neighbouring provinces of Germany. The mountaineers of Appenzell are undiſturbed and content, free from the oppreſſion of arbitrary power and the exactions of taxes, and ſolely occupied with their cows and the Alps on which they graze. The government of this republic confines itſelf to merely granting protection, and providing for the ſecurity of perſons as well as of property. The people have no deſire of knowledge; and are ſo ignorant, that the majority of the inhabitants of Innerooden cannot read and write; and of courſe they have no ſchools, or ſuch as are in the moſt deplorable ſtate. This ignorance is neceſſarily attended with groſs and wretched ſuperſtition. Parents, whoſe children are taken ill, ſeldom ſeek medical aſſiſtance, but have maſſes read for the purpoſe of obtaining from heaven their ſpeedy diſſolution. On the loſs of a ſtill-born child they are inconſolable, under an apprehenſion that for want of baptiſm it is gone to hell; but, on the death of other children, tears are ſcarcely ever ſhed; on the contrary, the parents are joyful, and their friends ſay to them by way of congratulation, "now you have an angel in heaven." The puniſhment inflicted on incontinence is not very ſevere; the tranſgreſſing parties only paying a fine of five guilders each, provided that both be unmarried; but if any female commits the ſame fault three times, ſhe is ſentenced to be publicly whipped. Yet popular opinion requires, that he who violates a virgin ſhall make her his lawful wife; and if they are not joined in marriage, both of them, eſpecially the raviſher, are branded with indelible ſhame. The girl, in ſuch a caſe, is prohibited from wearing the badge of virginity, which is a metal pin ſtuck into the braided hair, and is obliged to cover her head with a black or brown hood. The male offender is virtually diveſted of thoſe privileges which belong in common to all citizens; an humiliation than which there is none more grievous in democratical ſtates; for the man ſo ſtigmatized is civilly dead in his own country, having loſt what is moſt dear to him, the advantages of a freeman. The preceding remarks pertain chiefly to Innerooden, the inhabitants of which are Roman Catholics: but in Auſſerooden, and the outer parts of the canton of Appenzell, the reformed religion has been eſtabliſhed ſince the middle of the ſixteenth century. From that period, the manufacture of linen, muſlin, and cotton cloth has conſtituted the chief branch of induſtry among the reformed Appenzellers. The manufacturers of Appenzell have now attained to ſuch a degree of ſkill, as to be able to ſpin out of half an ounce of flax, a thread meaſuring from 9 to 10,000 feet in length; whence their cambrics are in great demand on the continent. The Appenzellers, apprized of the improvements of the manufactories in Ireland and Scotland, and dreading to loſe their trade, have lately begun to introduce machines for ſpinning and carding

wool, invented by an inhabitant of Rehetobel. Paſturage, in this diſtrict, has of courſe decreaſed; the large paſture grounds being divided into ſmall meadows, each ſufficient only for two or three cows. The people of Appenzell are induſtrious and perſevering, in common with other Swiſs; but their diſtinguiſhing feature is quickneſs of apprehenſion. They accordingly manifeſt particular ingenuity in inventing, imitating, and improving machines, as well as other branches of mechanics, without any aſſiſtance from inſtruction or books. Beſides ſome exceedingly ſkilful weavers, ſeveral among them have acquired reputation by the manufacture of watches, clocks, and fire-engines. The wooden bridges of Ulrick Grubenmann, a native of the village of Teaſen, are very generally known on the continent. This ingenious mechanic, it is ſaid, offered to build an arched wooden bridge acroſs the river of Derry in Ireland, which is 620 feet wide; but his plan was rejected.

See Schilderung du Gebirgsvolker des Schweitz, &c or A Deſcription of the Tribes which inhabit the mountainous parts of Switzerland, by John Gottfried, M. D. vol. i. containing the canton of Appenzell; 8vo. Leipzig, 1798.

APPERCEPTION, or Adperception, is uſed by Leibnitz and his followers, for an attribute of the mind, conſidered as conſcious of, or reflecting on its own perceptions: in which ſenſe the word amounts to the ſame with what Des Cartes and others call consciousness.

APPERWACK, or Capperwack River, in *Geography*, lies about E. S. E. from the iſland and city of Cayenne, on the coaſt of Guiana, in South America. An iſland extends acroſs the entrance, which is ſurrounded by a ſand bank, and off the river is a cluſter of rocks called the Conſtables.

APPETITE, Appetitus, Appetency, formed of *ad*, *to*, and *peto*, *I crave*, in *Phyſiology*, a deſire of enjoying ſomething that is apprehended to be neceſſary or conducive to happineſs. When this inclination towards any object conſidered as good, is guided by reaſon, and reſults from reflection on the real value of the object, it is called *rational*; but when it proceeds from the mere impulſe of the ſenſes, without any diſtinct apprehenſion of the value of the object, it is denominated *ſenſitive*.

Appetite is reſtrained, by Hutcheſon, to ſuch of our deſires as have a previous painful and uneaſy ſituation, antecedently to any opinion of good in the object; nay ſo as that the object is often chiefly eſteemed good only for its allaying this pain or uneaſineſs, or if it give alſo a poſitive pleaſure, yet the uneaſy ſenſation is previous to, and independent of this opinion of good in it. By another ingenious writer (ſee Elem. Crit. vol. i. p. 44.), appetites are repreſented as paſſions directed to general objects, in contradiſtinction to paſſions directed to particular objects, which retain their proper name. Thus we ſay an *appetite* for fame, for glory, for conqueſt, for riches; but we ſay the *paſſion* of love, of gratitude, of envy, &c. Appetite may be alſo diſtinguiſhed from paſſion, ſince the latter has no exiſtence till a proper object be preſented: whereas the former exiſts firſt, and then is directed to an object.

Some have erroneouſly aſcribed the appetites ſolely to the corporeal ſyſtem or animal part of man; but this mode of repreſenting them muſt appear to be a miſtake on a cloſe inveſtigation; ſince, however the generality of moral writers may be inclined to regard the groſſer appetites as having their ſeat in the body, and thence term them ſenſual and carnal, they never reproach the more refined ſpecies of corporeal enjoyments with theſe degrading epithets; nor do they accuſe a man of being ſenſually diſpoſed, if he loves muſic, or receives delight from the contemplation of the beauties of nature. Dr. Reid (Eſſays on the active Powers of Man, Eſſ. iii. p. 122, &c.), limits the term *appetite* to a particular claſs of deſires, which belong to the animal principles of action, and which are diſtinguiſhed by the following properties. Every appetite is accompanied with an uneaſy ſenſation proper to it, which is ſtrong or weak in proportion to the deſire we have of the object. Moreover, appetites are not conſtant, but periodical, being fated by their objects for a time, and returning after certain periods. He adds, thoſe that are chiefly obſervable in man, as well as in moſt other animals, are hunger, thirſt, and luſt. The ends for which our natural appetites are given, are too evident to eſcape the obſervation of any man of the leaſt reflection: two of thoſe above enumerated are intended for the preſervation of the individual, and the third for the continuance of the ſpecies. To act merely from appetite is neither good nor ill in a moral view: it is neither an object of praiſe nor of blame; and the perſon who yields to its impulſe, when there is no reaſon to the contrary, acts agreeably to his nature. Appetites, conſidered in themſelves, are neither ſocial principles nor ſelfiſh. They cannot be called ſocial, becauſe they imply no concern for the good of others; nor can they juſtly be called ſelfiſh, though they be commonly referred to that claſs. To this purpoſe, Dr. Reid obſerves, that appetite draws us to a certain object without regard to its being good for us, or ill; nay, in ſome caſes, ſelf-love is ſacrificed to appetite. But it may be replied, that the impulſe of appetite ſuppoſes the previous apprehenſion of good; though this apprehenſion, and the appetite that reſults from it, may be miſguided and perverted. Beſides the appetites which nature hath given to us for uſeful and neceſſary purpoſes, we may create appetites which nature never gave. As it is therefore beſt to preſerve our appetites in that tone and degree of ſtrength which nature gives them, ſo we ought to beware of acquiring appetites which nature never gave; theſe are always uſeleſs, and often very hurtful. It ſhould alſo be conſidered, that although there be neither virtue nor vice in acting from natural appetite, yet there may be much of either in the management of our appetites; and the power of ſelf-government is neceſſary for their reſtraint and regulation.

Appetite, in *Medicine*, is more particularly uſed to denote a natural periodical call or deſire to eat and drink, occaſioned by a certain uneaſy and painful ſenſation, and with a view of repairing what had been waſted by the ſeveral excretions of the body. A loſs or proſtration of appetite is called Anorexia. The defect of appetite is of two kinds, and is uſually divided, by medical writers, under two names, the *anorexia* and *nauſea*.

The anorexia is a too great abſtinence from food, which ſometimes has its origin from depravation of the ſtomach, ſometimes from other cauſes more remote.

The nauſea is defined to be a plenary abſtinence from foods, being a complaint of the ſame nature and origin with the anorexia, but differing in degree.

The ſigns are very obvious ſo far as a diſtaſte to food, which is common to both; but there is this difference, that in an anorexia the patients uſually eat ſomething, though without appetite, and are troubled always with a pain and uneaſineſs of the ſtomach after it; but in the nauſea there is a greater diſreliſh of food of all kinds, and frequent ſtraining to vomit. Men of idle lives, and ſuch as drink too freely of ſtrong liquors, are ſubject to *idiopathic* defects of appetite, from actual injuries in the ſtomach; others labouring under the different diſeaſes before mentioned, are as often ſubject to the *ſymptomatic*. People of a ſanguine habit, when afflicted with a loſs of appetite, always find great relief in acids of the milder kind; and thoſe of a leucophlegmatic

leucophlegmatic habit are often cured by taking ſmall doſes of *elixir proprietatis* every day before dinner. Some perſons are very fond of external applications to the ſtomach in thoſe caſes, but theſe are rarely to be found of any great ſervice. The beſt of them is a plaſter of *tacamahaca*, with oil of maſtic.

A prepoſterous appetency of things not proper for food is called PICA; and an immoderate appetite is called BULIMIA, or *fames canina*. Some, however, diſtinguiſh between the *βυλιμια*, and *canine appetite*; making it the diſtinguiſhing character of the latter, that it is attended with a hentery or other cœliacal flux.

APPETITE *exceſſive*. See OREXIS.

Dr. Cullen, in his arrangement of diſeaſes, makes two diſtinct ſections of erroneous and deficient appetites under the order of *dyſorexiæ*: to the former he refers *bulimia*, *polydipſia*, *pica*, *ſatyriaſis*, *nymphomania* or *furor uterinus*, and *noſtalgia*; to the latter, *anorexia*, *adipſia*, and *anaphrodiſia*.

APPIA, or APIA, in *Ancient Geography*, a town of Aſia, in Phrygia.

APPIADES, in *Mythology*, five divinities ſo called becauſe their temples were at Rome near the fountains of Appius, viz. Venus, Pallas, Veſta, Concord, and Peace.

APPIAN, in *Biography*, a Greek hiſtorian, was a native of Alexandria, and lived under the reigns of Trajan, Adrian, and Antoninus Pius, in the former part of the ſecond century. In the time of Trajan, he ſettled at Rome, and gained ſuch reputation as an advocate, that he was choſen one of the procurators of the emperor, and had the government of a province aſſigned to him. In the preface to his hiſtory, he informs us, that he wrote about the 900th year of Rome, and therefore this preface muſt have been written about the year of Chriſt 147, or 148. His Roman Hiſtory was compriſed in 24 books, and compiled, not in the chronological order of Dionyſius Halicarnaſſenſis and of Polybius, nor in the biographical method of Plutarch, nor in a continued ſeries like that of Livy, but in the order of the countries in which the events that are related by him happened, as Italy, Gaul, Sicily, Spain, Africa, Greece, Syria, Parthia, Egypt, and Arabia. He is charged with many errors by Bodin, Sidonius, and Scaliger; though the former allows, that he is the only hiſtorian, who gives a juſt and clear account of the Roman provinces, cities, and armies, and a lively deſcription of the Roman empire. La Mothe le Vayer thinks that the principal ground of complaint againſt him, is his undue partiality to the Romans, ſo that he repreſents the right as well as the advantage to be always on their ſide, to the prejudice of all other nations, and even of his own country. He is alſo charged with having borrowed many paſſages from Polybius, Plutarch, and other authors, without acknowledgment; inſomuch that Scaliger reproachfully calls him "alienorum laborum fucum," a drone who robs the induſtrious bees of their labour. Photius, however, is of opinion, that he wrote with the utmoſt regard to truth, and that he has ſhewn a more accurate and extenſive acquaintance with military affairs than any of the hiſtorians: while we read him, he ſays, we cannot but imagine that we ſee the battles which he deſcribes. But his chief talent, according to this author, is diſplayed in his orations, in which he moves the paſſions as he thinks proper, either in animating the reſolution of the ſoldiers, or repreſſing the impetuoſity of thoſe who were too precipitate. His ſtyle is plain and ſimple, without any thing turgid or ſuperfluous. In his preface he has given a general deſcription of the Roman empire. Of the nine firſt books of his "Hiſtory," ſome fragments remain, which are preſerved in Urſinus's "Excerpta de legationibus," publiſhed in Greek, at Antwerp, with notes, in 1582, 4to.; and ſome of them are extant in the "Excerptæ Peireſcianæ," publiſhed by Valeſius, with a Latin verſion and notes, at Paris, in 1634, 4to.; of the fourth book on the war with the Gauls, only an epitome remains; the ſixth and ſeventh books, on the affairs of Spain, and the war with Hannibal, were firſt publiſhed, in 8vo. by H. Stephens, at Paris, in 1557; the eighth, on the affairs of Libya; the eleventh and twelfth, on thoſe of Syria and Parthia; five books on the Civil Wars; and fragments of the twenty-third, on the affairs of Illyria; are extant. A Latin verſion of ſeveral parts of Appian, by Petrus Candidus, was printed at Rome, in 1472, and at Venice, in 1477 and 1492, in folio. An edition of Appian was publiſhed, in Greek, by Charles Stephens, with various readings, at Paris, in 1551, in folio; another, in Greek and Latin, was publiſhed by Henry Stephens, at Geneva, in 1592, in folio; an improved edition, by Tollius, was publiſhed at Amſterdam, in 1670, in two volumes, 8vo. Appian, Hiſt. Præf. Fabr. Bibl. Græc. l. iv. c. 12. § 1—4. t. iii. p. 391—396. Gen. Dict.

APPIAN *Aquæduct*, was ſo called from Appius Claudius, who was cenſor of Rome in the 442d year of that city. This aquæduct began ſeven miles from Rome, and after having run a great way under ground, diſcharged part of its waters between the gates Capena and Trigemina, and conveyed the reſt quite to the Campus Martius; and thus the whole city was plentifully ſupplied. It was dug under ground, and laid very deep, ſays Frontinus (De Aquæductibus), either becauſe the art of levelling was not then brought to perfection, or becauſe the Roman territory was too much expoſed to the incurſion of its enemies, who might have deſtroyed the ſtately arches, and intercepted the water. This water was for many ages called "Aqua Appia." The principal fountain under this denomination, was placed in the forum of Cæſar, below the temple of Venus Appiades; and by a verſe of Ovid it appears to have formed a jet of water:

"Appias expreſſis aera pulſat aquis."

APPIAN *Way*, a great Roman highway, conſtructed by Appius Claudius, cenſor of Rome, in the 442d year of that city. It commenced at the gate Capena, now called St. Sebaſtian's, and paſſing over the mountain called St. Angeli, croſſes the plain of Valdranus, the *Palus Pompina*, and ends at Capua, which was the limit of the Roman empire.

The Appian way, called by Statius (Sylv. i. 12.), "the queen of roads," extended about 140 miles, and was wide enough for two chariots to go abreaſt without inconvenience. The ſtones which Appius employed in this work, were brought from a great diſtance, and were as hard as flints. They were previouſly ſquared and ſmoothed by ſkilful workmen, and then joined together without any cement; ſo that they appeared for ſeveral miles like a ſingle ſtone. In the beginning of Auguſtus's reign, this road reached to Brunduſium, that is, 238 miles farther; but it is not certain, who was the manager of this additional work. It is generally aſcribed to Cæſar. Dr. Burnet, in his Letters, ſays, that in many places, it is ſtill as entire as when it was firſt made. On each ſide of it was a deep ditch for receiving off and conveying away the water.

Caius Gracchus placed the ſmall columns called *termini*, which marked the miles.

The new *Appian way* was conſtructed by Caracalla, from his baths to the gate Capena, where it joined the other.

APPIANI, GIUSEPPE, in *Biography*, an exquiſite Italian finger, with a contralto voice, born at Milan, and always mentioned with rapture by ſome of our friends who heard him at Rome when he was very young; they likewiſe ſpoke of him as an excellent actor. He was in the

ſervice

ſervice of the empreſs queen, when he died at Ceuſſa, near Bologna, in 1742, at only 23 years of age, extremely regretted. He had ſtudied under Porpora, with the celebrated Salimbene. His ſtyle was naturally pathetic and touching, and his *adagio*, conſequently, extremely admired.

APPIANO, in *Geography*, a town of Italy in the duchy of Milan, 20 miles N. N. W. from Milan.

APPIARIA, in *Ancient Geography*, a town of Europe, in Lower Mæſia, on the right bank of the Danube, there called Iſter. It was ſituated between Durroſtorus on the eaſt, and Nicopolis ad Iſtrum on the weſt.

APPIDEMISCHKAN, in *Geography*, a town of Pruſſia, nine miles ſouth-eaſt from Gumbinnen.

APPII Forum, in *Ancient Geography*, *Borgo Longo*, a ſmall town of Italy, in Latium, in the country of the Volſci. It was ſituated upon the Appian way, between Sueſſa Pometia to the north-weſt, and Terracina at ſome diſtance to the ſouth-eaſt. It is mentioned in the Acts, ch. xxviii. 15. and by Horace in his account of his journey to Brunduſium:

" ——inde forum Appii
Diſſertum nautis, cauponibus atque malignis."
" To Forum Appii thence we ſteer, a place
Stuff'd with rank boatmen, and with vintners baſe."
Francis.

On the ruins of this ancient little town is ſituated an abbey called Foſſa Nuova.

APPLANA, in *Entomology*, a ſmall ſpecies of Phalæna, of the *Tortrix* family, that inhabits Kiel and other parts of Europe. The wings are depreſſed, brown, with three white dots in the centre. Gmelin. Obſ. This is the Fabrician character in the ſpecies Inſectorum, where it is arranged in the ſection *Pyralis*, t. 2. 288.; and it is alſo *Phalæna punctata* of Clerk. Icon.

APPLAUSE, properly ſignifies an approbation of ſomething, witneſſed by clapping of hands; and in this reſpect it differs from acclamation, which was articulate, and performed with the voice. The word comes from the verb *plaudere*, *to clap the hands*.

The ancient way of applauding by clapping of hands is ſcarcely retained any where but in theatres. Among the Romans there were three different ſpecies of applauſe denominated from the different noiſes made in them, viz. *lomlus*, *imbrices*, and *teſtæ*; the firſt a confuſed din, made either by the hands or the mouth; the ſecond and third by beating on a ſort of ſounding veſſels placed in the theatres for this purpoſe.

Perſons were inſtructed to give applauſe with ſkill; and there were even maſters who profeſſed to teach the art. The proficients in this way let themſelves out for hire to the vain-glorious among the poets, actors, &c. and were properly diſpoſed to ſupport a loud applauſe. Theſe they called *laudicoeni*.

At the end of the play, a loud peal of applauſe was expected, and even aſked of the audience, either by the chorus or the perſon who ſpoke laſt. The formula was, *ſpectatores plaudite*, or *valete & plaudite*.

The *plauſores*, or applauders, were divided into *chori*, and diſpoſed in theatres oppoſite to each other, like the choriſters in cathedrals; ſo that there was a kind of concert of applauſes.

Seneca (Nat. Quæſt. ii. 28.) has deſcribed the different modes of applauding with the hands: "Averſæ inter ſe manus colliſæ non plaudunt, ſed palma cum palmâ collata, plauſum facit. Et plurimum intereſt utrum cavæ concutiantur, an planæ et extentæ." The people ſtood up to applaud in the theatres: thus Propertius (iii. 16.);

" Stantiaque in plauſum tota theatra juvent."

Of the awkward applauſes of the uninſtructed ruſtics, who did not underſtand the art of applauding, and who diſturbed the general harmony by their diſcordant ſounds, Tacitus ſpeaks; (Annal. xvi. 5.), "cum manibus neſciis fatticerent, turbarent ignaros."

APPLE-TREE, *Malus*, in *Botany*, a general name applied to a cultivated orchard-tree, which produces the fruit known by the name of apple. In the ſyſtem of Linnæus, it is conſidered as a ſpecies of the genus *pyrus*, of which there are three: the *wild-apple* or *crab*, which has a very ſour fruit; the *Virginian wild crab*, which produces a ſweet-ſcented flower; and the *dwarf-apple*, frequently known by the name of *Paradiſe-apple*. See Pyrus Malus.

Trees of this ſort are produced in an artificial manner, by means of ingrafting the ſcions or ſhoots of ſuch apple-trees as are valuable for their fruit, on ſtocks that have been raiſed from the ſeeds of crabs. Thus a ſcion of an apple-tree, inſerted into a crab ſtock, occaſions the crab-tree from that time to produce *apples* of nearly the ſame kind and quality with thoſe from which the ſcion was taken. Mr. Ray, indeed, thinks, that the fruit of theſe trees always follows the nature of the ſcions.

In the nurſeries, three ſorts of ſtocks are commonly uſed to graft apples upon: firſt, *free ſtocks*, which are raiſed indifferently from the kernels of all ſorts of apples, and which by ſome are alſo termed *crab-ſtocks*, as all thoſe trees which are produced from the ſeeds before they are grafted, are termed *crabs*, without any diſtinction. Such ſtocks ſhould, however, be preferred, as are raiſed from the kernels of crabs, where they can be procured. Several old writers are of this opinion. Auſten, who wrote more than an hundred years ago, ſays the ſtock which he accounts beſt for *apple-grafts* is the *crab*, which is better than *ſweeter apples* to graft on, becauſe it is uſually free from canker, and will become a large tree, and, he conceives, laſt longer than ſtocks of *ſweeter apples*, and make fruits more ſtrong and hardy to endure froſts. It is well known, however, that by frequent grafting ſome ſorts of apples upon free ſtocks, the fruits have been rendered larger, but leſs firm, and of ſhorter duration.

The ſecond ſort of ſtock is the *Dutch creeper*; theſe ſtocks are deſigned to ſtint the growth of trees, and keep them within compaſs for dwarfs or eſpaliers. The third ſort is the *Paradiſe apple*, which is a very low ſhrub, conſequently only proper for trees which are kept in pots by way of curioſity, as they do not continue long. See Ingrafting of Fruit Trees.

Trees of the apple kind are found in general to thrive well when planted on ſtrong deep loamy ſoils, or ſuch clayey ones as, by having a portion of gravel in their compoſition, are rendered not retentive of moiſture. Mr. Knight, in his treatiſe on the Culture of the Apple and Pear, remarks, that a preference has been given to ſoils of oppoſite kinds, by planters of different ages. Thoſe of the laſt century uniformly contended, he ſays, in favour of a light ſandy loam, and on that their fineſt cyder fruits were grown; but at preſent a ſoil of a diametrically oppoſite quality, a ſtrong red clay, is generally preferred. Much of the ſoil which is called clay, in the diſtrict where he reſides, is, however, he obſerves, properly argillaceous marle; and ſome of it contains a large portion of calcareous earth, and effervеſces ſtrongly with acids. He has found this ſoil to form the ſubſtratum of ſome orchards much celebrated for producing fruit of the firſt quality. It appears, he thinks, to have the effect of mitigating the harſhneſs of rough auſtere fruits; and that as the trees grow with great luxuriance in it, it is perhaps, of all ſoils, the beſt calculated to anſwer the wiſhes of the planter; but that the ſtrongeſt and moſt highly

flavoured

flavoured liquor, which has hitherto been obtained from the apple, is produced by a ſoil which differs from any of thoſe that have been mentioned—the ſhallow loam on a limeſtone baſis, ſuch as is met with in the forreſt of Dean.

It is added, that in regard to ſituation, the apple-tree ſucceeds beſt in thoſe which are neither high nor remarkably low. In the former, its bloſſoms are frequently liable to be injured by cold winds, and in the latter by ſpring-froſts, particularly when the trees are planted in the loweſt part of a confined valley. A ſouth or ſouth-eaſt aſpect is generally preferred, on account of the turbulence of the weſt, and the coldneſs of north winds; but orchards ſucceed well in all: and where the violence of the weſt wind is broken by an intervening riſe of ground, a ſouth-weſt aſpect will, he thinks, be found equal to any. Apple-trees are generally the moſt productive of fruit when they are ſituated near the fold-yard, and the ground, in conſequence, much trod and manured by the cattle in the winter ſeaſon. The ſoil in which old apple-trees have grown, is, however, eſteemed very unfavourable to young ones.

When from contiguity to the houſe, an orchard is planted in this kind of ground, the pear and apple ſhould be made to ſucceed each other, as has been judiciouſly recommended by the author of the Rural Economy of Glouceſterſhire. The land intended to be planted with apple-trees ſhould be well prepared the year before, by thoroughly digging or ploughing; and if dung, in the form of compoſt with mould, be laid on, it will be of great utility. In chuſing the trees, ſuch as are but of two years growth from the graft, are, in general, to be preferred, and they ſhould have ſtrong ſtraight ſtems. When the trees are planted, they ſhould alſo be ſtaked, to prevent their being ſhaken by the wind. For the manner of planting apple-trees, &c. ſee Orchard.

In directing the choice of fruit-trees, for particular ſituations, great attention ſhould be paid to ſelect ſuch as are proper for the peculiar views of the planter, and ſufficiently early to ripen well in them. The apple-tree being naturally very full of branches, frequently requires the operation of pruning; and when properly executed, great advantages will be found to ariſe from it. Mr. Knight thinks, in this buſineſs, the pruner ſhould confine himſelf almoſt entirely to the extremities of the bearing branch, which are always too full of wood, and leave the internal part of the trees nearly as he finds it. Large branches ſhould rarely or never be amputated.

In the garden culture of the apple, where the trees are retained as *dwarfs* or *eſpaliers*, the more vigorouſly growing kinds are often rendered unproductive by the exceſſive, though neceſſary, uſe of the pruning knife. The above writer has always ſucceeded, he ſays, in making trees of this kind fruitful, by digging them up, and replacing them with ſome freſh earth in the ſame ſituation. The too great luxuriance of growth is, he thinks, thus checked, and a diſpoſition to bear in conſequence brought on. See Pruning of Fruit-trees.

Apple-trees ſometimes begin bearing at the age of two or three years; but when they are ſix or ſeven, they are for the moſt part found to produce the moſt abundantly.

The bloſſoms of apple-trees are liable to be injured or deſtroyed by various cauſes; as ſevere cold, a hazy ſtate of the atmoſphere, froſts, and inſects of various kinds. And Mr. Knight has remarked, that they alſo fail frequently from want of impregnation, when the weather is unuſually hot and dry, or when cold winds prevail, as he has often obſerved the *farina* to wither and die on the *antheræ* in ſuch ſeaſons. In theſe caſes, thoſe trees have been found to eſcape the beſt, that were moderately full of wood, and conſequently capable of affording the bloſſoms the moſt protection.

Apple, a well-known orchard fruit, cultivated for the purpoſes of the table as well as for the liquor which is prepared from its juice. The varieties of this valuable fruit are extremely numerous. Mr. Forſyth, in his treatiſe on the Culture and Management of Fruit-trees, mentions eight different ſorts, as having been introduced from France; among which the *French rennet*, the *rennet griſe*, and the *violet apple*, are moſt eſteemed in this country; and about thirty-ſix ſorts of our own growth, which may be conſidered as valuable. But the varieties of this fruit will be treated of more fully under the article Pyrus Malus.

In reſpect to the method of preſerving apples for uſe during the winter ſeaſon, it has been recommended to let them remain upon the trees until perfectly ripe, and then to gather them by the hand in dry weather, laying them in heaps for a few weeks, in order that they may undergo a ſlight degree of ſweating. They ſhould then be carefully looked over, and all ſuch as are in any way ſoft or decayed, be removed, the ſound fruit being wiped dry, and packed in any kind of large jars that have been previouſly made clean and dry; the mouths or openings being cloſely ſecured, in order to exclude the air as much as poſſible from them. In this way apples are ſaid to keep ſound a great length of time, the fleſh or pulp remaining perfectly firm and plump, which is not the caſe when they are conſtantly expoſed to the action of the open air. But they may be kept perfectly well without this trouble, by being cloſely packed in large hampers, baſkets, or bins, and placed in cloſe dry ſituations.

The ſort of apples that are in general held in moſt eſteem for the table are the following, which ſtand in the order of their ripening: the *white juncating*, the *margaret apple*, the *ſummer pearmain*, the *ſummer greening*, the *embroidered apple*, the *golden rennet*, the *ſummer white calville*, the *ſummer red calville*, the *ſilver pippin*, the *aromatic pippin*, the *la reinette griſe*, the *la haute bonte*, the *royal ruſſeting*, the *wheeler's ruſſet*, the *ſharp's ruſſet*, the *ſpine apple*, the *golden pippin*, the *nonpareil*, and *l'api* or *pomme d'api*.

But for kitchen uſe; the *codling*, the *ſummer marygold*, the *ſummer red pearmain*, the *Holland pippin*, the *Kentiſh pippin*, the *courpendu*, the *Loan's pearmain*, the *French rennet*, the *French pippin*, the *royal ruſſet*, the *monſtrous rennet*, the *winter pearmain*, the *pomone violette*, the *Spencer's pippin*, the *ſtone pippin*, and the *oaken pippin*.

And for the purpoſes of cyder; the *ſtire apple*, the *hagloe crab*, the *golden pippin*, the *old red ſtreak*, and the *woodcock*, were the favourite old cyder fruits; but moſt of them are now, according to Mr. Marſhall, on the decline. The *muſt* and the *coccagee* are, however, ſtill in high eſtimation, eſpecially the latter. Mr. Crocker, in his tract on the Art of making Cyder, obſerves, that in the diſtricts of Hereford and Worceſter, the following are conſidered as the beſt liquor fruits: the *Bennet apple*, *Captain Nurſe's kernel*, *Elton's yellow*, *Normandy apple*, and the *yellow* or *foreſt ſtyre*. And that in the county of Somerſet; the *Jerſey*, the *white four*, the *margill*, *vallis apple*, *barn's-door*, *crab red-ſtreak*, *Du-ann*, *Jack Every*, *coccagee*, *Clark's primo*, *Buckland*, *Pit crab*, *Slater's pearmain*, *Slater's No.* 19, *Slater's No.* 20, *Slater's No.* 21, *Caſtle pippin*, *ſaw-pit*, and the *pomme apis*, are ſuppoſed moſt valuable. But that in Devonſhire, the moſt eſteemed fruits are; the *Seaverton red-ſtreak*, the *ſweet broady*, the *lemon bitter ſweet*, *joſey*, *Orcheton pippin*, *wine-apple*, *marygold ſpice-apple*, *Ludbrook red-ſtreak*, *green Corniſh*, the *butter-box*, *red Corniſh*, *broad noſed pippin*,

eat's

cat's head, brandy apple, Pine's red-ſtreak, winter red, ſweet pomme roi, and the *Bickley red ſtreak.*

The beſt and moſt proper ſorts of apples to be cultivated in a ſmall garden are, according to Mr. Forſyth, the *jenetting, golden pippin, nonſuch, Rilſtone pippin, nonpareil, Queen's apple, ſkyhouſe, golden rennet, aromatic pippin, grey kadington, ſcarlet pearmain, lemon pippin, pomme gee,* and the *French crab,* with *ruſſetings* and *codlings* for the purpoſe of baking.

It has been ingeniouſly ſuggeſted by Mr. Knight, in his treatiſe on the Apple and Pear, that the juice of theſe fruits might be uſed with great advantage in long voyages. He has frequently, he ſays, reduced it by boiling, to the conſiſtence of a weak jelly; and that in this ſtate it has remained ſeveral years without the ſlighteſt apparent change, though it has been intentionally expoſed to much variation of temperature. A large quantity of the inſpiſſated juice would, he further obſerves, occupy but a very ſmall ſpace; and the addition of a few pounds of it to a hogſhead of water would probably, at any time, form a liquor a good deal ſimilar to cyder or perry: it might alſo, he thinks, be uſed to ſupply the place of *rob* of *lemons* and *oranges,* and might be obtained at a much lower price.

It has been obſerved by Dr. Grew, in his Anatomy of Vegetables, that the apple is formed of four diſtinct parts, conſiſting of the *cuticle* or *pill,* the *parenchyma,* the *branchery,* and the *core;* that the *pill* or *ſkin* is only a dilatation of the outermoſt ſkin or rind of the bark of the branch on which it grew; and that the *parenchyma* or *pulp,* though tender and delicious to the taſte, is only a dilatation of the *alburnum,* or inner part of the bark of the ſame part. This is evident, he thinks, not only from the viſible continuation of the bark, from the one through the pedicle or ſtalk to the other; but alſo from the ſtructure common to both. And that the branchery, or veſſels, are only ramifications of the woody part of the branch diſperſed through all the parts of the *parenchyma,* the greater branches being made to communicate with each other by the medium of the ſmaller ones; and the *core* proceeds originally, he ſuppoſes, from the pith of the branch, the ſap of which finding room enough in the *parenchyma,* to diffuſe itſelf, quits the pith, which, in conſequence, hardens into core.

Apple is alſo a name given to divers fruits, bearing ſome reſemblance in figure, rotundity, and the like, to the orchard apple.

Apple, *Adam's.* See Citrus, and *Pomum* Adami.

Apple, *Alligator.* See Annona.

Apple, *bitter,* a name ſometimes given to the fruit of the Colocynthis. See Cucumis.

Apple, *blad.* See Cactus.

Apple, *cuſtard.* See Annona.

Apple, *dwarf.* See Dwarf-*trees.*

Apple-*fly,* in *Natural Hiſtory,* the name given by authors to a ſmall green fly found ſometimes within an apple, and hatched of a worm or maggot, very frequently found infeſting that fruit.

Apple, *love.* See Solanum.

Apple, *mad.* See Solanum.

Apple, *male balſam.* See Momordica.

Apple, *marchaſite,* ſo called by Dr. Grew on account of its figure, as being round, except on one ſide, where it falls in, and has a ſtalk like a young apple. Muſ. Reg. Soc. P. iii. § 2. cap. 3.

Among the ancient ornaments of churches we read of *golden* apples, *poma aurea;* by which it ſhould ſeem, we are to underſtand the globular parts of candleſticks. Du-Cange.

Some ancient cuſtomaries alſo ſpeak of apples of wax, *poma de cera.*

Apple, *May.* See Podophyllum.

Apples, *oak,* are a kind of excreſcences or exudations of the nutritious juice of that tree, joined with ſome degree of putrefaction.

The like are ſometimes alſo found on willows.

Apple *of the eye.* See Pupil.

Apple, *pine.* See Bromelia.

Apple, *prickle,* is remarkable for the ſeveral tuffocks or bunches of thorns with which it is armed all round; each bunch conſiſting of ſix or eight thorns, ſome erect, others couched a little, and crooked outwards, of ſeveral lengths, from one inch to above two.

Apple, *purple.* See Annona.

Apple, *ſoap.* See Sapindus.

Apple, *ſour.* See Annona.

Apple, *ſtar.* See Chrysophyllum.

Apple, *ſugar* and *ſweet.* See Annona.

Apple, *thorn.* See Datura.

Apple, *water.* See Annona.

Apple, *Iſland,* in *Geography,* a ſmall uninhabited iſland of north America, in the river St. Lawrence, in Canada, on the ſouth ſide of the river, between Baſque and Green Iſlands. It is ſurrounded by rocks, and the navigation is dangerous.

APPLEBY, a corporate and borough town, the county-town of Weſtmoreland, where the aſſizes are held, and which ſends two members to parliament, is ſituated on the banks of the river Eden. It was formerly a conſiderable town, and had many privileges; but it has long ago ſunk into decay, and now conſiſts only of mean houſes in one broad ſtreet, which has an eaſy aſcent from north to ſouth, and at the end of it the caſtle, almoſt ſurrounded by the river. It has two churches, a town-hall, a county gaol, a free grammar ſchool; and an hoſpital for a governeſs and twelve widows, founded, in 1651, by a daughter of lord Clifford. It is governed by a mayor, twelve aldermen, a common council, two ſerjeants at mace, &c. It is diſtant about 32 miles from Carliſle, and 270 from London. Its market is on Saturday, and it is the beſt corn-market in theſe northern parts. N. lat. 54° 38′. W. long. 3°. 32′.

APPLECROSS, a village of Scotland, ſeated on a bay to which it gives name, on the weſt coaſt of the county of Roſs, 52 miles weſt of Dingwall.

APPLEDORE, a ſea-port town of England, in the county of Devon, in Barnſtable bay, where the Danes landed under Hubba, in the time of Alfred. The harbour divides into two branches; that to the eaſt goes up to Barnſtable, diſtant from it 10 miles weſt, and the other to Biddeford.

Appledore, a town of England, in the county of Kent, on the river Rother, 9 miles W. from New Romney, and 63 E. S. E. from London.

APPLE-TOWN, an Indian village on the eaſt ſide of Seneca-lake, in New York, between the townſhips of Ovid on the South, and Romulus on the North.

APPLICATE, Applicata, *Ordinate* Applicate, in *Geometry,* is a right line drawn acroſs a curve, ſo as to be biſected by the diameter thereof.

Applicate is the ſame with what we otherwiſe and more uſually call Ordinate.

Applicate *number.* See Concrete.

APPLICATION, the act of *applying* one thing to another by cauſing them to approach or bringing them nearer together. Thus a longer line or ſpace is meaſured by the application of a leſs, as a foot or yard by an inch, &c.:

and motion is determined by ſucceſſive application of any thing to different parts of ſpace.

Application is ſometimes alſo uſed, both in *Arithmetic* and *Geometry*, for the operation of diviſion, or for that which correſponds to it in Geometry. Thus 20 applied to, or divided by 4, i. e. $\frac{20}{4}$, gives 5. And a rectangle *ab* applied to a line *c*, gives the fourth proportional $\frac{ab}{c}$, or another line, as *d*, which with the given line *c* will contain a rectangle $cd=ab$.

Application, in *Geometry*, denotes the act of placing one figure upon another in order to determine their equality or inequality. In this way Euclid, and other geometricians, have demonſtrated ſome of the primary and fundamental propoſitions in elementary Geometry. Thus it is proved, that two triangles, having two ſides of the one equal reſpectively to two ſides of the other, and the two included angles equal, are equal in all reſpects; and two triangles having one ſide and the adjacent angles of the one reſpectively equal to one ſide, and the adjacent angles of the other, are alſo in the ſame mode of application ſhewn to be equal. Thus alſo it is demonſtrated, that a diameter divides the circle into two equal parts; and that the diagonal divides a ſquare or parallelogram into two equal parts. The term is alſo uſed to ſignify the adaptation of one quantity to another, in order to their being compared; the areas of which are the ſame, but their figures different. Thus Euclid ſhews how, on a right line given, to apply a parallelogram that ſhall be equal to a right-lined figure given. See alſo l. vi. pr. 28. &c.

Application of one ſcience to another, ſignifies the uſe that is made of the principles of the one for augmenting and perfecting the other. As there is a connection between all the arts and ſciences, one of them may be made ſubſervient to the illuſtration and improvement of the other: and to this purpoſe algebra has been applied to geometry, and geometry to algebra, and both to mechanics, aſtronomy, geography, navigation, &c.

Application of *Algebra*, or *Analyſis*, to *Geometry*. After the diſcovery of algebra and analyſis, it was natural to apply theſe ſciences to geometry, ſince lines, ſurfaces and ſolids, which are the objects of geometry, are commenſurable, and capable of being compared with one another, and conſequently of having their relations and proportions aſſigned. The application of algebra to geometry is of two kinds: that which regards the plane or common geometry, and that which reſpects the higher geometry, or the nature of curve lines.

The *firſt* of theſe is concerned in the algebraical ſolution of geometrical problems, and the inveſtigations of theorems in geometrical figures, by means of algebraical inveſtigations or demonſtrations. Inſtances of this kind of application occur in the works of the moſt early writers in algebra, as Diophantus, Lucas de Burgo, Cardan, Tartalea, &c. and may be found in thoſe of authors of more modern date even to our own times. Some of the beſt precepts and exerciſes relating to this kind of application may be ſeen in Sir Iſaac Newton's "Univerſal Arithmetic," and in Mr. Thomas Simpſon's "Algebra" and "Select Exerciſes." This method of reſolving geometrical problems is, in many caſes, more direct and eaſy, than that of the geometrical analyſis; but the latter method by ſyntheſis, or conſtruction and demonſtration, is the moſt elegant. The algebraical ſolution ſucceeds beſt in ſuch problems as reſpect the ſides and other lines in geometrical figures; and thoſe geometrical problems in which angles are concerned are beſt reſolved by the geometrical analyſis. See other remarks on this method of ſolution in Newton's treatiſe above mentioned. The ſolution of problems in this way depends upon a previous acquaintance with the method of expreſſing geometrical magnitudes, as well as their mutal poſitions and relations, by algebraical notation: *e. g.* a line, whether known or unknown, is repreſented by a ſingle letter: a rectangle may be denoted by the product of the two letters expreſſing its ſides; and a rectangular parallelepipedon by the product of three letters, two of which repreſent its rectangular baſe, and the third its height. The oppoſite poſition of ſtraight lines may be expreſſed by the ſigns + and −; and ſegments of lines may be denoted by letters with theſe ſigns prefixed, as circumſtances require. In order to expreſs the poſitions of geometrical figures, which it will be more difficult to do, becauſe they are infinitely various, it will be neceſſary to have recourſe to proportions or equations, which expreſs certain relations that depend upon their poſitions: and the poſitions of figures may again be deduced from the equations that expreſs the relations of their parts. Thus, an angle may be expreſſed by the ratio of its ſine to the radius; a right angle in a triangle, by making the ſum of the ſquares of the two ſides equal to the ſquare of the hypothenuſe; the poſition of points may be aſcertained by perpendiculars let fall from them on lines given in poſition; the poſition of lines by the angles which they make with given lines, or by perpendiculars drawn to them from given points; the ſimilarity of triangles by an equation deduced from the proportionality of their ſides, &c. But it is not poſſible to give general rules for all the particular caſes that occur. As the geometrical propoſition muſt firſt be expreſſed in the algebraic manner, the reſult, when the operation is completed, muſt be expreſſed geometrically. All theorems, in which the proportions of magnitudes only are employed, and all thoſe that expreſs the relations of the ſegments of a ſtraight line, of their ſquares, rectangles, cubes, and parallelepipeds, are eaſily demonſtrated in the algebraical method. From the firſt propoſition of the ſecond book of Euclid, the nine following may be derived with eaſe in this manner; and they may be conſidered as appropriate examples of this moſt obvious application of algebra to geometry. Moreover, the algebraical demonſtrations of the 12th and 13th propoſitions of the ſecond book require only the 47th of the firſt book; and the 35th and 36th of the third book require only the third of the third book and 47th of the firſt.

In the ſolution of problems, the following general obſervations will be of uſe. When any geometrical problem is propoſed for algebraic reſolution, you are, in the firſt place, to deſcribe a figure that ſhall repreſent the parts or conditions of the problem, and regard that figure as the true one; then, having conſidered the nature of the problem, you are to prepare the figure for a ſolution, if it be neceſſary, by producing and drawing ſuch lines, as appear moſt conducive to that purpoſe. When this has been done, let the unknown line or lines that ſeem to be the moſt eaſily found, and any of the known ones that are requiſite, be denoted by proper ſymbols; then proceed to the operation, by obſerving the relation which the ſeveral parts have to each other. As no general rule can be given for the drawing of lines and ſelecting the moſt proper quantities to ſubſtitute for them, ſo as always to bring out the moſt ſimple concluſions, becauſe different problems require different methods of ſolution; it will be beſt, in order to gain experience in this matter, to attempt the ſolution of the ſame problem by ſeveral ways, and then to apply that which ſucceeds beſt to other caſes of the ſame kind, when they afterwards occur. The following general directions will be of uſe.

1. In preparing the figure, by drawing lines, let them be either parallel or perpendicular to other lines in the figure,

or ſo as to form ſimilar triangles; and if an angle be given, let the perpendicular be oppoſite to that angle, and alſo fall from the end of a given line, if poſſible.

2. In ſelecting proper quantities for ſubſtitution, let thoſe be choſen, whether required or not, which lie neareſt the known or given parts of the figure, and by means of which the next adjacent parts may be expreſſed, without the intervention of ſurds, by addition and ſubtraction only. Thus, if the problem were to find the perpendicular of a plane triangle, from the three ſides given, it will be much better to ſubſtitute for one of the ſegments of the baſe than for the perpendicular, though it be the quantity required; becauſe the whole baſe being given, the other ſegment will be given, or expreſſed, by ſubtraction only, and to the final equation come out a ſimple one; from whence the ſegments being known, the perpendicular is eaſily found by common arithmetic; whereas if the perpendicular were firſt ſought, both the ſegments would be ſurd quantities, and the final equation a quadratic one.

3. Where in any problem, there are two lines or quantities alike related to other parts of the figure or problem, the beſt way is to make uſe of neither of them, but to ſubſtitute for their ſum, their rectangle, or the ſum of their alternate quotients, or for ſome line or lines in the figure, to which they have both the ſame relation.

4. If the area, or the perimeter of a figure be given, or ſuch parts of it as have but a remote relation to the parts required, it will ſometimes be of uſe to aſſume another figure ſimilar to the propoſed one, of which one ſide is unity, or ſome other known quantity; from whence the other parts of this figure, by the known proportions of the homologous ſides, or parts, may be found, and an equation obtained.

Prob. I. "The baſe b, and the ſum of the hypothenuſe and perpendicular a, of a right-angled triangle ABC (*Plate* II. *Geometry*, *fig.* 28.) being given, to find the perpendicular." Let the perpendicular BC be denoted by x; then the hypothenuſe will be expreſſed by $a-x$; but (by Euc. 47. 1.) $AB^2 + BC^2 = AC^2$, i. e. $b^2 + x^2 = a^2 - 2ax + x^2$; whence $x = \frac{a^2-b^2}{2a}$ = the perpendicular required.

Prob. II. "The diagonal, and the perimeter of a rectangle, ABCD (*fig.* 29.) being given, to find the ſides." Put the diagonal $BD=a$, half the perimeter, $DA+AB$, $=b$, and $AB=x$; then will $AD=b-x$: and therefore, AB^2+AD^2 being $=BD^2$, we have $x^2+b^2-2bx+x^2=a^2$; which ſolved gives $x=\frac{\sqrt{2a^2-b^2}+b}{2}$.

Prob. III. "The area of a right-angled triangle ABC (*fig.* 30.), and the ſides of a rectangle EBDF inſcribed therein, being given; to find the ſides of the triangle." Put $DF=a$, $DE=b$, $BC=x$, and the given area $ABC=d$; then, by ſimilar triangles, we ſhall have $x-b$ (CF): a (DF) :: x (BC): $AB=\frac{ax}{x-b}$. Conſequently $\frac{ax}{x-b}\times\frac{x}{2}=d$, and therefore $ax^2 = 2dx - 2bd$, or $x^2 - \frac{2dx}{a} = -\frac{2bd}{a}$: which, ſolved, gives $x=\frac{d}{a}+\sqrt{\frac{dd}{aa}-\frac{2bd}{aa}}$; whence AB and AC will likewiſe be known.

Prob. IV. "Having the area of a rectangle DEFG (*fig.* 31.) inſcribed in a given triangle ABC, to determine the ſides of the rectangle." Let CI be perpendicular to AB, cutting DG in H; and let $CI=a$, $AB=b$, $DG=x$, and the given area $=cc$; then it will be, as $b:x::a:\frac{ax}{b}=CH$; which, taken from CI, leaves $a-\frac{ax}{b}=IH$; and this, multiplied by x, gives $ax-\frac{ax^2}{b}=cc=$ the area of the rectangle; whence we have $abx-ax^2=bcc$, $x^2-bx=-\frac{bcc}{a}$, $x-\frac{b}{2}=\pm\sqrt{\frac{bb}{4}-\frac{bcc}{a}}$, and $x=\frac{b}{2}\pm\sqrt{\frac{bb}{4}-\frac{bcc}{a}}$.

Prob. V. "To inſcribe a ſquare in a given triangle." Let ABC (*fig.* 32.) be the given triangle; and ſuppoſe DEFG to be the required ſquare; and draw the perpendicular BP of the triangle, which will be given together with the ſides. Then, the triangles BAC, BEF, being ſimilar, the notation may be as follows; viz. the baſe $AC=b$, the perpendicular $BP=p$, and the ſide of the ſquare DE or $EF=x$. Hence $BQ=BP-ED=p-x$; conſequently, by ſimilar triangles, BP : AC :: BQ : EF, i. e. $p:b::p-x:x$; whence $px=bp-bx$; or $bx+px=bp$, and $x=\frac{bp}{b+p}$ the ſide of the ſquare ſought, or a fourth proportional to the baſe and perpendicular, and the ſum of the two, making this ſum the firſt term; or $AC+BP:BP::AC:EF$.

Prob. VI. "The hypothenuſe AC of a right-angled triangle ABC (*fig.* 33.) and the ſide of the inſcribed ſquare BEDF, being given; to determine the other two ſides of the triangle." Let DE, or $DF=a$, $AC=b$, $AB=x$, and $BC=y$; then it will be, as $x:y::x-a$ (AF) : a (FD); whence we have $ax=yx-ya$, and conſequently $xy=ax+ay$. Moreover, $xx+yy=bb$; to which equation let the double of the former be added, and there ariſes $x^2+2xy+y^2=b^2+2ax+2ay$; that is, $x+y)^2=b^2+2a\times x+y$, or $x+y)^2-2a\times x+y=b^2$; whence, by conſidering $x+y$ as one quantity, and completing the ſquare, we have $x+y)^2-2a\times x+y+a^2=b^2+a^2$; whence $x+y-a=\sqrt{b^2+a^2}$, and $x+y=\sqrt{a^2+b^2}+a$, which put $=c$, and by ſubſtituting $c-x$ inſtead of its equal y in the equation $xy=ax+ay$, there will ariſe $cx-x^2=ac$; whence x will be found $=\frac{1}{2}c+\sqrt{\frac{1}{4}cc-ac}$, and $y=\frac{1}{2}c-\sqrt{\frac{1}{4}cc-ac}$.

Hence it appears that c, or its equal $\sqrt{aa+bb}+a$, cannot be leſs than $4a$, and therefore b^2 not leſs than $8a^2$, becauſe the quantity $\frac{1}{4}cc-ac$, under the radical ſign, would be negative, and its ſquare root impoſſible; and all ſquares, whether their roots be poſitive or negative, are poſitive; ſo that there cannot ariſe any ſuch quantities as negative ſquares, unleſs the conditions of the problem under conſideration are inconſiſtent and impoſſible. See Simpſon's Algebra, ſect. 18, paſſim.

The *ſecond* branch of the application of algebra to geometry, or that which reſpects the higher geometry, or the nature and properties of curve lines, was introduced by Des Cartes. In this department the nature of the curve is expreſſed or denoted by an algebraic equation, which is thus formed. A line is conceived to be drawn, as the diameter or ſome other principal line of the curve, and upon this line, at any indefinite points, are erected perpendiculars, which are called ordinates, and the parts of the firſt line cut off by them are called abſciſſes. Calling the abſciſs x, and its correſponding ordinate y, the known nature of the curve, or the mutual relations of other lines in it, will afford an equation involving in it x and y, and other given quantities. And as x and y are common to every point in the primary line, the equation, derived in this manner, will belong to every poſition or value of the abſciſs and ordinate, and may be properly conſidered as expreſſing the nature of the curve in all points of it; and is uſually called the equation of the curve.

Hence

Hence every particular curve will appear to have an appropriate equation, differing from that of every other; either as to the number of the terms, the powers of the unknown quantities x and y, or the ſigns of the co-efficients of the terms of the equation. Thus the circle, the ellipſe, the parabola, the hyperbola, and other curves, have their peculiar and diſtinguiſhing equations. The geometry of curve lines has been much extended and improved by means of theſe algebraic equations; for thus, all the properties of ſuch equations, and their roots are transferred to the curve lines whoſe abſciſſes and ordinates have ſimilar properties, and conſequently the known properties of curves are transferred to the equations that repreſent them. See CURVES.

APPLICATION of *Geometry* to *Algebra*. The higher geometry, or that of curve lines, is uſefully applied to the purpoſe of inveſtigating the nature and roots of equations; and alſo the values of thoſe roots by the conſtruction of ſuch lines. Beſides, common geometry is alſo applicable to algebra in ſome caſes with advantage. A familiar inſtance will be ſufficient to evince the truth of this obſervation. If it were required to ſquare the binomial $a+b$; a ſquare (*Plate* II. *Geometry*, *fig.* 34.) may be formed, whoſe ſide is equal to $a+b$; and then drawing two lines parallel to the ſides from the points of diviſion, it will immediately appear that the ſquare of the compound quantity $a+b$ is equal to the ſquares of both the parts, together with two rectangles under the two parts, i. e. $\overline{a+b}^2 = a^2+b^2+2ab$, which is alſo deduced from a geometrical conſtruction. Hence it alſo appears, that if a be equal to b, the ſquare on the whole line will be equal to four times the ſquare upon the half of that line. In this manner the Arabians, and the early European writers on algebra, deduced and demonſtrated the common rule for reſolving compound quadratic equations. And by a ſimilar method, Tartalea and Cardan derived and demonſtrated all the rules for the reſolution of cubic equations, uſing cubes and parallelepipedons inſtead of ſquares and rectangles.

APPLICATION of *Algebra* and *Geometry* to *Mechanics*. This is founded on the ſame principles as the application of algebra to geometry. It principally conſiſts in repreſenting by equations the curves deſcribed by bodies in motion, and in determining the equation between the ſpaces which the bodies deſcribe, when actuated by any forces; and the times employed in deſcribing theſe ſpaces, &c. The article ACCELERATION exhibits an inſtance of this kind of application; as the altitudes of triangles repreſent the times, the baſes, the velocities, and the areas, the ſpaces deſcribed by bodies in accelerated motion. In ſhort, as velocities, times, forces, ſpaces, &c. may be repreſented by lines and geometrical figures; and as theſe are capable of algebraic notations and operations, it is evident how the principles and properties of both algebra and geometry may be applied to mechanics, and indeed to all the other branches of the mixt mathematics.

APPLICATION of *Mechanics* to *Geometry*, conſiſts chiefly in the uſe that is ſometimes made of the centre of gravity of figures for determining the contents of ſolids deſcribed by thoſe figures. See CENTROBARYC *Method*.

APPLICATION of *Geometry* and *Aſtronomy* to *Geography*, principally conſiſts in the three following articles; viz. in determining by geometrical and aſtronomical operations, the figure of the terreſtrial globe; in finding the poſitions of places by their obſerved latitude and longitude; and in determining, by geometrical operations, the poſitions of places that are not very remote from one another. Aſtronomy and geography are alſo of great uſe in navigation.

APPLICATION of *Geometry* and *Algebra* to *Phyſics*, or *Natural Philoſophy*. For this application we are indebted to ſir Iſaac Newton, whoſe philoſophy may therefore be called the geometrical or mathematical philoſophy; and upon this application are founded all the phyſico-mathematical ſciences. Hence a ſingle obſervation or experiment will often produce a whole ſcience. Having aſcertained by experience, that the rays of light, by reflection, make the angle of incidence equal to that of reflection, we hence deduce the whole ſcience of Catoptrics, which thus becomes purely geometrical, ſince it is reduced to the compariſon of angles and lines given in poſition. The caſe is alſo the ſame in many other ſciences.

APPLICATION of *one thing to another*, is employed generally in ſubjects of *art* or *ſcience*, to denote the uſe that is made of the former for underſtanding or perfecting the latter; thus the application of the cycloid to pendulums ſignifies the uſe that is made of the cycloid for improving the doctrine and uſe of pendulums. See CYCLOID and PENDULUM.

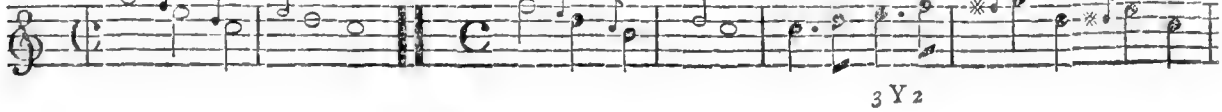
APPLICATION is alſo uſed, in ſubjects of literature, &c. for the adjuſting, accommodating, or making a thing quadrate to another. Thus we ſay, the application of a fable, &c.

APPLICATION, in *Theology*, is particularly uſed, by ſome divines, for the act whereby our Saviour transfers, or makes over to us, what he had earned or purchaſed by his holy life and death. Accordingly it is by this application of the merits of Chriſt, that we are to be juſtified and entitled to grace and glory. The ſacraments are the ordinary means, or inſtruments, whereby this application is effected.

APPLY, among *Mathematicians*, ſometimes ſignifies to transfer a line given into a circle moſt commonly, or into any other figure; ſo that its ends may be in the perimeter of the figure.

APPLY denotes alſo as much as *divide*, eſpecially among Latin writers: who as as they ſay *duc* AB *in* CB, draw AB into CB, when they would have AB multiplied by CB; or rather when they would have a right-angled parallelogram made of thoſe lines; ſo they ſay, *applica* AB *ad* CB, *apply* AB to CB, when they would have CB divided by AB; which is thus expreſſed $\frac{CB}{AB}$. Or, it is uſed when the area of a figure, and one dimenſion are given, and the other is to be found: as the area ab applied to the line c, is $\frac{ab}{c}$.

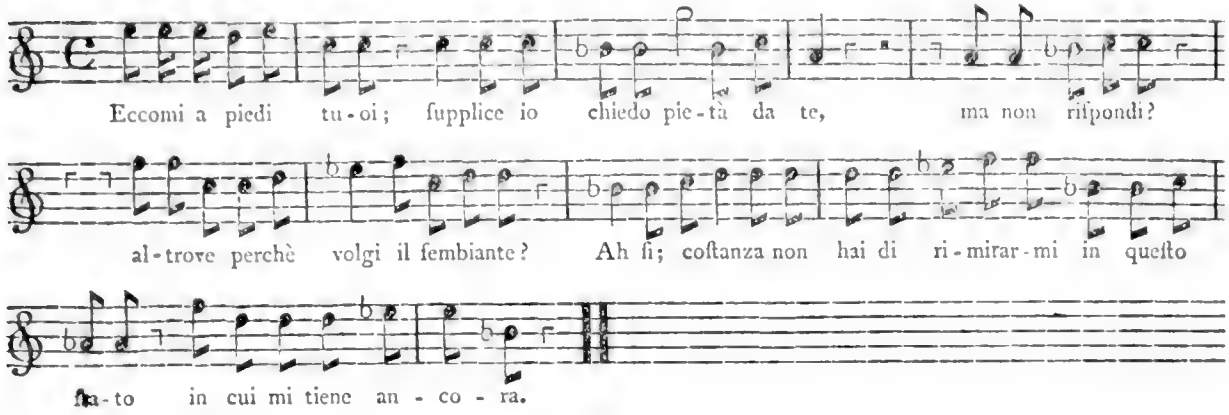
APPOGGIATURA, in *Muſic*, is a ſmall additional note of embelliſhment added to a melody, which is not ſuppoſed to occupy any portion of the time, a bar appearing complete without it; but the time which is given to this little note, is taken out of the great note which it precedes. As to the length of theſe diminutive notes, the beſt rule that can be given for them is, that in common time they ſhould be half the length of the great note, for which only the other half remains; and in triple time they rob the ſubſequent note of two-thirds of its length. So that the appoggiatura to a ſemibreve is a minim, to a minim a crotchet, to a crotchet a quaver, &c.



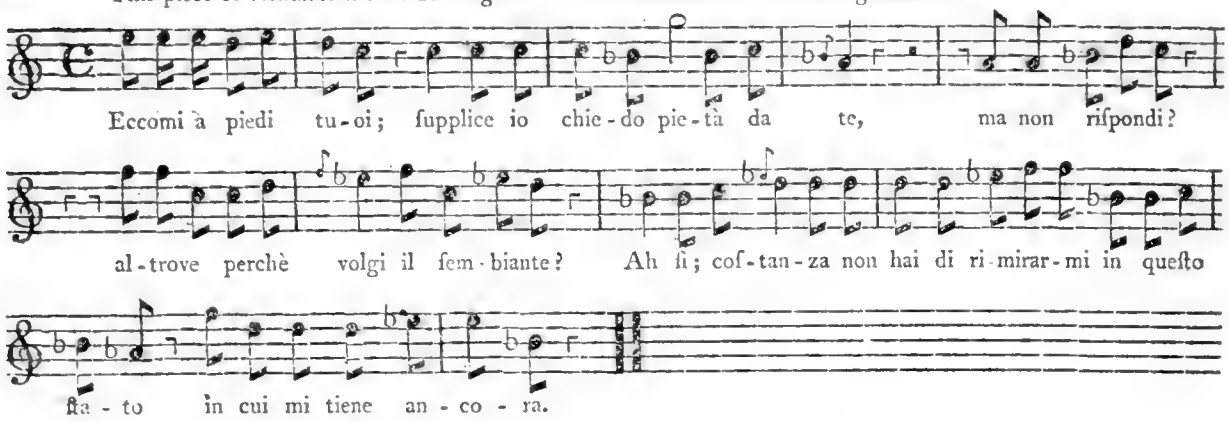
It has been well obſerved by M. Framery, in the Encyclopedie Methodique, that the appoggiatura gives a tender expreſſion to the melody, that would injure marches and movements of ſpirit, which require energy and ſtrong accents.

Appoggiaturas below the principal note, are more tender and affecting than thoſe above; which are, however, more graceful and intereſting. In recitative, though no appoggiaturas are ever written; they are as much underſtood and expected, as dots to the letter *i*.

Fragment of recitative, from Sacchini's opera of Creſo.



This piece of *recitative* ſhould be ſung as if it were written in the following manner:



M. Framery ſays, that the appoggiatura is the only embelliſhment in recitative. But Pacchierotti and Marcheſi (perhaps ſince his article was written) have introduced graces in recitative, particularly before a cloſe, which all the Italian ſingers and their imitators, who can execute them, have followed. See RECITATIVE.

The term appoggiatura is derived from appoggiare, to lean on. And as theſe little notes generally occur on the accented parts of a bar, more force is given to them by good performers, than to the principal note which they precede. In pathetic ſtrains, the ſoul of the melody may be ſaid to reſide in the appoggiaturas.

APPOINTEE, a name formerly given to a foot ſoldier in the French army, &c. who for his long ſervice and bravery receives pay above private ſentinels.

Till the year 1670, they had alſo captains and lieutenants under the appellation of appointees, who, without reſiding in the regiment, received their pay. See ANSPESSADES.

APPOINTEE, in *Heraldry*, is when two or more things are placed touching each other at the points or ends.

APPOINTMENT, a penſion or ſalary given by great lords and princes to perſons of worth and parts, in order to retain them in their ſervice. This term was chiefly uſed among the French in the time of their monarchy.

Appointments differ from wages, in that the latter are fixed and ordinary, being paid by the ordinary treaſurers; whereas appointments are annual gratifications granted by *brevet* for a time uncertain, and are paid out of the privy purſe.

APPOINTMENT, in *Law*, is uſed in contradiſtinction to a bequeſt. Thus, by conſtruction of the ſtatute 43 Eliz. c. 4. it is held, that a deviſe to a corporation for a charitable uſe is valid, as operating in the nature of an *appointment* rather than of a *bequeſt*. It is alſo held, that the ſtatute of Elizabeth, which favours appointments to charities, ſuperſedes and repeals all former ſtatutes, and ſupplies all defects of aſſurances; and therefore, not only a deviſe to a corporation, but a deviſe by a copyhold tenant without ſurrendering to the uſe of his will, and a deviſe (nay even a ſettlement) by tenant in tail without either fine or recovery, if made

made to a charitable uſe, are good by way of appointment. Blackſt. Com. b. ii. vol. ii. p. 376.

APPOMATOX, in *Geography*, is the name of a ſouthern branch of James river in Virginia.

APPORTIONMENT, Apportionamentum, in *Law*, a dividing of a rent into two or more parts, or portions, according as the land whence it iſſues is divided among two, or more proprietors.

Thus if a man, having a rent-ſervice iſſuing out of land, purchaſe a part of the land; the rent ſhall be apportioned, according to the value of the land.—So if a man let lands for years, reſerving rent, and a ſtranger afterward recover part of the land; the rent ſhall be apportioned.

But a rent-charge cannot be apportioned, nor things that are entire; as if one hold land by ſervice, to pay to his lord yearly at ſuch a feaſt a horſe, &c.; there, if the lord purchaſe a part of the land, this ſervice is totally extinct; becauſe ſuch things cannot be divided without hurt to the whole. But if part of the land, out of which a rent-charge iſſues, deſcends to the grantee of the rent, this ſhall be apportioned.

On partition of lands out of which a rent is iſſuing, the rent ſhall be apportioned. The ſtatute 11 Geo. ii. c. 19. § 15. has in certain caſes altered the law as to apportioning of rents in point of time; it being thereby enacted, "that if any tenant for life ſhall happen to die before, or on the day on which any rent was reſerved or made payable, upon any demiſe or leaſe of any lands, tenements, or hereditaments, which determined on the death of any ſuch tenant for life, the executors or adminiſtrators of ſuch tenant for life, ſhall and may, in an action on the caſe, recover of and from ſuch under-tenant or under-tenants of ſuch lands, &c. if ſuch tenant for life die on the day on which the ſame was made payable, the whole; or if before ſuch day, then a proportion of ſuch rent, according to the time ſuch tenant for life lived, of the laſt year, or quarter of a year, or other time in which the ſaid rent was gowing due as aforeſaid, making all juſt allowances, or a proportionable part thereof reſpectively." Before this ſtatute, the rent, by the death of a tenant for life, was loſt; but the legiſlature having thus interpoſed in favour of tenants for life, the proviſions of the ſtatute have, by an equitable conſtruction, been extended to tenants in tail. However, the dividends of money directed to be laid out in lands, and in the mean time to be inveſted in government ſecurities, and the intereſt and dividends to be applied as the rents and profits would in caſe it were laid out in land, were held not to be apportionable, though tenant for life died in the middle of the half year. But where the money is laid out in mortgage, till a purchaſe could be made, the intereſt is apportionable. This diſtinction, however, may be referred to intereſt on a mortgage, being in fact due from day to day, and ſo not properly an apportionment; whereas the dividends accruing from the public funds are made payable on certain days, and therefore not apportionable. Upon this principle the Maſter of the Rolls decreed an apportionment of maintenance-money, it being for the daily ſubſiſtence of the infant; and the principle extending to a ſeparate maintenance for a feme covert, ſuch apportionment has, in ſuch caſes, been allowed at law.

A man purchaſes part of the land where he hath common appendant, the common ſhall be apportioned: of common appurtenant it is otherwiſe; and if by the act of the party, the common is extinct. Common appendant and appurtenant may be apportioned on alienation of part of the land to which it is appendant or appurtenant. Danv. Abr. 505. 507. Co. Litt. 144. 148, 149. Amb. Rep. 502. 2 P. Wms. 176. 501. 8 Rep. 79. Wood's Inſt. 199.

APPOSAL *of ſheriffs*, is the charging of them with money received on their account in the exchequer, 22 and 23 Car. II. c. 22.

APPOSER ſignifies an examiner. In the court of exchequer, there is an officer called the foreign *apoſer*.

In the office of confirmation, in the firſt liturgy of Edw. VI. the rubric directs the biſhop, or ſuch as he ſhall appoint, to appoſe a child; and a biſhop's examining chaplain was anciently called his *poſer*.

APPOSITION, from *ad*, *to*, and *pono*, *I put*, the act of putting or applying one thing to another.

Apposition is uſed in *Phyſics*, in ſpeaking of bodies which derive their growth from the adjunction or union of neighbouring bodies.

Apposition, in *Grammar*, denotes the putting two or more ſubſtantives together in the ſame caſe, and without any copulative conjunction between them.

Thus, Flanders, bloody theatre, horrible ſcene of war; love, enemy of human quiet; peace, parent of riches, ſource of faction, &c.

APPRAISER, from *ad*, *to*, and *pretium*, *value*, one who rates, or ſets a value upon goods, &c. He muſt be a ſkilful and honeſt perſon. It is not a buſineſs of itſelf, but is practiſed by brokers of houſehold furniture, to which ſet of men the word is chiefly applied. Yet upholſterers and other brokers are employed, or even any perſon or perſons who are ſuppoſed to be ſkilled in the commodities to be appraiſed or valued. They are employed in caſes of death, executions brought in upon goods, or of ſtock to be turned over from one perſon to another, or divided between copartners; and are called *ſworn appraiſers*, from their taking an oath to do juſtice between party and party. If they value the goods too high, they ſhall be obliged to take them at the price appraiſed, ſtatute 11 Edw. I.

They ſometimes appraiſe on behalf of both ſides, each party agreeing to have the ſame appraiſer or appraiſers; ſometimes in oppoſition, each part chuſing one or more of a ſide; and ſometimes by commiſſion or deputation of truſtees, maſters in chancery, &c.

APPRECIATION, in *Muſic*, is the judging accurately of things within the power of our ſenſes and perception. Our organ of hearing is unable to judge of ſounds beyond a certain degree of gravity and acuteneſs. The octave below double C, the loweſt note of the additional keys in the baſe of piano-fortes, is extremely difficult to tune; and the additional high notes ſeem more the production of wood than wire. However, the great mathematician, Euler, gives the extent of eight octaves to human perception; from the higheſt appreciable ſound to the loweſt: but, ſays Rouſſeau, theſe extremes of the ſcale not being very agreeable, we ſeldom, in practice, exceed five octaves, which the common compaſs of keyed-inſtruments furniſhes. There is likewiſe a degree of force or loudneſs, which we cannot appreciate. The ſound of a great bell, for inſtance, gives no diſtinct and certain tone, but a confuſion of harmonies, which we cannot diſtinguiſh in the belfrey, from the fundamental. We muſt diminiſh the force by diſtance, ere we are ſure what the real ſound is. It is the ſame with a wind inſtrument overblown, and a voice that is forced beyond its natural power; ſo that thoſe who try to ſing loud, with a feeble voice, are always out of tune. With reſpect to noiſe, we can never reduce it to any fixed tone; and it is that which conſtitutes the difference between ſound and noiſe. See Bruit.

The abbé Feyter, taking up the ſubject, ſays, "Euler probably determined the compaſs of appreciable ſounds, from

from the following circumſtances: The largeſt pipe in a 32 feet organ, is an octave below the *bordunn*, or double-baſe ſtop, and two octaves below double C in the open diapaſon of an organ. Now from the loweſt C to the higheſt, on a piano-forte or harpſichord, there is an interval of four octaves; and if we add two octaves to the bottom, and two to the top, for the low and high ſtops of an organ, we ſhall have the eight octaves in queſtion. In order to complete the demonſtration, we muſt have found by experiment, that a pipe leſs than two inches will not ſpeak: for the moſt acute C in the 15th has only that length; but though birds, and the ſerinetto or bird-pipe, do produce more acute ſounds, as we are unable to find their uniſon, we know not what they are.

APPREHENSION, in *Logic*, denotes the ſimple attention of the mind to an object preſented either to our ſenſe, or our imagination, without paſſing a judgment, or making any inference.

The word literally denotes the action of the hand, whereby it takes hold of, and graſps any thing: being formed of *ad*, and *prehendo*, *I catch*.

It is by that operation of the underſtanding, which is called ſimple apprehenſion, that we acquire thoſe notions or ideas, which are the materials of all our knowledge. According to Dr. Reid, it is ſynonymous with conception; and like other ſimple operations of the mind, it cannot be logically defined. For his account of this operation of the mind, ſee CONCEPTION.

APPREHENSION is likewiſe uſed to expreſs an inadequate and imperfect idea: and thus it is applied to our knowledge of God, in contradiſtinction to comprehenſion.

APPREHENSION, in *Law*, ſignifies the ſeizing a criminal, in order to bring him to juſtice. See ARREST.

APPRENDRE, in our *Ancient Law-Books*, a fee or profit to be taken or received. Statute 2 & 3 Edw. VI. c. 8.

APPRENTICE, from *apprendre*, *to learn*, one who is bound by covenant to ſerve a tradeſman or artificer a certain time, uſually ſeven years, upon condition of the maſter's inſtructing him in his art or myſtery.

Apprentices may likewiſe be bound to huſbandmen, or even to gentlemen of fortune and clergymen; who, as well as tradeſmen, are compellable to take the children of the poor under a penalty of 10l. (ſtat. 8 & 9 Will. III. c. 30. § 5.); and the church-wardens and overſeers, with the conſent of two juſtices, may bind them till the age of twenty-one years. ſtat. 43 Eliz. c. 2. 18 Geo. III. c. 47. And by ſtatute 5 Eliz. c. 4. §. 35. the juſtices may compel certain perſons under age to be bound as apprentices, and on refuſal may commit them.

Apprentices may be diſcharged on reaſonable cauſe, either at their own requeſt or that of their maſters, at the quarter ſeſſions, or by one juſtice, with appeal to the ſeſſions (5 Eliz. c. 4.), who may, by the equity of the ſtatute, if they think it reaſonable, direct reſtitution of a rateable ſhare of the money given with the apprentice; and pariſh-apprentices may be diſcharged in the ſame manner, by two juſtices, 20 Geo. II. c. 19. But if any, whoſe premium has been leſs than ten pounds, run away from their maſters, they are compellable to ſerve out the time of abſence, or give ſatisfaction for it, at any period within ſeven years after expiration of the original contract, 6 Geo. III. c. 26. Apprentices gain a ſettlement in that pariſh where they laſt ſerved forty days, 13 & 14 Car. II. c. 12. And by the 5th of Elizabeth, c. 4 they have an excluſive right to exerciſe the trade in which they have been inſtructed, in any part of England. However, the reſolutions of the courts have in general rather confined than extended the reſtrictions of this ſtatute.

No trades are held to be within the ſtatute, but ſuch as were in being at the making of it. For trading in a country village, apprenticeſhips are not requiſite; and following the trade ſeven years, without any effectual proſecution (either as a maſter or a ſervant), is ſufficient without an actual apprenticeſhip. See Blackſtone's Com. vol. i. p. 426, &c.

By the common law, infants, or perſons under the age of 21 years, cannot bind themſelves apprentices, in ſuch a manner as to entitle their maſters to an action of covenant, or other action againſt *them* for departing from their ſervice, or other breaches of their indentures; which makes it neceſſary, according to the uſual practice, to get ſome of their friends to be bound for the faithful diſcharge of their offices, according to the terms agreed on. If an apprentice miſbehaves himſelf, the maſter may correct him in his ſervice, or complain to a juſtice of peace, to have him puniſhed according to the ſtatute 5 Eliz. c. 4. If any one entices an apprentice from his maſter's ſervice, or harbours him after notice, the maſter may maintain a ſpecial action on the caſe againſt the perſon ſo doing. By the cuſtom of London, an infant unmarried, and above the age of fourteen, may bind himſelf apprentice to a freeman of London, by indenture with proper covenants, which covenants, by the ſaid cuſtom, ſhall be as binding as if he were of full age. By the ſtat. 5 Eliz. c. 4. § 25. an apprentice muſt be bound by deed indented; and this muſt be complied with for all purpoſes except for obtaining a ſettlement. Indentures muſt alſo be enrolled in all towns corporate. 5 Eliz. c. 5. and 5 Geo. II. c. 46.; and in London, by the cuſtom, in the Chamberlain's office there. In London, if the indentures be not enrolled before the Chamberlain within a year, upon a petition to the Mayor and Aldermen, &c. a *ſcire facias* ſhall iſſue to the maſter, to ſhew cauſe why not enrolled; and if it was through the maſter's default, the apprentice may ſue out his indentures and be diſcharged: otherwiſe, if through the fault of the apprentice, as if he would not come to preſent himſelf before the Chamberlain, &c. for it cannot be enrolled unleſs the apprentice be in court and acknowledge it. Indentures are likewiſe to be ſtamped, and are chargeable with ſeveral duties by act of parliament.

With regard to the aſſigning of apprentices, it hath been held that an apprentice is not aſſignable. He cannot be bound nor diſcharged without deed. But though an apprentice is not aſſignable, yet ſuch aſſignment amounts to a contract between the two maſters, that the child ſhould ſerve the latter. By the cuſtom of the city of London, an apprentice may be turned over from one maſter to another; and if the maſter refuſe to make him free at the end of the term, the Chamberlain may make him free; but, in other corporations, there muſt be a mandamus to the mayor, &c. to make him free in ſuch caſe. It ſeems agreed, that if a man be bound to inſtruct an apprentice in a trade for ſeven years, and the maſter dies, the condition is diſpenſed with, being a thing perſonal; but if he be further bound to find him meat, drink, cloathing, and other neceſſaries; here the death of the maſter doth not diſpenſe with the condition, but his executors ſhall be bound to perform it as far as they have aſſets. But if a perſon is bound apprentice by a juſtice of the peace, and the maſter dies before the expiration of the term, the juſtices have no power to oblige his executor, by their order, to receive ſuch apprentice and maintain him. It is ſaid, however, that the executor or adminiſtrator may bind him to another maſter for the remaining part of his time. In this caſe of the maſter's dying, it is ſaid that by

the cuſtom of London, the executor muſt put the apprentice to another maſter of the ſame trade. By the cuſtom of the city of London, a freeman may turn away his apprentice for gaming: though, if a maſter turn away an apprentice on account of negligence, &c. equity may decree him to refund part of the money given with him. Jacob's Law Dict. by Tomlins, Art. *Apprentice*.

In France, the ſons of tradeſmen, living in their fathers' houſe till ſeventeen years of age, were reputed to have ſerved an apprenticeſhip. In that country the times of ſerving are different in the different profeſſions, from three years to eight. After ſerving out an apprenticeſhip, the perſon becomes what they call an *aſpirant*, or candidate for maſterſhip, and is to be examined by proper officers as to his ſkill and proficiency, and alſo to exhibit a *chef d'œuvre* or maſterpiece in the art he has been bred to, before he be ſuffered to ſet up to practiſe for himſelf. And the cuſtom of France, in regard to apprentices, is not unworthy the imitation of other nations.

Anciently, benchers in the inns of court were called *apprentices of the law*, in Latin *apprenticii juris nobiliores*; as appears by Mr. Selden's note on Forteſcue; and ſo the learned Plowden ſtyles himſelf. See BENCHER.

Sir Henry Finch, in his *Nomotechnia*, writes himſelf, *apprentice de ley*: ſir Edward Coke, in his Inſt. ſays *apprenticii legis*, in pleading, are called *homines conſiliarii, & in lege periti*; and in another place, apprentices, and other counſellors of law.

APPRENTICESHIP denotes the ſervitude of an apprentice, or the duration of his indenture. The ingenious Dr. Smith, in his well-known and admirable work on "The Nature and Cauſes of the Wealth of Nations," has introduced ſeveral important and uſeful obſervations on this ſubject. The competition in ſeveral employments is reſtrained to a ſmaller number, than would otherwiſe be diſpoſed to enter into them, partly by the limitation of the number of apprentices, which attends the excluſive privilege of incorporated trades, and partly by the long term of apprenticeſhip, which increaſes the expence of education. Seven years ſeem formerly to have been, all over Europe, the uſual term eſtabliſhed for the duration of apprenticeſhips in the greater number of incorporated trades. Such incorporations were anciently called univerſities, which is the proper Latin name for any incorporation whatever. The univerſity of ſmiths, the univerſity of tailors, &c. are expreſſions commonly occurring in the old charters of ancient towns. When thoſe particular incorporations, which are now peculiarly called univerſities, were firſt eſtabliſhed, the term of years during which it was neceſſary to ſtudy, in order to obtain the degree of Maſter of Arts, appears evidently to have been copied from the term of apprenticeſhip in common trades, of which the incorporations were much more ancient. As to have wrought ſeven years under a maſter properly qualified, was neceſſary to entitle any perſon to become a maſter, and to have himſelf apprentices, in a common trade; ſo to have ſtudied ſeven years under a maſter properly qualified, was neceſſary to entitle him to become a maſter, teacher, or doctor (words anciently ſynonymous) in the liberal arts, and to have ſcholars or apprentices (words likewiſe originally ſynonymous) to ſtudy under him. By the 5th of Elizabeth, commonly called the *ſtatute of apprenticeſhip*, it was enacted, that no perſon ſhould for the future exerciſe any trade, craft, or myſtery, at that time exerciſed in England, unleſs he had previouſly ſerved to it an apprenticeſhip of ſeven years at leaſt; and thus, what before had been the bye-law of many particular corporations, became in England the general and public law of all trades carried on in market towns. To country villages the term of ſeven years' apprenticeſhip doth not extend; but the limitation of this ſtatute to trades exerciſed before it was paſſed has given occaſion to ſeveral diſtinctions, which, conſidered as rules of police, appear as fooliſh as can well be imagined. A coach-maker, for inſtance, has no right to make, or employ journeymen for making, coach wheels; but he muſt buy them of a maſter wheel-wright, this latter trade having been exerciſed in England before the 5th of Elizabeth. But a wheel-wright, though he has never ſerved an apprenticeſhip to a coach-maker, may, by himſelf or journeymen, make coaches, becauſe this trade, being of a later origin, is not within the ſtatute. Thus alſo the manufactures of Manchester, Birmingham, and Wolverhampton are, many of them, upon this account, not within the ſtatute, not having been exerciſed in England before the 5th Elizabeth. The regulations of apprenticeſhip in Ireland are upon a different footing, and ſomewhat leſs illiberal than in England. Prohibitions ſimilar to thoſe of the ſtatute 5 Eliz. obtain in all corporate towns, by authority of bye-laws of the ſeveral corporations: but theſe prohibitions extend only to natives of Ireland; for by a regulation made by the lord lieutenant and privy council, having in this inſtance, by 17 & 18 Car. II. the force of a law, all foreigners and aliens, as well perſons of other religious perſuaſions as proteſtants, who are merchants, traders, artificers, &c. ſhall, upon coming to reſide in any city, walled town, or corporation, and paying twenty ſhillings by way of fine to the chief magiſtrate and common council, or other perſons authorized to admit freemen, be admitted to the freedom of that city, &c. and to the freedom of guilds of their reſpective trades, with the full enjoyment of all privileges of buying, ſelling, working, &c.; and any magiſtrate, refuſing to admit foreigners ſo applying, ſhall be diſfranchiſed. In Scotland, there is no general law which regulates univerſally the duration of apprenticeſhips. The term is different in different corporations: where it is long, a part of it may generally be redeemed by paying a ſmall fine. In moſt towns too, a very ſmall fine is ſufficient to purchaſe the freedom of any corporation. The weavers of linen and hempen cloth, the principal manufactures of the country, as well as all other artificers ſubſervient to them, wheel-makers, reel-makers, &c. may exerciſe their trades in any town corporate without paying any fine. In all towns corporate all perſons are free to ſell butchers' meat upon any lawful day of the week. Three years are, in Scotland, a common term of apprenticeſhip, in ſome very nice trades; and, in general, there is no country in Europe in which corporation laws are ſo little oppreſſive. In France, the duration of apprenticeſhips is different in different towns and in different trades. In Paris, five years are the term required in a great number; and before any perſon can be qualified to exerciſe the trade, as a maſter, he muſt, in many of them, ſerve five years more as a journeyman. During this latter time, he is called the companion of his maſter, and the term itſelf is called his companionſhip. The inſtitution of long apprenticeſhips, ſays Dr. Smith, can give no ſecurity that inſufficient workmanſhip ſhall not frequently be expoſed to ſale: nor has it any tendency to form young people to induſtry. Apprenticeſhips were altogether unknown to the ancients: the Roman law is perfectly ſilent with regard to them. There is no Greek or Latin word which expreſſes the idea we now annex to the word Apprentice. Long apprenticeſhips are altogether unneceſſary. The arts, which are much ſuperior to common trades, ſuch as thoſe of making clocks and watches, contain no ſuch myſtery as to require a long courſe of inſtruction. In the common mechanic trades, the

the leſſons of a few days might certainly be ſufficient. The dexterity of hand, indeed, even in common trades, cannot be acquired without much practice and experience. But a young man would practiſe with much more diligence and attention, if, from the beginning, he wrought as a journeyman, being paid in proportion to the little work which he could execute, and paying, in his turn, for the materials which he might ſometimes ſpoil through awkwardneſs and inexperience. His education would generally in this way be more effectual, and always leſs tedious and expenſive. The maſter, indeed, would be a loſer; he would loſe all the wages of the apprentice, which he now ſaves for ſeven years together. In the end, perhaps, the apprentice himſelf would be a loſer: in a trade ſo eaſily learnt he would have more competitors; and his wages, when he came to be a complete workman, would be much leſs than at preſent. The ſame increaſe of competition would reduce the profits of the maſters, as well as the wages of the workmen: the trades, the crafts, the myſteries would all be loſers; but the public would be a gainer, the work of all artificers coming in this way much cheaper to market. Smith's Nature and Cauſes of the Wealth of Nations, vol. i. p. 183—191. Iriſh Tranſ. vol. iv. pt. ii. part 59, &c.

APPRISING, in *Scots Law*, the name of the action by which a creditor formerly carried off the eſtate of his debtor for payment. It was thus called, becauſe the ſheriff, when no purchaſer of the heritable rights could be found, *appriſed*, or taxed the value of the lands by an inqueſt, ſo as to make over to the creditor lands to the value of the debt. By the act 1672, appriſings were ſuperſeded, and adjudications were ſubſtituted in their place. See ADJUDICATION.

APPROACH, *curve of equable, acceſſus equabilis*, was firſt propoſed by M. Leibnitz, and has given the analyſts ſome trouble. The curve is of ſuch a nature, that a body deſcending in it by the ſole power of gravity approaches the horizon equally in equal times.—This curve has been found by Bernouilli, Varignon, Maupertuis, and others, to be the ſecond cubical parabola ſo placed as that its point of regreſſion or vertex is uppermoſt, and the deſcending body muſt commence its motion in it with a certain determinate velocity. M. Varignon rendered the queſtion general, by inveſtigating the curve which a body might deſcribe in vacuo, ſo as to approach towards a given point through equal ſpaces in equal times, according to any law of gravity. Maupertuis alſo reſolved the ſame problem, in the caſe of a body deſcending in a medium, the reſiſtance of which is proportioned to the ſquare of the velocity. Vide Hiſt. Acad. R. Sciences, an. 1699. p. 82. Idem, an. 1730. p. 129. Mem. p. 333.

APPROACH, in *Gardening*, is uſed in ſpeaking of the method of inarching or INOCULATING, which is called GRAFTING by *approach*.

Some phyſicians alſo ſpeak of a method of curing diſeaſes by touching or *approach*. See APPROXIMATION.

APPROACHES, in *Fortification*, the ſeveral works made by the beſiegers for advancing or getting nearer to a fortreſs, or place beſieged. Such are trenches, mines, ſaps, lodgments, batteries, galleries, epaulements, &c.

APPROACHES, or *Lines of Approach*, are particularly uſed for trenches dug in the ground, and their earth thrown up on the ſide next the place beſieged; under ſhelter or defence whereof the beſiegers may approach, without loſs, to the parapet of the covered way, and plant guns, &c. wherewith to cannonade the place.

The lines of approach are to be connected by PARALLELS, or lines of communication.

The beſieged frequently make COUNTER-*approaches*, to interrupt and defeat the enemies' approaches.

The ancients made their approaches towards the place beſieged much after the ſame manner as the moderns. M. de Folard ſhews, that they had their trenches, their ſaps, parallels, &c. which, though uſually held of modern invention, appear to have been practiſed long before by the Greeks, Romans, Aſiatics, &c. Vide Polyb. t. ii. p. 161.

APPROACHES, *Method of*, in *Mathematics*, a name given by Dr. Wallis, in his Algebra, to a method of reſolving certain problems relating to ſquare numbers, &c., by firſt aſſigning certain limits to the quantities required, and then approaching nearer and nearer till a coincidence is obtained. In this ſenſe, the double rule of falſe poſition may be conſidered as a method of approaches. See APPROXIMATION.

APPROACH, in *Fowling*, expreſſes the devices made uſe of to get within ſhot of ſhy birds. There are many contrivances practiſed for this purpoſe: a very common one is by means of circular pieces of wood or hoops ſurrounded with boughs, not unlike a chimney-ſweeper's or milkmaid's garland, within which the fowler conceals himſelf with his gun, and ſteals on the birds, who are completely deceived, imagining the machine a tree, and its approach effected by their own motion towards it: it is therefore neceſſary that the fowler's approach ſhould be very ſlow, and his motions very uniform; for any ruffle or ſhake would alarm the birds, and put them to flight. This mode is ſucceſsfully practiſed on water-fowl when they are feeding on marſhy grounds or baſking on the ſides of the water. But when theſe birds confine themſelves principally to the middle of wide rivers, or in moors and lakes, this leafy covering muſt be placed in a boat; or a tall ſcreen made of ſtraw is ſometimes ſet upright in it, behind which the ſportſman remains concealed, and either gently paddles himſelf near the birds, or permits the boat to drift towards them.

In moonlight nights when water-fowls come on ſhore to feed, they are approached by the fowler, concealing himſelf behind a horſe, who is made to move gently towards the birds, and this practice has given riſe to an artificial figure called a ſtalking-horſe, behind which the ſportſman endeavours to gain on the fowls; but this is a leſs certain method, as they are fearful even of horſes, cows, and ſheep, as well as of man.

In deep ſnows, birds are approached by concealing every part of the perſon in a white dreſs; and even the gun muſt be clothed likewiſe. By this means hares, partridges, and moor-game are killed in abundance: but this device is not held fair in ſporting language, becauſe theſe are leſs wary animals, and, moreover, becauſe there are regular methods in conſtant practice to entrap them. When buſtards were plentiful on Saliſbury plain, it was uſual to hunt and approach them in a kind of covered cart with loopholes through which the fowler could ſee and take aim at them; but cultivation and increaſed population have nearly deſtroyed theſe birds in England.

APPROBATION, a ſtate or diſpoſition of the mind wherein we put a value upon, or become pleaſed with, ſome perſon or thing. Moraliſts are divided on the principle of approbation, or the motive which determines us to approve and diſapprove. The Epicureans will have it to be only *ſelf-intereſt*; according to them, that which determines any agent to approve his own action, is its apparent tendency to his private happineſs; and even the appprobation of another's action flows from no other cauſe but an opinion of its tendency to the happineſs of the approver, either immediately or remotely. Thoſe, who incline to this ſyſtem,

reaſon thus: having experienced, in ſome inſtances, a particular conduct to be beneficial to ourſelves, or obſerved that it would be ſo, a ſentiment of approbation riſes up in our minds, which ſentiment afterwards accompanies the idea, or the mention of the ſame conduct, although the private advantage which firſt excited it no longer exiſt. Others reſolve approbation into a moral ſenſe, or a principle of benevolence, by which we are determined to approve every kind affection, either in ourſelves or others, and all publicly uſeful actions, which we imagine to flow from ſuch affection, without any view to our own private happineſs.

Dr. Adam Smith thinks it needleſs to introduce any new power of perception, in order to account for the principle of approbation; and apprehends that ſympathy is ſufficient to account for all the effects aſcribed to this peculiar faculty. This ſyſtem places virtue in utility; and accounts for the pleaſure with which the ſpectator ſurveys the utility of any quality from ſympathy with the happineſs of thoſe who are affected by it. This ſympathy, he obſerves, is different both from that by which we enter into the motives of the agent, and from that by which we go along with the gratitude of the perſons who are benefited by his actions; and he ſays, it is the ſame principle with that by which we approve of a well-contrived machine.

Dr. Smith does not reject entirely from his ſyſtem that principle of utility, the perception of which in any action or character conſtitutes, according to Mr. Hume, the ſentiment of moral approbation. That no qualities of the mind are approved of as virtuous, but ſuch as are uſeful or agreeable, either to the perſon himſelf or to others, he admits to be a propoſition that holds univerſally; and he alſo admits, that the ſentiment of approbation with which we regard virtue, is enlivened by the perception of this utility, or, as he explains the fact, by our ſympathy with the happineſs of thoſe to whom the utility extends. Nevertheleſs he inſiſts, that it is not the view of this utility which is either the firſt or principal ſource of moral approbation. To ſum up the whole of his doctrine in a few words: when we approve of any character or action, the ſentiments which we feel are derived from four different ſources. Firſt, we ſympathize with the motives of the agent; ſecondly, we enter into the gratitude of thoſe who receive the benefit of his actions; thirdly, we obſerve that his conduct has been agreeable to the general rules by which theſe two ſympathies generally act; and, laſtly, when we conſider ſuch actions as making a part of a ſyſtem of behaviour which tends to promote the happineſs either of the individual or of ſociety, they appear to derive a beauty from this utility, not unlike that which we aſcribe to a well-contrived machine. Theſe different ſentiments, he thinks, exhauſt completely, in every inſtance that can be ſuppoſed, the compounded ſentiment of moral approbation. "After deducting," ſays he, "in any one particular caſe, all that muſt be acknowledged to proceed from ſome one or other of theſe four principles, I ſhould be glad to know what remains; and I ſhall freely allow this overplus to be aſcribed to a moral ſenſe, or to any other peculiar faculty, provided any body will aſcertain preciſely what this overplus is."

When we approve of good actions, and diſapprove of bad, this approbation and diſapprobation, when we analyſe it, ſays Dr. Reid, "Eſſays on the active Powers of Man," (ch. vii. p. 244.) appears to include not only a moral judgment of the action, but ſome affection, favourable or unfavourable, towards the agent, and ſome feeling in ourſelves. Dr. Ferguſon, in "Principles of Moral and Political Science," agrees in the main with Lord Shafteſbury, Dr. Hutcheſon, Dr. Reid, and Buffier, in regarding moral approbation as a ſpecific ſentiment, incapable of reſolution into any other ſentiment or principle.

According to Dr. Clarke and others, reaſon or the underſtanding, the ſame faculty by which we diſtinguiſh between truth and falſehood, enables us to diſtinguiſh between what is fit and unfit, amiable and odious, both in actions and affections; and they argue, that ſuch are the natures of certain actions, that when perceived as they are by a reaſonable being, there muſt reſult in him certain emotions and affections. An excellent writer adds, that in contemplating the actions and affections of moral agents, we have both a perception of the underſtanding and a feeling of the heart; and the latter, or the effects in us accompanying our moral perceptions, are deducible from two ſprings. They partly depend on the poſitive conſtitution of our natures; but the moſt ſteady and univerſal ground of them is the eſſential congruity between the object and the faculty. Hutcheſon's Inquiry, &c. tract iv. ſect. vi. and Eſſ. on Paſſ. p. 207. Smith's Theory of Mor. Sent. Parts iv. and vi. Cudworth's Immut. Mor. b. i. Price's Review, &c. ch. ii. Paley's Philoſophy, vol. i. p. 14.

Approbation, in *Civil Law*. It is a maxim among civilians, *approbare dicitur qui non improbat. He is judged to approve who does not diſapprove.*

By the civil law, a mere approbation of a crime after commiſſion does not make a perſon guilty; but an approbation attended with fact is equivalent to a command.

Approbation is more particularly uſed in ſpeaking of recommendations of books given by perſons qualified or authorized to judge of them.

Thoſe appointed to grant licences and imprimaturs, frequently expreſs their approbation of books.

Books were formerly ſubjected to a licenſer in England, ſee 13th Car. II. c. 33. which act is long ſince expired; and being incompatible with the noble principles of the revolution, has never ſince, and we hope never will be revived.

APPROPRIARE *ad honorem*, in *Law*, ſignifies to bring a manor within the extent and liberty of ſuch an honour.

Appropriare *communam*, ſignifies to diſcommon, i. e. to ſeparate and incloſe any parcel of land, which before was open common.

APPROPRIATE, Appropriated, in *Philoſophy*, is underſtood of ſomething which is indeed common to ſeveral; yet, in ſome reſpects, is peculiarly attributed to one.

APPROPRIATION, in *Law*, denotes the annexing of an eccleſiaſtical benefice to the proper and perpetual uſe of ſome religious houſe, biſhopric, college, or ſpiritual perſon, to enjoy for ever; in the ſame way as *impropriation* is the annexing of a benefice to the uſe of a lay perſon or corporation; that which is an appropriation in the hands of religious perſons being uſually called an impropriation in the hands of the laity. It is computed, that there are in England 3845 impropriations.

This contrivance ſeems to have ſprung from the intereſted policy of the monaſtic orders, who begged and bought, for maſſes and obits, and ſometimes even for money, all the advowſons within their reach, and then appropriated the benefices to their own corporation. But, in order to complete ſuch appropriation effectually, the king's licence and the biſhop's conſent muſt firſt be obtained; becauſe both the king and the biſhop might ſome time or other have an intereſt, by lapſe, in the preſentation to the benefice, which can never happen if it be appropriated to the uſe of a corporation, which never dies. The conſent of the patron is alſo neceſſarily implied, becauſe the appropriation can be originally made to none but to ſuch ſpiritual corporation as

is alſo the patron of the church; the whole being, indeed, nothing elſe but an allowance for the patrons to retain the tithes and glebe in their own hands, without preſenting any clerk, they themſelves undertaking to provide for the ſervice of the church. When the appropriation is thus made, the appropriators and their ſucceſſors are perpetual parſons of the church, and muſt ſue and be ſued, in all matters concerning the rights of the church, by the name of parſons. This appropriation may be ſevered, and the church become diſappropriate, two ways: as firſt, if the patron or appropriator preſent a clerk who is inſtituted and inducted to the parſonage; for the incumbent ſo inſtituted and inducted is, to all intents and purpoſes, complete parſon; and the appropriation, being once ſevered, can never be re-united again, unleſs by a repetition of the ſame ſolemnities. And when the clerk ſo preſented is diſtinct from the vicar, the rectory then veſted in him becomes what is called a *ſine-cure;* becauſe he hath no cure of ſouls, having under him a vicar to whom that cure is committed. Alſo, if the corporation which has the appropriation is diſſolved, the parſonage becomes diſappropriate at common law; becauſe the perpetuity of perſon is gone, which is neceſſary to ſupport the appropriation.

In this manner may appropriations be made at this day; and thus were moſt, if not all, of the appropriations at preſent exiſting originally made; being annexed to biſhoprics, prebends, religious houſes, nay even to nunneries, and certain military orders, all of which were ſpiritual corporations. At the diſſolution of the monaſteries by ſtatutes 27 Henry VIII. c. 28. and 31 Henry VIII. c. 13. the appropriations of the ſeveral parſonages, which belonged to thoſe religious houſes, amounting to more than one-third of all the pariſhes in England, would have been, by the rules of the common law, diſappropriated; if a clauſe in thoſe ſtatutes had not intervened, by which they were given to the king in as ample a manner as they were before held by the abbots, &c. The alien priories had, in former reigns, been diſſolved and given to the crown. From theſe two ſources have ſprung all the lay appropriations or ſecular parſonages in the kingdom; they having been afterwards granted out from time to time by the crown. Blackſtone's Com. vol. i. p. 384, &c.

APPROUAGE, or Approuak, in *Geography*, a river of South America, in the country of Guiana, which diſcharges itſelf into the ſea; N. lat. 4° 20'. W. long. 52° 46'.

Approuage, or *Approuak*, a town of South America, in Guiana, ſituate at the mouth of the river of the ſame name.

APPROVEMENT, Approveamentum, or Approviamentum, is ſometimes uſed in *Ancient Law Writers*, for an improvement, or riſe of the value and worth of a thing.

Thus *to approve, approbare*, is to make the beſt benefit of a thing, by increaſing the rent, &c. *Cum omnibus approviamentis, et aliis pertinentiis ſuis, &c.*

Hence, in ſome ancient ſtatutes, bailiffs of lords in their franchiſes are called their approvers. A bailiff is not to think it below him to *approve, approbare*, his maſter's goods; but of his barley to make malt, of his wool to make cloth, &c.

Approvement is more particularly uſed where a man hath common in the lord's waſte, and the lord incloſeth part of the waſte for himſelf, leaving ſufficient common, with egreſs and regreſs, for the commoner. Reg. Jud. 8, 9. This incloſure, when juſtifiable, is called in law approvement, an ancient expreſſion ſignifying the ſame as improvement. Accordingly, it is provided by the ſtatute of Merton, 20 Hen. III. c. 4. that the lord may approve, or incloſe, and convert to the uſes of huſbandry, which is a melioration or improvement, any waſte grounds, woods, or paſtures, in which his tenants have common appendant to their eſtates, provided he leaves ſufficient common to his tenants, according to the proportion of their land.

APPROVER, in our *Laws*, one who, being indicted for treaſon or felony, and arraigned for the ſame, doth confeſs the fact before plea pleaded, and appeals or accuſes others his accomplices of the ſame crime, in order to obtain his pardon; and this confeſſion is called *approvement*.

He is called an approver, or prover, *probator*, becauſe he muſt prove what he hath alleged in his appeal. This proof was anciently either by battle, or by the country, at the choice of the appellee: and the form of this accuſation may be found in Cromp. Juſt. 250. See alſo Bracton, lib. iii. Staundf. Pl. Cor. 52.

If the appellee were vanquiſhed, or found guilty, he muſt ſuffer the judgment of the law, and the approver have his pardon *ex delicto juſtitiæ*. On the other hand, if the appellee were conqueror, or acquitted by the jury, the approver muſt receive judgment to be hanged, upon his own confeſſion of the indictment; for the condition of his pardon has failed, viz. the conviction of ſome other perſon, and therefore his conviction remains abſolute. It is purely in the diſcretion of the court to permit the approver thus to appeal, or not; and, in fact, this courſe of admitting approvements hath been long diſuſed. But we have, in caſes of burglary and robbery on the highway, what ſeems to amount to the ſame by ſtatute; it being ordained, that where perſons charged with ſuch crimes out of priſon, diſcover two others concerned in the crime, they ſhall have a pardon, &c. ſtat. 5 Anne, c. 31. Blackſt. Com. vol. iv. p. 329.

Approvers of the king, are thoſe who have the letting of the king's demeſnes in ſmall manors, &c. ſtat. 51 Hen. III. ſt. 5.

In the ſtatute of the 1ſt of Ed. III. c. 8. ſheriffs are called the king's approvers.

Approver is particularly uſed, in *Ancient Law Writers*, for a bailiff or land-ſteward, appointed to have the care of a manor, franchiſe, or the like, and improve and make the moſt of it for the benefit of his maſter.

In this ſenſe, the word is alſo written *appruare*.

APPROXIMATION, from *ad*, and *proximus, near to*, in *Arithmetic* and *Algebra*, a continual approach ſtill nearer and nearer to a root or quantity ſought, without a poſſibility of ever arriving at it exactly.

Methods of continual approximation for the ſquare roots and cube roots of numbers have been employed by Algebraiſts and Arithmeticians, from Lucas de Burgo, and perhaps a much earlier period, to the preſent time. For the roots of higher powers, and of all ſimple equations, and alſo for the roots of all compound equations whatever, we have various approximations by Wallis, Raphſon, Halley, and later writers, eſpecially Newton, De Lagny, &c. all of them forming ſeries infinitely converging, or approaching ſtill nearer to the quantity required, according to the nature of the ſeries.

It is evident, that if a number propoſed be not a true ſquare, it is in vain to hope for a juſt quadratic root thereof, explicable by rational numbers, whether integers or fractions; whence, in ſuch caſes, we muſt content ourſelves with approximations, ſomewhat near the truth, without pretending to accuracy: and ſo for the cubic root, of what is not a perfect cube, and the like for ſuperior powers.

This the ancients were aware of, and accordingly they had their methods of approximation; which, though ſcarcely applied by them beyond the quadratic, or perhaps the cubic root,

root, are yet equally applicable, by due adjuſtments, to the ſuperior powers alſo, as is ſhewn by Dr. Wallis, in the Philoſoph. Tranſact. N° 215. or Ph. Tr. Ab. vol. i. p. 98

The rule of double poſition furniſhes an eaſy and general method of approximation. See POSITION.

For the roots of pure powers, many rules are given by writers on this ſubject; but the following, diſcovered by Dr. Hutton, and publiſhed in the firſt volume of his "Mathematical Tracts," is peculiarly recommended by its convenience for practice.

Let N be any number, the root r of which is to be extracted, and let n be the neareſt root firſt found by trial: then $\frac{r+1.N+r-1.n^r}{r-1.N+r+1.n^r} \times n$ will be equal to the required root of N very nearly; or expreſſing this theorem in a proportion, we ſhall have the following rule: $\overline{r-1} \times N + \overline{r+1} \times n^r : \overline{r+1} \times N + \overline{r-1} \times n^r :: n$: the required root, very nearly. In order to find a root ſtill nearer, ſubſtitute the laſt value of the root ſought for n, and repeat the operation, as often as may be thought neceſſary. This theorem includes all the rational formulæ of Halley and De Lagny. E.G. Let it be required to double the cube, or to find the cube root of the number 2. In this caſe $r=3$, $r+1=4$, and $r-1=2$: and the general theorem will be $\frac{4N+2n^3}{2N+4n^3} \times n$, or $\frac{2N+n^3}{N+2n^3} \times n = N^{\frac{1}{3}}$, or the cube root of N: or the proportion will be $N+2n^3 : 2N+n^3 :: n$: the root ſought nearly. Hence N being $= 2$, the neareſt root $n = 1$, and its cube n^3 alſo $=1$: conſequently $N+2n^3 = 2+2 = 4$, and $2N+n^3 = 4+1=5$; therefore $4 : 5 :: 1 : \frac{5}{4} = 1\frac{1}{4} = 1.25$, the reſult of the firſt approximation. Again, taking $n=\frac{5}{4}$, and conſequently $n^3 = \frac{125}{64}$, we ſhall have $N+2n^3 = 2+\frac{250}{64} = \frac{378}{64}$, and $2N+n^3 = 4+\frac{125}{64} = \frac{381}{64}$; and therefore the proportion will be $\frac{378}{64} : \frac{381}{64}$; i. e. $378 : 381$ or $126 : 127 :: \frac{5}{4} : \frac{635}{504} = 1.25992$, &c. the cube root of 2, true in all the figures: and by again taking $\frac{635}{504}$ for a new value of n, and repeating the proceſs, many more figures may be found, and the reſult more nearly obtained.

Another method of approximating to the ſquare root or cube root of any number, that is not a perfect ſquare or cube, is as follows: Firſt of all ſuppoſe two ſucceſſive ſquare or cube numbers, one greater and the other leſs than the given number, and whoſe ſquare or cube roots differ from one another by unity. Then for the ſquare root, it is evident that the given ſquare number may be repreſented by $m^2 \pm n$; m^2 being greater or leſs than the given number, and n being the part which is to be added in the former caſe and ſubtracted in the ſecond, in order to obtain the ſaid number. Then, $\sqrt{m^2 \pm n} = \overline{m^2 \pm n}^{\frac{1}{2}} = m \pm \frac{n}{2m} - \frac{n^2}{8m^3} \pm \frac{n^3}{16m^5}$, &c. will be the ſquare root required. This ſeries will always converge, becauſe m and n are ſuppoſed to be integral numbers, and $\frac{n}{m}$ not to exceed unity: e. g. let the non-quadratic number be 150, and the neareſt ſquare numbers being 144 and 169, and their ſquare roots 12 and 13, and 150 being nearer to 144 than to 169, $m^2 = 144$ and $n = 6$; and the formula $m^2 \pm n$ will be $144+6$: conſequently $\sqrt{144+6} = 12+\frac{6}{24} - \frac{36}{8 \times 1728} + \frac{216}{16.248832}$ &c. Of this converging ſeries it will be ſufficient to take the three firſt terms for the required ſquare root of 150: i. e. $12 + \frac{1}{4} - \frac{1}{384} = 12 + \frac{95}{384} = 12.247395$ for the approximated root. The proceſs is the ſame for the cube root, biquadratic root, &c.: e. g. let a number, which is an imperfect cube, be repreſented by $m^3 \pm n$, m being the next greateſt or next leaſt cube to the number given, and n the part to be added or ſubtracted, ſo as to give the propoſed number. Then $\sqrt[3]{m^3 \pm n} = \overline{m^3 \pm n}^{\frac{1}{3}} = m \pm \frac{n}{3m^2} - \frac{n^2}{9m^5} \pm \frac{58n^3}{81m^8} - \frac{10n^4}{243m^{11}}$ &c. will be the cube root ſought. The reader converſant with ſubjects of this nature, will eaſily ſupply an example.

To extract the roots of equations by APPROXIMATION. Stevinus and Vieta propoſed methods for obtaining the roots of equations by approximation; and their methods were improved and purſued by Oughtred and others. However they required a different proceſs for every degree of equation, and of courſe were very tedious as well as imperfect. Sir Iſaac Newton introduced general methods for inveſtigating and expreſſing radical quantities by means of approximating, infinite ſeries, and alſo the roots of all ſorts of compound equations whatever, which methods are eaſy and expeditious. For the approximation of roots he purſued the following method: he firſt found by trial the value of the root, either greater or leſs, but nearly equal to it; then aſſuming another letter to denote the unknown difference between this and the true value, he ſubſtituted in the equation, inſtead of the unknown letter or root of the equation, the ſum or difference of the approximate root and the ſaid aſſumed letter; and thus he obtained a new equation, having only the aſſumed ſmall difference for its root or unknown letter; and then found by a certain method which he purſued, from this equation, a near value of this ſmall aſſumed quantity. He then aſſumed another letter for the ſmall difference between this laſt value and the true one, and ſubſtituted the ſum or difference of theſe into the laſt equation, whence aroſe a third equation, involving the ſecond aſſumed quantity, whoſe near value he found as before. Proceeding thus as far as he thought proper, he connected together by their proper ſigns all the near values that had been found, and thus formed a ſeries approaching ſtill nearer and nearer to the true value of the root of the firſt or propoſed equation. The approximate values of the ſeveral ſmall aſſumed differences may be found in different ways. Newton's method was as follows: as the quantity ſought is ſmall, its higher powers decreaſe more and more, and therefore no great error will reſult from neglecting them; accordingly Newton neglected all the terms having in them the ſecond and higher powers, leaving only the firſt power and the abſolute known term; from which ſimple equation he always found the value of the aſſumed unknown letter nearly, in a very ſimple and eaſy manner. Halley's method of doing the ſame thing, was to neglect all the terms above the ſecond power, and then to find the root of the remaining quadratic equation; which would give a nearer value of the aſſumed letter than Newton's method, but by a more troubleſome and leſs expeditious proceſs. Raphſon has propoſed another method, little different from that of Newton, thus: having found a near value of the firſt aſſumed ſmall quantity or difference, he corrected by this the firſt approximation to the root of the propoſed equation; and then, aſſuming another letter for the next, or ſmaller difference, he introduced it into the original equation in the ſame manner as before;

and thus he proceeded from one correction to another, employing always the firſt propoſed equation to find them, inſtead of the ſucceſſive near equations uſed by Newton.

E. G. Let it be required to find the root of the equation $x^3-5x=31$ or $x^3-5x-31=0$: here the root x is evidently equal to 8 nearly: and therefore for x take $8+z$, and ſubſtitute $8+z$ for x in the given equation, and the terms will be as follow:

$$\begin{array}{rl} x^3 = & 64+16z+z^2 \\ -5x = & -40-5z \\ -31 = & -31 \\ \hline \text{the ſum is } & -7+11z+z^2=0. \end{array}$$

Then, rejecting z^2, we have $-7+11z=0$, and $z=\frac{7}{11}=.6363$, &c. or $=.6$ nearly. Next aſſume $z=.6+y$, then

$$\begin{array}{rl} z^2 = & .36+1.2y+y^2 \\ 11z = & 6.6+11y \\ -7 = & -7 \\ \hline \text{the ſum } & -.04+12.2y+y^2=0, \end{array}$$

and rejecting y^2, $12.2y=.04$, and $y=\frac{.04}{12.2}=.003278$ nearly. Aſſume $y=.003278-v$, then

$$\begin{array}{rl} y^2 = & .00001074\,5284-.006556\,v+v^2 \\ 12.2y = & .039991\,6-12.2\,v \\ -.04 = & -.04 \\ \hline \text{the ſum } & .00000\,2345284-12.206556\,v+v^2=0, \end{array}$$

and $v=\frac{.00000\,2345284}{12.206556}=.000000192133$.

Hence, collecting all the aſſumed differences, with their appropriate ſigns, we ſhall have $x=8+z+y-v=1+.6+.003278-.000000192133=8.600327807867$ the required root of the equation propoſed, according to the method of Newton.

Raphſon's proceſs is as follows: aſſume $x=8+z$, then

$$\begin{array}{rl} x^3 = & 64+16z+z^2 \\ -5x = & -40-5z \\ -31 = & -31 \\ \hline \text{the ſum } & -7+11z+z^2=0; \end{array}$$

hence $z=\frac{7}{11}=.6$ nearly. Aſſume $x=8.6+y$; then

$$\begin{array}{rl} x^2 = & 73.96+17.2y+y^2 \\ -5x = & -43-5y \\ -31 = & -31 \\ \hline \text{the ſum } & -.04+12.2y+y^2=0; \end{array}$$

hence $y=\frac{.04}{12.2}=.003278$ nearly; and $x=8.6+y=8.603278$ nearly. Aſſume $x=8.603278-v$; then

$$\begin{array}{rl} x^2 = & 74.016392345284-17.206556\,v+v^2 \\ 5x = & -43.016390+5\,v \\ -31 = & -31 \\ \hline \text{the ſum } & .00000\,2345284-12.206556\,v+v^2=0; \end{array}$$

hence $v=.000000192133$; conſequently $x=8.600327807867$ as before.

For the cubic equation e. g. $y^3-2y-5=0$, Newton proceeds thus:

y is nearly $=2$; aſſume therefore $y=2+p$; then,

$$\begin{array}{rl} y^3 = & 8+12p+6p^2+p^3 \\ -2y = & -4-2p \\ -5 = & -5 \\ \hline \text{the ſum } & -1+10p+6p^2+p^3=0; \end{array}$$

hence $p=\frac{1}{10}=.1$ nearly. Aſſume $p=.1+q$; then,

$$\begin{array}{rl} p^3 = & 0.001+0.03q+0.3q^2+q^3 \\ +6p^2 = & 0.06+1.2q+6q^2 \\ +10p = & 1+10q \\ -1 = & -1 \\ \hline \text{the ſum } & 0.061+11.23q+6.3q^2+q^3=0; \end{array}$$

hence $q=-0.0054$ nearly.

Aſſume $q=-0.0054+r$; then,

$$\begin{array}{rl} q^2 = & +0.00002\,91600-0.000087\,48r, \text{ &c.} \\ +6.3q^2 = & +0.00183708-0.06804r, \text{ &c.} \\ +11.23q = & -0.060642+11.23r \\ +0.061 = & +0.061 \\ \hline \text{the ſum will be } & +0.00054\,1550536+11.162047\,48r; \end{array}$$

hence $r=-0.00004\,8517$, &c. Conſequently,

$$\begin{aligned} y &= 2+p+q+r \\ &= 2+0.1-0.0054-0.00004\,8517 \\ &= 2.09455\,1483, \text{ the root of the equation, } y^3-2y=5. \end{aligned}$$

In the ſame manner Newton performs the approximation for the roots of literal equations, that is, equations having literal coefficients; thus, the root of this equation,

$y^3+axy+a^2y-x^3-2a^3=0$, is

$$y=a-\frac{x}{4}+\frac{x^2}{64a}+\frac{131x^3}{512a^2}+\frac{509x^4}{16,384a^3}, \text{ &c.}$$

Vid. De Analyſi per Æquationes infinitas, cap. iv. § 1 and 2. apud Oper. Newtoni, t. i. p. 270, &c. Geometria Analytica, cap. ii. ibid. t. i. p. 394, &c. Ed. Horſley. Raphſoni Analyſis Æquationum Univerſalis. Phil. Tranſ. Abr. v. i. p. 81, &c. Saunderſon's Algebra, vol. i. p. 722, &c. See a memoir on this method of the reſolution of equations by the marquis de Courtivron, in the Mem. de l'Academie for 1744. For M. de la Grange's method of approximation for all the roots of a determinate numeral equation, ſee Mem. of Berlin, tom. xxiii. and xxiv.

Other particular methods of approximation, applicable to various purpoſes, have been given by many other perſons: as for inſtance, methods of approximating, by ſeries, to the roots of cubic equations belonging to the irreducible caſe, by Nicole, in the Memoires de l'Academie above cited; by M. Clairaut, in his "Algebra"; and by Dr. Hutton, in vol. i. of his "Tracts." Beſides, the methods of infinite ſeries by Wallis, Newton, Gregory, Mercator, Maclaurin, &c. may be conſidered as approximations in quadratures, and other branches of the mathematics, many inſtances of which may be ſeen in Wallis's Algebra, the Philoſophical Tranſactions, and other books on the ſubject. To this head may be alſo referred the methods of exhauſtions of the ancients, by which Archimedes and others have approximated to the quadrature and rectification of the circle, &c. which was performed by continually biſecting the ſides of polygons, both inſcribed in a circle, and circumſcribed about it; by which means the ſums of the ſides of the ſimilar polygons approach continually nearer and nearer to each other, and the circumference of the circle is nearly a mean between the two ſums. See EQUATION.

APPROXIMATION, in *Medicine*, denotes a magnetical kind of cure or method of tranſplanting a diſeaſe into ſome other ſubject, whether animate or vegetable, by bringing it in immediate contact with the patient.

APPROXIMATION, in *Surgery*, APPROPINQUATIO, ENGYSOMA, ENGISOMA OSSIUM CRANII. Fr. *Approximation des os du crane;* Germ. *Die Uebereinander ſchieburg der Hirnſchalknochen.* This term is applied to thoſe wounds of the head, in which, the ſcull being fractured, one or more of the ſplinters are forced under the ſound part of the bone, ſo as to occaſion a compreſſion of the dura mater. In the delivery of a child, this occurrence with the bones of the cranium, one lapping over the other, is a natural circumſtance.

APPUI, in the *Manege*, q. d. reſt or ſtay upon the hand, is the reciprocal effort between the horſe's mouth and the bridle-hand; or the ſenſe of the action of the bridle on the hand of the horſeman.

A juſt appui of the hand, is the nice bearing up or ſtay of the bridle; ſo that the horſe, being awed by the ſenſibility and tenderneſs of his mouth, dares not reſt too much upon

upon the bit-mouth, nor check or beat upon the hand to withſtand it.

A dull appui, is when a horſe has a good mouth, but his tongue is ſo thick that the bit cannot work, or bear upon the bars; the tongue not being ſo ſenſible as the bars: though the like effect is ſometimes owing to the thickneſs of his lips. A horſe is ſaid to have no appui, when he dreads the bit-mouth, is too apprehenſive of the hand, and cannot bear the bit. He is ſaid to have too much appui, when he reſts, or throws himſelf too much, or too hardily, upon the bit. Horſes deſigned for the army ought to have a full appui upon the hand. See HAND.

APPULSE, from *ad*, and *pulſo*, *I act on*, in a general ſenſe, a thing's being brought to, or in contact with another.

Articulation is either by appulſe, i. e. when one of the moveable organs touches and reſts on ſome of thoſe which are immoveable; or without appulſe, only by inclination of the moveable organ to the immoveable.

APPULSE *of cattle*, *appulſus pecoris*, in the *Civil Law*, the right of driving them to water.

APPULSE, in *Aſtronomy*, the approach of any planet to a conjunction with the ſun, or a ſtar; ſo that they may be ſeen within the ſame field of the teleſcope: or, as ſome authors have defined it, the actual contact of two luminaries.

The appulſes of the planets to the fixed ſtars have always been of great uſe to aſtronomers, in order to fix the places of the former. The ancients wanting an eaſy method of comparing the planets with the ecliptic, which is not viſible, had ſcarce any other way of fixing their ſituations, but by obſerving their track among the fixed ſtars, and remarking their appulſes to ſome of thoſe viſible points. Hiſt. Acad. Scienc. an. 1710, p. 417.

Dr. Halley has publiſhed a method of determining the places of the planets, by obſerving their near appulſes to the fixed ſtars. Phil. Tranſ. N° 369. See alſo Phil. Tranſ. N° 76. p. 361. and Mem. Acad. Scienc. for 1708, where Flamſteed and de la Hire have given obſervations of the moon's appulſes to the Pleiades.

For diſcovering the longitude at ſea, obſervations of the appulſes of the moon to the fixed ſtars afford an excellent method. See LONGITUDE.

Of all the celeſtial obſervations hitherto made, none are capable of ſo perfect an exactneſs, as the near appulſes of the moon and planets to the fixed ſtars; for though the places of the ſtars have not as yet attained their ultimate preciſion, yet ſuch obſervations are ever good, the places of the planets being thereby aſcertained in proportion to the correctneſs of any catalogues that may be made hereafter. But the ordinary number of ſtars, with which the planets may be thus compared, being ſmall, the opportunities of obſerving are conſequently rare; whence appears the great uſe of a full catalogue of all the teleſcopical ſtars within the zodiac, viz. that thereby opportunities of obſerving appulſes may be more frequent. Since the royal obſervatory at Greenwich was put under Dr. Halley's care, he endeavoured to put himſelf in a condition to ſupply the many and great vacancies to be met with in the preſent zodiac; and for the ſervice of aſtronomy, publiſhed a map or planiſphere of the ſtarry zodiac; wherein are accurately laid down all the ſtars to which the moon's appulſe has ever been obſerved in any part of the world. Phil. Tranſ. Abr. vol. vi. p. 170.

His ſucceſſors in that department, and particularly the preſent aſtronomer royal, Dr. Maſkelyne, have contributed, in a very high degree, to the facility and uſe of ſuch obſervations. See *Nautical* ALMANAC, and LONGITUDE.

APPURTENANCES, or APPERTINANCES, in *Common Law*, ſignify things belonging to ſome other as their principal. The word is formed of *ad*, *to*, and *pertinere*, *belong*.

Appurtenances may either be things corporeal, as [illegible] belonging to a chief manor, and common of paſture &c.; or incorporeal, as liberties and ſervices of [illegible]. See APPENDANT, and COMMON.

APREMONT, in *Geography*, a town of France, in the department of Vendée, and chief place of a canton, in the diſtrict of Sables d'Olonne, 5 leagues N. of Sables d'Olonne, and 2½ S. E. of Challans.

APRES, a fictitious or heraldic animal, drawn as a bull with a ſhort tail, like that of a bear; it is borne as the ſiniſter ſupporter to the arms of the company of Muſcovy merchants.

APRES-LÈS-VEYNE, in *Geography*, a town of France, in the department of the Higher Alps, and chief place of a canton in the diſtrict of Gap. The place contains 897, and the canton 5,300 inhabibants: the territory includes 245 kiliometres and 9 communes.

APREY, a town of France, in the department of the Upper Marne, and chief place of a canton in the diſtrict of Langres, 8 miles S. W. of Langres.

APRI, in *Natural Hiſtory*, a ſpecies of TAENIA that infeſts the liver of the boar. *Goeze Eingew.*—Gmelin.

APRI, is alſo the ſpecific name of another kind of *vermes* that inhabits the inteſtines of the boar; it is of the TRICHOCEPHALUS genus, and is thus deſcribed. Tail furniſhed on each ſide with crenated ſcales. *Goeze Eingew.* This is of the ſame ſize as T. hominis, which infeſts the human body.

APRI, a third kind of *vermes*, alſo belonging to the ASCARIS genus. It is found in the lungs of the boar; is viviparous, brittle, tapering to a point at each end; ſlender as a fine thread, and an inch in length.

APRICARIUS, in *Ornithology*, a ſpecies of CHARADRIUS, about the ſize of the golden plover, that inhabits the northern parts of Europe; as Sweden, Denmark, Iceland, and Greenland; and feeds on worms, and the buds of the black-berried heath in the latter. The fleſh is delicious.

The ſpecific character is, the chin and abdomen black; body brown, dotted with white and yellow; legs cinereous. Linn. To which may be added, the length of the bill is one inch, its colour black; the eyes large, irides brown, eyelids black; at the baſe of the upper mandible, the feathers black; forehead, between the eyes, white, a line of which is continued over each eye, down the ſides of the neck, and unites on the breaſt in the form of a tranſverſe bar. The vent is ſpotted with white; ſecondaries, quills, and tail, barred with black and brown; legs black.—The male is diſtinguiſhed by having a black patch on the temples.

This is pluvialis aurea freti Hudſonis of Briſſon; pluvier doré à gorge noire of Buffon; ſpotted plover of Edwards; and alwargrim plover, Arct. Zool. & Lath. Gen. Syn.

APRICOT, in *Botany*. See PRUNUS.

APRICOT, in *Gardening*, a general name applied to a fruit-tree of the plum kind. This tree, we are told by different writers on gardening, came originally from Armenia, whence it takes the name of *Armeniaca*. It was introduced into this country, according to Mr. Forſyth, in 1562. The ſame writer alſo remarks, that though the apricot will not take upon the cherry-ſtock, it will ſucceed upon all ſorts of plums, except the Bruſſels. The following ſelection of apricots is recommended as the moſt ſuitable for a ſmall garden. The *Maſculine*, the *Roman*, the *Orange*, the *Breda*, and the *Moor Park*. The moſt proper time for planting trees of this ſort, the above author obſerves, is in autumn, as ſoon as the leaf begins to fall; ſuch trees being choſen for this purpoſe as have the ſtrongeſt and cleaneſt ſtems, and if ſuch as have been headed down, and are of

two or three years growth, they will bear and fill the walls much ſooner than thoſe which have not been ſo treated. He thinks they ſhould only have one ſtem; or if they have two, one of them ſhould be cut off; for by planting thoſe with two ſtems, the middle of the tree is apt to be left naked, and of courſe one-third of the wall remains uncovered by the branches. The writer, however, ſeems fully aware, that it is the practice of many to make choice of trees with the ſmalleſt ſtems; but theſe, he thinks, always produce weaker ſhoots than ſuch as he has recommended. The *Breda* is ſuppoſed the beſt and the richeſt flavoured for a ſtandard, although the *Bruſſels* is frequently preferred; but Mr. Forſyth would by no means recommend planting more than three trees of each ſort in a garden, as ſtandards; as it is not one year in ten, he ſays, that a tolerable crop is produced from them. He thinks the *Breda*, the *Bruſſels*, and the *Moor Park*, ſhould always be planted on an eaſt or weſt aſpect. A few trees for an early ſupply may be planted on a ſouth aſpect, according to the ſize of the garden, and the demand there may be for the ſupply of the family; but a weſt aſpect is far preferable for the general crop. Thoſe who wiſh for a late ſupply, may alſo have ſome trees planted on an eaſt aſpect.

In planting the trees, it is recommended, where the borders are new, that they ſhould be made two feet and a half or three feet deep of good, light freſh loam; and that in old borders, where the earth has been injured by the roots of the former trees, it will be neceſſary to take out the old mould at leaſt three feet deep and four feet wide, filling up the hole with freſh loam, taking care to plant the trees about eight inches higher than the level of the old border, to allow for the ſinking of the earth, and that they may not afterwards be too deep in the ground. But the propagation, culture, and management of apricot trees, will be more fully treated of under the article PRUNUS.

The produce of the apricot tree is highly valuable as a ſummer fruit, for different purpoſes; while green and young, for tarts, pies, &c.; when ripe, it is a fine table fruit, provided it be gathered before it become ſoft and mealy; and when preſerved in ſugar, is an excellent ſweetmeat.

APRIES, in *Biography* and *Ancient Hiſtory*, ſucceeded his father Pſammis or Pſammutis, as king of Egypt, in the year before Chriſt 594, and is ſuppoſed to have been the Pharaoh-Hophra of Jeremiah, ch. xxxvii. 5.; and Ezekiel, xvii. 15. Herodotus (l. iv. c. 161.) and Diodorus (l. i. p. 62.) give him the character of a martial prince; and ſpeak of ſucceſsful wars which he carried on againſt the Tyrians, Sidonians, and Cypriots. Having taken Sidon by ſtorm, and made himſelf maſter of the iſle of Cyprus, he returned with immenſe ſpoil into Egypt. In the firſt year of his reign, he entered into a league with Zedekiah king of Judah, againſt the king of Babylon; and about two years after, attempted to relieve Jeruſalem, which was cloſely beſieged by Nebuchadnezzar; but as the Babylonians approached, he and his Egyptian army fled, and left the Jews to the mercileſs rage of their enemies. Towards the latter end of his reign, the Libyans applied to him for ſuccour againſt the Cyrenæans, a Greek colony of Africa, by whom they were invaded; but the powerful army which he ſent to their relief, being defeated with great ſlaughter, a diſcontent, which terminated in a civil war, took place among his own ſubjects. Amaſis, who was employed to quell the tumult, betrayed Apries, and was proclaimed king. In a battle near Memphis, Apries was vanquiſhed and made priſoner, and after ſome time was ſtrangled; having reigned, according to Herodotus, 25 years, but 22 according to Diodorus. Anc. Un. Hiſt. v. i. p. 312.

APRIGLIANO, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Calabria Citra, 7 miles S. E. of Coſenza.

APRIL, the fourth month of the YEAR, according to the common computation; but the ſecond, reckoning from the vernal equinox.

The word is derived from *Aprilis*, of *aperio*, *I open*; becauſe the earth, in this month, begins to open her boſom for the production of vegetables; or, as others ſay, from Ἀφροδίτη, the Greek appellation of Venus.

In this month the ſun travels through parts of the ſigns Aries and Taurus.

APRILE GUISEPPE, in *Biography*. See TENDUCCI, and CANTARE.

APRILINA, in *Entomology*, a ſpecies of PHALÆNA, in the *Noctua* family, deſcribed by Linnæus, and Fabricius. Both authors, it muſt indeed be remarked, have made great confuſion between this and another ſpecies of the ſame family; viz. RUNICA: and Entomologiſts have been under conſiderable doubts reſpecting the identity of either. Theſe are natives of Great Britain, and as ſuch fully noticed by Mr. Donovan, in his "Natural Hiſtory of Britiſh Inſects;" from which it appears that the Linnæan ſpecies named *Aprilina*, is the ſame as Fabricius calls *Runica*; and, on the contrary, the *Runica* of Linnæus is the *Aprilina* of Fabricius: to reconcile the difficulties ariſing from this confuſion, the two inſects are thus defined.

Phalæna Aprilina: thorax creſted; wings deflexed, green; a black mark and tranſverſe band; and a ſingle row of black triangular dots near the apex. Vol. x. p. 57.

Phalæna Runica: thorax creſted; firſt wings greeniſh, with black marks; and a row of triangular dots behind. Vol. x. p. 75.

And it is further obſerved, that the two black ſemicircles on the thorax, and double row of triangular ſpots at the ends of the poſterior wings, are mentioned as peculiarities of the ſpecies *Runica*, by ſome writers; the latter is, however, liable to conſiderable variations, the ſpots being in general crowded in a confuſed ſeries, and forming an irregularly interrupted line. It may be eaſily diſtinguiſhed from the *Phalæna Aprilina*, by its ſuperior ſize; the colours are leſs vivid, and it is deſtitute of the broad tranſverſe bar, which is conſpicuous on the upper wings of *Phalæna Aprilina*. Vide Don. Brit. Inſ.

APRILIS, or PRILIS *Lacus*, in *Ancient Geography*, *Lago de Caſtiglione*, a lake of Italy, belonging to Etruria, to the weſt of Ruſellæ.

APRIO, in *Geography*, a town of European Turkey, in the province of Romania, the ſee of a Greek archbiſhop; ſituate on the Lariſſa, between Trajanapolis and Rhodoſto. It was anciently called *Theodoſiopolis*, from its being a favourite reſidence of Theodoſius the great; and afterwards *Apris* or *Apro*.

A PRIORI *Demonſtration*. See DEMONSTRATION.

APRON, in *Naval Architecture*, is a piece of curved timber fixed behind the lower part of the ſtern, immediately above the foremoſt end of the keel.

APRON is alſo a name given to a platform or flooring of plank, raiſed at the entrance of a dock, againſt which the dock gates are ſhut.

APRON, in *Gunnery*, a piece of lead which caps or covers the vent or touch-hole of a cannon.

APROS, in *Ancient Geography*, a river of Gaul, in the country of the Oxybians; ſuppoſed by M. D'Anville to be the preſent *Loup*.

APROSIO, ANGELICO, in *Biography*, a learned Auguſtine monk, was born at Ventimiglia in Genoa, in 1607. In Genoa he taught philoſophy for five years, and he afterwards ſettled at Venice, where he lectured on polite literature.

rature. Of the library of the Auguſtines, founded by him in his native place, he publiſhed a catalogue, under the title of "Bibliotheça Aproſiana," printed at Bologna, in 1673, 12mo.; which contains an account of his own life, and of various authors. He wrote many ſatirical or humorous pieces under fictitious names. He died about the year 1682. Gen. Dict. Nouv. Dict. Hiſtor.

APRUSA, in *Ancient Geography*, a river of Italy, placed by Pliny in Umbria, and ſuppoſed by Hardouin to be the preſent *Aveſa*.

APRUSTUM, Aprigliano, a town of Italy, in Brutium, ſouth-eaſt of Conſentia; and ſuppoſed by Hardouin to be the *Abuſteron* of Ptolemy.

APRUTIUM, a town of Italy, now *Teramo*.

APSALUS, a town placed by Ptolemy in Macedonia.

APSINES, in *Biography*, a ſophiſt and rhetorician of Athens, was born at Gadara of Phœnicia, and flouriſhed about the year 236. Philoſtratus was his friend, and celebrates his accuracy as a writer, in the laſt book of his ſophiſts. His remains are to be found in Manutius's Collection of Rhetoricians, publiſhed at Venice in 1608. fol. Fabr. Bib. Græc. l. iv. c. 31. § 16.

APSINTHII, in *Ancient Geography*, people who inhabited the ſouthern part of Thrace, towards the coaſts, eaſt of the river Melas, and weſt of the Hebrus. They took their name from the river Apſinthus, which traverſed their country.

APSIS, or Absis, ſignifies the bowed or arched roof of a houſe, room, or oven, &c. as alſo the ring or compaſs of a wheel.

Apsis, in *Eccleſiaſtical Writers*, denotes an inner part in the ancient churches, wherein the clergy ſat, and where the altar was placed. It is ſuppoſed to have been thus called, becauſe covered with an arch or vault of its own, by the Greeks called ἁψις, and by the Latins *abſis*. Iſidore, with leſs probability, imagines it ſo called, as being the moſt luminous part; from ἁπτειν, *to give light*.

Apſis, in this ſenſe, amounts to the ſame with what is otherwiſe called *choir*, *concha*, *camera*, and *preſbyterium*; and ſtands oppoſite to the *nave* or body of the church.

Apsis is more particularly uſed for the biſhop's ſeat, or throne, in ancient churches. This was more peculiarly called *apſis gradata*, becauſe raiſed on ſteps above the ordinary ſtalls. It was alſo denominated *exedra*, and in later times *tribune*.

Apsis is alſo uſed for the reliquary, or caſe, wherein the relics of ſaints were anciently kept. It took the name apſis from its being round, or arched at the top; or perhaps from the place where it was kept. The apſis was commonly placed on the altar; it was uſually of wood, ſometimes alſo of gold and ſilver, with ſculptures, &c.

Apsis, in *Aſtronomy*, is applied to either of the two points in the orbits of planets, wherein they are at the greateſt, and the leaſt diſtance from the ſun, or earth. The apſis at the greateſt diſtance is called the *higher* or *ſumma apſis*; that at the leaſt diſtance, the *lower*, *apſis ima*, or *infima*. The two *apſides* are alſo called *auges*. The higher apſis is more particularly denominated the *aphelion*, or *apogee*; the lower, the *perihelion* or *perigee*. The diameter which joins theſe two points is called the *line of the apſides*, and this paſſes through the centre of the orbit of the planet, and the centre of the earth or ſun. In the modern aſtronomy, this line makes the longer or tranſverſe axis of the elliptical orbit of the planet. Such is the line AQ (*Plate* I. *Aſtron. fig.* 9.) drawn from the aphelion A to the perihelion Q. The eccentricity is reckoned in the line of the apſides; being the diſtance between the centre of the orbit of the planet C, and the centre of the ſun or earth, S, according as the Copernican or the Ptolemaic ſyſtem is followed.

Theſe definitions ſuppoſe that the lines of the greateſt and leaſt diſtances form one and the ſame right line; but this is not always preciſely the caſe; as they ſometimes make an angle with each other, which is greater or leſs than 180 degrees; and the difference from 180° meaſures the motion of the line of the apſides. When this angle is leſs than 180°, the motion of the apſides is ſaid to be contrary to the order of the ſigns; and when it exceeds 180°, the motion is according to the order of the ſigns. Aſtronomers have propoſed various methods for eſtimating the motion of the apſides, ſeveral of which are recited and explained in the "Aſtronomy" of Keil and that of Monnier. Newton, in his "Principia," has given an excellent method for determining the motion of the apſides of a planet, occaſioned by the attraction of another, on the ſuppoſition that the planetary orbit is little different from a circle. He ſhews, that, if the ſun be immoveable, and all the planets gravitate towards him, in the inverſe ratio of the ſquares of their diſtances, the motion of the apſides will be nothing; or the lines above mentioned will make an angle with each other of 180°, or form one ſtraight line. But, on account of the mutual gravitation of the planets towards one another, their gravitation towards the ſun is not preciſely in that ratio, and conſequently their apſides are not always exactly in a right line with the ſun: and Newton has given a very elegant method of determining the motion of the apſides, on the ſuppoſition that we know the force which is thus added to the gravitation of the planet towards the ſun, and that this additional force is always directed towards the ſun, which is not preciſely the caſe. For the motion of the apſides, ſee Aphelion, Apogee, and Planet.

Kepler diſcovered, from obſervation, that the velocities of the planets in their apſides, are inverſely as their diſtances from the ſun; whence it follows, that they deſcribe, in theſe points, equal areas about the ſun in equal times. And although he could not prove, from obſervation, that the ſame was true in every point of the orbit, yet he had no doubt that this was the caſe. He therefore applied this principle to find the equation of the orbit, and, finding that his calculations agreed with obſervations, he concluded it was true in general, "that the planets deſcribe about the ſun equal areas in equal times." This diſcovery was, perhaps, the foundation of the "Principia," as it probably might ſuggeſt to ſir Iſaac Newton the idea that the propoſition was true in general, which he afterwards proved it to be.

APSORRUS, or Apsarus, in *Ancient Geography*, a river in the diſtrict of Colchis, which fell into the Euxine ſea, to the eaſt of Athenæ.

Apsorrus was alſo the name of a town in Aſia, on the coaſt of the Euxine ſea.

APSUS, now *Crevaſta*, a river of Europe, in Macedonia, which roſe in mount Tomarus, and ran into the Adriatic ſea, at ſome diſtance to the ſouth of Dyrrachium. This river watered a valley, which the ancients compared to that of Tempé. The Roman and Macedonian armies encamped on the banks of this river, in the war againſt Philip.

APSYCHIA, from α, privative, and ψυχη, *ſoul*, in *Medicine*, a ſwooning or fainting away, called alſo *lypopſychia* and *apopſychia*.

APSYCTOS, from α, and ψυχω, *I cool*, a word uſed by the ancients, as the name of a ſtone found in Arcadia, and of the colour of iron, the quality of which they ſay was, that when once heated red-hot, it would never grow cold again.

We have ſome ſtones indeed in England, that when once heated, will retain a warmth for a long time, but all the other accounts ſeem groundleſs; our warming-ſtone, uſed in Cornwall and Yorkſhire to lay at the feet of people's beds, will retain warmth eight or ten hours; and there is a ſort of red

ſtone.

ſtone cut out of the ſalt mountains near Cordova, and formed into broad tiles called *ruggiolas* by the Italians, which being once well heated, will retain a ſenſible warmth twenty-four hours; but theſe do not all come up to the qualities of this imaginary ſtone of the ancients, the accounts of which muſt be fabulous.

APSYNTHUS, in *Ancient Geography*, a town of Thrace, the ſame, according to Stephan. Byz. with Ænus, ſituate at the mouth of the Hebrus.

APSYRTIDES, the name of four iſlands of the Adriatic ſea, at the entrance of the gulf of Flano.

APSYRTUS, in the *Materia Medica* of the ancients, a name given to the common *marrubium*, or horehound; a plant at that time, as well as now, eſteemed very good in coughs, and other complaints of the breaſt.

APT, in *Geography*, a town of France, and principal place of a diſtrict in the department of Vaucluſe; the ſee of a biſhop, ſuffragan of Aix, before the revolution; the cathedral is ſaid to be the oldeſt in France, and a council was held here in 1365. It is ſituated on the river Calavon, 9 leagues E. of Avignon, and 7 N. of Aix. N. lat. 43° 52'. E. long. 5° 56'.

APTA Julia, in *Ancient Geography*, called alſo *Civitas Aptenſium*, a town of Gallia Narbonenſis; now Apt.

APTENODYTES, in *Ornithology*, a genus of the order anseres. The bill is ſtraight, rather compreſſed, and ſharp along the edges; the upper mandible is obliquely ſulcated lengthwiſe; feet palmated, ſhackled; wings fin-ſhaped, and without quill feathers.—Gmelin, &c. This is the genus Pinguin of Dr. Latham's ſynopſis; his character of it is more copious, and is as follows: bill ſtrong, ſtraight, more or leſs bending towards the point, furrowed on the ſides; noſtrils linear, placed in furrows; tongue covered with ſtrong ſpines, pointing backwards; wings ſmall, more like fins, covered with no longer feathers than the reſt of the body, uſeleſs in flight; body clothed with thick ſhort feathers, having broad ſhafts, and placed as compactly as ſcales; legs ſhort and thick, placed very near the vent; toes four, all placed forwards, the interior looſe, the reſt webbed; tail very ſtiff, conſiſting of broad ſhafts ſcarcely webbed.

"This genus of birds," adds Dr. Latham, "ſeems to hold the ſame place in the ſouthern parts of the world as the awks do in the northern, and are by no means to be confounded the one with the other, however authors may differ in opinion in reſpect to this matter. The pinguin is ſeen only in the temperate and frigid zones, on that ſide of the equator which it frequents; and the ſame is obſerved of the awk in oppoſite latitudes; and neither of the genera has yet been obſerved within the tropics. The awk has true wings and quills, though ſmall; the pinguin, mere fins only, inſtead of wings. This laſt has four toes on each foot; but the former only three. The pinguin, while ſwimming, ſinks quite above the breaſt, the head and neck appearing only out of the water; rowing itſelf along with its finny wings, as with oars; while the awk, in common with moſt other birds, ſwims on the ſurface. Several other circumſtances, peculiar to each, might be mentioned, if theſe were inſufficient to characteriſe this genus.

"The bodies of the pinguin tribe are commonly ſo well and cloſely covered with feathers, that no wet can penetrate; and as they are in general exceſſively fat, theſe circumſtances united ſecure them from cold. They have often been found above ſeven hundred leagues from land; and frequently on the mountains of ice, on which they ſeem to aſcend without difficulty, as the ſoles of their feet are very rough, and ſuited to the purpoſe." Gen. Syn. vol. iii. p. 2.

The birds called by Buffon and ſome others pengouin or pinguin, belong to the Alca genus of Gmelin.—The laſt author deſcribes the following ſpecies of the Aptenodytes genus; chryſocome, patachonica, papua, antarctica, magellanica, demerſa, cataractes, torquata, minor, chiloenſis, and chilenſis.

APTERA, from α and πτερον, *wing*, in *Entomology*, the ſeventh and laſt order of inſects in the Linnæan ſyſtem. The definition of the order is ſimply this: aptera, wings none; and the genera are divided into the three following ſections:

* Legs ſix; head diſtinct from the thorax: comprehending the leptura, podura, termes, pediculus, and pulex, genera.

** Legs from eight to fourteen, incluſive; head and thorax united: comprehending the acarus, hydrachnæ, aranea, phalangium, scorpio, monoculus, and oniscus, genera.

*** Legs numerous; head diſtinct from the thorax: comprehending the two laſt genera, scolopendra, and julus.

It muſt, however, be obſerved, that this arrangement, though preferable to that of Fabricius in ſome reſpects, is not entirely free from objection; for there are abundant inſtances of apterous inſects that can only be referred to the other claſſes, unleſs we ſeparate the two ſexes of many individual ſpecies, as we ſhall have occaſion to notice in the articles Formica, Mutilla, and others hereafter. Brunniche, in his ſyſtem of entomology, has arranged every inſect wanting wings, under his apterous order, without regarding thoſe in which one ſex has wings, and the other is deſtitute of them. Thus, for example, the apterous aphis, the female coccus, the neuters of ants, and the apterous mutillæ, are ſeparate from their own ſpecies, and arranged amongſt inſects that have no affinity with them; and, to complete the diſorder and confuſion, the pupa of the grylli, creatures in a ſtate yet imperfect, is included with the apterous order alſo.

No inſect can be referred to the apterous order in the Linnæan ſyſtem, unleſs both ſexes, when arrived at their laſt ſtate of being, are deſtitute of wings: although the term *apterous* is uſed in a general manner, by entomologiſts, to ſignify any inſect without wings, when complete, whether it be the females of thoſe winged males that belong to the other orders, or not; and even for coleopterous and hemipterous inſects that have a hard ſhelly covering or elytra, and have no wings under them. It is often uſed, by Linnæus himſelf, in this manner, as the following examples fully prove.

Aptera, a ſpecies of Blatta; it is apterous, brown, and punctured; poſterior margins of the abdominal ſegments, and legs livid; wings (wing-caſes) ferruginous; ſhanks ſpinous. Linn. and Gmel.

Aptera, a ſpecies of Cicada; apterous and black; wing-caſes abbreviated; ſhanks and antennæ pale. Linn. & Gmel.

Aptera, in *Ancient Geography*, a town of Lycia.

Aptera, or *Apteria*, was alſo a town of the iſle of Crete, ſituate in the weſtern part to the north-weſt of Cydonia, and having for its port Ciſſamos or Kiſſamos. Near this town, according to Stephan. Byz., the Sirens challenged the Muſes to a muſical conteſt, but having been vanquiſhed, they plucked off their wings, and leaped into the ſea, whence fable reports its name; but Euſebius, in his Chronicon, ſays, that it was ſo called from one Apteras, king of Crete, the ſuppoſed founder of it. Here was alſo a temple or chapel dedicated to Venus Urania. This town is now called *Atteria* or *Paleocaſtro*.

APTERUS, in *Entomology*, the ſpecific name of an inſect in the Ptinus genus, deſcribed by Linnæus. The head is brown, and caniculated in front; wing-caſes, legs, and antennæ rufous; thighs clavated; ſhank ciliated. Leſk. p. 7. n. 130.

APTERUS, is likewiſe the name of a ſpecies of HISTER, of a fulvous colour, and without wings. It is a native of Italy, and deſcribed by Scopoli (ent. carn.). Gmelin.

APTERUS, is a name alſo given to one of the curculiones, CURCULIO APTERUS: thorax ſpinous, impreſſed with a cruciform mark; wing-caſes dotted with ferruginous brown. Fabr. Obſ. The beak is ſhort, legs unarmed, body black, and punctured on the belly. It is the CURCULIO CRUCIATUS of Degeer, is of a large ſize, and inhabits the Cape of Good Hope.

APTERUS is, laſtly, a ſpecies of CIMEX found in Europe. It is variegated with red and black; elytra red with two black ſpots: no wings. Fab. and Gmel.

AP-THANES, an ancient term for the higher nobility in Scotland. See THANE,

APTITUDE, from *aptus, fit*, the natural diſpoſition any thing hath to ſerve for ſuch or ſuch a purpoſe. Thus oil hath an *aptitude* to burn, and water to extinguiſh fire.

APTITUDE, or APTNESS, is often uſed in ſpeaking of the talents of the mind, for a promptitude or diſpoſition to learn things with eaſe and expedition.

In which ſenſe aptneſs amounts to the ſame with what the Greeks call ευμαθια, and the Latins *bona indoles*, and we ſometimes *docility*.

Charlton divides aptneſs into three parts, viz. *acuteneſs*, *ſagacity*, and *memory*.

APTOTE, derived from α priv. and πτωσις, *caſus*, in *Grammar*, a noun indeclinable, or which is without any variation or caſe.—Such are the words *fas*, *nefas*, &c.

APULEIUS, LUCIUS, in *Biography*, a Platonic philoſopher, was born of a reſpectable family at Madaura in Africa, and lived in the 2d century, under the Antonines. He proſecuted his ſtudies at Carthage, Athens, and Rome; at which latter place he acquired the knowledge of the Latin tongue without a maſter: and of theſe ſtudies he gives the following curious account. "Our firſt cup of knowledge, which we receive from the hand of the teacher of letters, removes entire ignorance; the ſecond furniſhes us with the learning of the grammarian; the third arms us with the eloquence of the rhetorician; and as much as this is drunk by moſt perſons: but at Athens I drank other cups from the deceitful fountain of poetry, from the clear ſtream of geometry, from the ſweet waters of muſic, from the rough current of dialectics, and from the nectareous but inexhauſtible deep of univerſal philoſophy." In the early period of life he ſpent his patrimony, which was conſiderable, in acts of liberality to his inſtructors and to the indigent, and in his travels, which he undertook for the acquiſition of knowledge, and chiefly for gaining information concerning the religious opinions and ceremonies of different countries. With this view he obtained admiſſion into their ſeveral myſteries; being initiated, in Greece, into ſeveral ſolemn rites; and devoting himſelf, at Carthage, to the worſhip of Æſculapius, their tutelary divinity, and performing the honourable office of Antiſtes, or chief conductor of the ceremonies, in the college of his prieſts. Upon his return to Rome, his patrimony was ſo completely exhauſted, that he is ſaid to have pawned his clothes in order to defray the expence of the inaugural ceremonies of his introduction into the fraternity of Oſiris. In order to gain a ſubſiſtence, he aſſumed the profeſſion of a pleader, from the exerciſe of which he derived conſiderable profit; but with a view of more ſpeedily repairing his fortune, he married Pudentilla, a rich widow of Oea, whoſe principal attraction was her wealth. This connection involved him in a law-ſuit with the brother of her former huſband, who charged him with employing magical incantations to gain her affection: but he found no difficulty in proving to the ſatisfaction of his judges, that the only witchcraft by which he accompliſhed his purpoſe were the attractions of his perſon. The apology which he delivered on this occaſion is ſtill extant, and is much admired. In conſequence of this unfounded accuſation, and without any other evidence, Apuleius was ranked among the profeſſors of magic; and after his death miracles were aſcribed to him, which were placed in competition with thoſe of Jeſus Chriſt. Accordingly Lactantius, in the beginning of the 4th century, expreſſes his ſurpriſe that the author whom he confutes, had omitted Apuleius, of whom many wonderful things were reported: and Auguſtine, in the fifth century, was requeſted by Marcellinus to exert his utmoſt efforts in refuting thoſe who falſely aſſerted that Chriſt did nothing more than was done by other men, and who produced their Apollonius, Apuleius, and other maſters of the magical art, whoſe miracles they maintained to have been greater than his. Apuleius ſeems, indeed, to have been no mean proficient in thoſe arts of impoſture, which he had learned from prieſts of different countries; but the idle report above-mentioned was the only ground of the opinion circulated after his deceaſe, that he poſſeſſed or exerciſed miraculous powers. This opinion, probably, originated in an abſurd miſapprehenſion of his fable of the "Golden Aſs," for true hiſtory. The work is a ſatirical romance, in which a Mileſian fable, on the metamorphoſis of Lucius into an aſs, invented by Lucius of Patras, and abridged from him by Lucian, is enlarged and embelliſhed. Although there be no ſufficient evidence that Apuleius pretended to work miracles, and for inſtituting any compariſon between him and Jeſus Chriſt, yet it is not improbable that in ſome paſſages of the fable of the golden aſs, he intended to ridicule the Chriſtians; and biſhop Warburton was, perhaps, right in his conjecture, founded on a paſſage in Apuleius's Apology, that Æmilianus, the brother of Pudentilla's firſt huſband, who proſecuted him for magic, was a Chriſtian. But there ſeems to be no ſufficient ground for the ſuppoſition of this learned writer (ſee Div. Leg. b. iv. § 4.), that the deſign of the fable of the golden aſs was "to recommend the Pagan religion as the only cure for all vice in general." The author himſelf calls it a Mileſian tale, and a Greek fable; and the ancients always ſo underſtood it. Moſheim and Lardner have examined the hypotheſis of Dr. Warburton, and urged againſt it objections that are unanſwerable. The true character of this work ſeems to be that which Barthius and Bayle have given it, viz. "that it is a perpetual ſatire on magical deluſions, the tricks of prieſts, and the crimes of adulterers, thieves and robbers, committed with impunity." This work was publiſhed with large notes by Beraldus, at Venice, in 1504, folio; reprinted at Paris, in 1510, folio, and in 1536, 8vo. The beautiful Epiſode to it, intitled, "The Loves of Cupid and Pſyche," has been repeatedly tranſlated into various languages. The Apology, or "Oratio de Magia," was publiſhed ſeparately by Caſaubon, in 1594, 4to.; and at Leyden, in 1608, 8vo.; and by Pricæus with notes, &c. at Paris, in 1635, 4to. In philoſophy, Apuleius wrote a treatiſe, "De habitudine doctrinarum et nativitate Platonis Philoſophi," in 3 books: the firſt on the ſpeculative doctrines of Plato; the ſecond on his morals; and the third on his logic. He alſo wrote a Latin tranſlation of Ariſtotle's treatiſe, "De Mundo;" an oration "De Deo Socratis," diſcuſſing the queſtion concerning his dæmon; and a work intitled, "Florida," which, though rather rhetorical than philoſophical, ſerves in many particulars to illuſtrate the hiſtory of philoſophy. Another botanical work, intitled, "De Herbis, ſive de nominibus ac virtutibus Herbarum," has been aſcribed to Apuleius;

but Johnſon, the tranſlator of Gerard, ſuppoſed it to be a tranſlation of a Greek writer of the 8th century. Fabricius, however, thinks that this is an improbable conjecture. The firſt edition of the works of Apuleius was printed at Rome under the care of Cardinal Beſſarion, in 1469, folio; they have ſince paſſed through various other editions, as thoſe of H. Stephens, in 1585, 8vo.; of Elmenhorſt, at Frankfort, in 1621, 8vo.; of Scriverius, at Leyden, in 1624, 12mo.; "Variorum" edition, at Gouda in Holland, in 1650, 8vo.; and another, "In Uſum Delphini," 2 vols. 4to. at Paris, in 1688. Apuleius by his writings ought to be claſſed among the wits rather than the philoſophers of his age. His writings, the view of Plato's doctrines excepted, are too florid and ſportive, and in many parts too looſe and wanton, to comport with the gravity of philoſophy. Fabr. Bib. Latin. lib. iii. c. 2. tom. ii. p. 17. Gen. Dict. Gardner's Works, vol. vii. p. 459—465. Brucker's Hiſt. Phil. by Enfield, vol. ii. p. 53.

APULIA, now PUGLIA, in *Ancient Geography*, denoted that large diſtrict of Magna Græcia in Italy, which extended along the Adriatic ſea from the river Frento or Fronto to the north-weſt, as far as the cape Japygium to the ſouth-eaſt, and comprehended Daunia, Peucetia, and Meſſapia. Its boundaries were, on the north and eaſt, the Adriatic ſea; on the ſouth, Sinus Tarentinus, or the gulf of Tarentum, and part of Lucania; and on the weſt, Samnium. The principal mountains were, Garganus to the north, and Vultur to the ſouth: its chief rivers were, Fronto, Auſidus, Cerbalus, and Bradanus; and its principal cities were, Teanum, Apulum, Sipontum, Arpi, Luceria, Aſculum, Venuſia, Acherontia, Canuſium, Butuntum, and Barium; and Meſſapia, eaſtwards, Brunduſium, and Hydruntum; and in the gulf, Tarentum and Callipolis. M. Freret ſuppoſes that the Apulians were a party of the Liburni, of Illyrian origin, who penetrated into Italy about the 6th century before Chriſt, and eſtabliſhed themſelves between the Alps and the river Atheſis, whence they proceeded to that part which the Romans called Apulia and Japygia.

APULO-BAMA, in *Geography*, a juriſdiction of South America, conſiſting of miſſions belonging to the Franciſcans, ſubject to the biſhop of Cuſco, 60 leagues from that city, in the empire of Peru, and comprehending ſeven towns of converted Indians.

APULUS, in *Entomology*, a ſpecies of SPHINX that inhabits Surinam. The wings are indented; anterior pair fulvous, with two golden-coloured ſpots; poſterior wings white, antennæ feathered. Fabricius and Gmelin.

APURIMA, or APURIMAC, in *Geography*, a very rapid river of South America, riſing near the town of Arequipa in Peru, on the weſt of the Great Lake Titicaca, S. lat. 16° 30', and running into the Ucayal. The Apurimac, in the map of La Cruz, appears to be the original and proper river of the Amazons, and forms the remoteſt branch of the Ucayal, which muſt be regarded as the ancient or genuine Maranon.

APURWACA, or PIRAGUA, a river of South America, in Guiana, which is one of the moſt conſiderable rivers in the country.

APUS, *Avis Indica*, in *Aſtronomy*, a conſtellation of the ſouthern hemiſphere, placed near the pole, between the Triangulum Auſtrale and the Chameleon, ſuppoſed to repreſent the bird of paradiſe.

The apus is ſuppoſed to be one of thoſe birds called *apodes*, as having no feet.

The ſtars contained in this conſtellation, according to Sharp's catalogue, annexed to the Britiſh, are eleven; in Bayer's charts, twelve; but more numerous in La Caille's catalogue. The principal ſtar is of the 5th magnitude; and in 1750, its right aſcenſion was 214° 32' 45", and its ſouthern declination 77° 57' 6".

APUS, in *Entomology*, a ſpecies of MONOCULUS. The antennæ triſid, and the tail biſid. Fab. Spec. Inſ. The ſhell is rather compreſſed, retuſe in front, truncated behind, and tail terminating in two briſtles. Linn. Syſt. Nat. Found in ſtagnant waters.

The ſynonymous terms for this creature are numerous. It is the binoculus cauda biſeta of Geoffroy; binoculus (paluſtris) oculis ſuperis, teſta poſtice truncata, cauda biſeta of Muſ. Zool. Dan.; limulus paluſtris, Mull. Entom.; & apus cancriformis, Scæff.

APUS, in *Ornithology*, the ſpecies of HIRUNDO, well known by the name of ſwift or black martin. The colour is black; throat white; all the toes placed forwards, Linn. This is *hirundo apus* of Aldrovandus, &c.; martinet noir of Buffon; and alſo grand martinet of the ſame author.

The length of this bird is eight inches; the wings remarkably long, and meaſuring from tip to tip, when expanded, no leſs than eighteen inches; the legs and claws black. The female is rather ſmaller than the male; the plumage inclines more to brown; and the white on the throat is leſs diſtinct.

This bird arrives in England later and departs ſooner than either of the other ſwallows, from whence it is ſuppoſed to take a longer journey than the others. It has only one brood in the year; ſo that the young ones have time to gain ſtrength enough to accompany the parent birds in their diſtant excurſions. They inhabit the whole of the European continent, and have been alſo noticed at the Cape of Good Hope, and Carolina in North America. Swifts are almoſt conſtantly on the wing; they fly higher and with more rapidity than the ſwallows, and never aſſociate with them. They ſeldom alight, and if by accident they ſhould fall upon the ground, raiſe themſelves up again with great difficulty. They are ſaid to avoid heat as well as cold, and therefore remain in their holes in the daytime, and fly chiefly in the morning and evening in ſearch of prey; their neſts are built in elevated places, ſuch as lofty ſteeples and high towers; the neſt is compoſed of a variety of materials, as dry graſs, moſs, hemp, ſhreds of ſilk, linen, gauze, feathers, and other light ſubſtances. They lay five white eggs, which are rather of a longiſh form; the young are hatched about the latter end of May, begin to fly about the middle of June, and ſhortly after the neſts are abandoned. Swifts begin to aſſemble, previouſly to their departure, early in July; their numbers daily increaſe, and large bodies of them appear together; they ſoar higher in the air, with ſhriller cries, and continue at times to aſſemble together in greater numbers till the beginning or middle of Auguſt, when they leave the iſland of Britain altogether.

APUTASY, in *Botany*, a name given by the people of Guinea to a tree, a decóction of which is in great uſe among them for waſhing the mouth to cure the ſcurvy in the gums, and preſerve the teeth. Phil. Tranſ. N° 237.

APYCNI, in the *Ancient Muſic*, was uſed for ſuch chords or ſounds of the ſcale, as could never enter the ſpiſſum. They were fixed, or ſtabiles.

APYCNON, from α and πυκνος, *non ſpiſſimum, rarum*, in the *Ancient Muſic*, was applied to thoſe two conjunct intervals of a tetrachord, which taken together were greater than the third.

This happened only in the two diatonic genera.

APYRENOS, in *Botany*, properly ſignifies without kernels.

APYREXY, formed of the privative α, and πυρ, *ignis, heat*, in *Medicine*, the intermiſſion of a fever, or ague.

APYROI, in *Antiquity*, a denomination given to ALTARS whereon ſacrifice was offered without fire.

In which ſenſe, the word ſtands contradiſtinguiſhed from *empyroi*.

APYROMETALLUM, in *Metallurgy*, a name by which ſome authors have called gold, from its reſiſting the force of fire.

APYROUS, in *Chemiſtry*, is a word applied to denote that property in ſome bodies, by which they reſiſt the moſt violent fire, without any ſenſible alteration.

AQUA, in *Natural Hiſtory*, *Phyſics*, *Chemiſtry*, *Medicine*, WATER, &c. which ſee.

The word is Latin, and ſuppoſed to be compounded of *a* and *qua*, q. d. *from which*; alluding to the opinion that water is the baſis, or matter of all bodies.

AQUA *fortis*. The workers in metals, &c. diſtinguiſh two kinds of aqua fortis, the double and ſingle, or prima and ſecunda: the former of theſe is common NITROUS *acid*, the latter is nitrous acid diluted with an equal bulk of water.

AQUA *marina*, AQUA *marine*, in *Mineralogy*. See BERYL.

AQUA *regia*, or AQUA *regalis*. This is a combination in various proportions of nitric and muriatic acids. It was formerly known by the name aqua regia, from its being at that time the only acid capable of diſſolving gold. In the new nomenclature it has attained the appellation of NITRO-MURIATIC *acid*.

AQUA *ſecunda*. This is nothing elſe but aqua fortis diluted with much pure water. It is employed in ſeveral arts, to clean the ſurface of metals and of certain ſtones, and for various other purpoſes.

AQUA *ſulphurata*, *ſulphur water*, formerly called *gas ſulphuris* by Van Helmont, is at preſent known by the name of liquid SULPHUREOUS *acid*.

AQUA *vitæ*, water of life, *eau de vie* of the French, *uſquebaugh* of the Iriſh, *whiſky* of the Scotch, is a name familiarly applied to native diſtilled ſpirits. Hence grape wine being the material from which the common ſpirits are moſtly procured on the continent, the French eau de vie, the Italian acqua vite, the German brandwein, are ſtrictly ſynonymous, and correſpond to the Engliſh word *brandy*. But fermented barley, rye, &c. being the material made uſe of in Scotland, Ireland, Holland and England, the terms uſquebaugh, whiſky, and Hollands, are more properly ſynonymous with the Engliſh MALT *ſpirits*.

AQUA, in *Pharmacy*, is a term prefixed to a variety of liquid preparations, in which water is the principal liquid vehicle. Theſe are of two kinds, one the *diſtilled waters*, conſiſting of water impregnated with the medicinal virtue of various vegetables, through the medium of diſtillation; and the other kind is ſimply a ſolution of various ſaline ſubſtances, in known proportions of water, to enſure a greater accuracy in preſcription.

We ſhall briefly notice the ſeveral aqueous preparations which are either actually in uſe, or have acquired a certain celebrity.

Aqua diſtillata, Pharm. Lond. *Aqua deſtillata*, Ph. Edin. Simple diſtilled water. To prepare this, any quantity of ſpring water is to be diſtilled in clean veſſels. The firſt portions are to be rejected, and the proceſs continued, till about two thirds are diſtilled off, which are to be kept for uſe in clean glaſs veſſels.

No other water but diſtilled is allowed by the college to be uſed in the aqueous preparations. It is particularly requiſite in ſome of the ſaline ſolutions, as, for inſtance, in that of ſugar of lead, which is perfectly clear with diſtilled water, but milky with pump or river water.

Aquæ diſtillatæ, P. Lond. *Aquæ ſtillatitiæ*, P. Edin. *The diſtilled waters of Pharmacy*.

The general rule for preparing theſe waters is to put the plants, or parts of plants employed, into a tinned copper ſtill, to cover them with water, and to diſtil it off with a gentle heat, as long as the liquor retains ſufficient flavour of the plant. The proceſs muſt be ſtopped before all the water is evaporated, otherwiſe the plant would be burned, and would give a diſagreeable burnt taſte to the liquor. See the articles DISTILLATION, SPIRITS DISTILLED, and OILS ESSENTIAL.

The number of plants ſubmitted to diſtillation by former pharmaceutical chemiſts, is almoſt endleſs; and in the older pharmacopœias, we find numerous compound waters made of ingredients, many of which are either inert in themſelves, or whoſe virtue is not capable of uniting with water through the medium of diſtillation. Of this kind are the daiſy, bugloſs, water-creſs, &c. which have been preſcribed for diſtillation; but in the preſent pharmacopœias, all theſe uſeleſs materials are omitted, and thoſe only are retained that will give ſome ſenſible flavour or ſmell to water diſtilled of them.

The following are retained at preſent. *Aqua anethi*, (diſtilled water of dill)—*cinnamoni*, (of true cinnamon)—*faniculi*, (of fennel)—*menthæ piperitidis*, (of peppermint)—*menthæ ſativæ*, (of ſpearmint)—*pimento*, (of allſpice)—*pulegii*, (of pennyroyal)—*roſæ*, (of roſe leaves)—*corticis limonum*, (of lemon peel)—*corticis aurantiorum hiſpalenſium*, (of Seville orange peel)—*caſſiæ ligneæ*, (of caſſia cinnamon.)

About a pound of the dry barks and ſeeds, and a pound and a half of the freſh plants, are ſufficient for a gallon of the diſtilled waters; but three or four pints of water more muſt be employed to prevent burning, and to allow of that quantity to be diſtilled off.

It ſhould be remembered that the term *diſtilled water* is now ſtrictly confined to thoſe preparations in which no other liquid than water is employed to extract the virtue of the plant; but formerly it was extended to thoſe that were prepared with a mixture of ardent ſpirit and water, or even with pure ſpirit. Thus the *aqua lavendulæ*, (lavender water) is a *ſpirituous water*, prepared by diſtilling a mixture of ſpirits of wine and water from the lavender.

A few of the moſt celebrated diſtilled waters or ſpirituous waters, may be mentioned.

Aqua epidemica, *plague water*, is prepared by diſtilling the roots of maſterwort (*imperatoria*), the ſeeds of angelica and elder flowers, in French brandy.

Aqua Reginæ Hungariæ, *Hungary Water*.

The genuine Hungary water is a pure ſpirit diſtilled from the roſemary, and ſtrongly ſcented with the rich perfume of this aromatic plant. The French is reckoned the beſt.

Aqua odorifera, *honey water*, *eau de miel*.

This is a compound aromatic ſpirit, prepared by diſtilling ſpirit of wine with honey, coriander ſeeds, vanilloes, cloves, nutmegs, lemon-peel, ſtorax, benzoin, to which are added ſpirituous roſe-water, and orange-flower water.

Aqua Vulneraria, *Arquebuſade Water*, is a diſtilled ſpirit prepared from a great variety of aromatic plants, ſuch as thyme, origanum, balm, lavender, roſemary, &c.

The reader will find the recipes for the above-mentioned waters, and a great number of others (many of which are now obſolete) in *Beaumé's Elemens de Pharmacie*.

The medicinal virtues of the diſtilled aromatic waters and ſpirits have, perhaps, been much over-rated, and numerous diſtinctions between them with regard to their effects, have been made, without much foundation.

All of them are cordial and ſtimulating, and as ſuch have

conſiderable efficacy in ſudden faintings, ſickneſs, and languor; but the difference of effect between the ſimple aromatic waters and the ſpirituous waters is ſo great, that much of the virtue of the latter is to be aſcribed to the ardent ſpirit. They are largely uſed in medicine; and from their agreeable flavour and fragrancy, they will conceal the nauſeous taſte and ſmell of many of the moſt unpalatable drugs. The conſumption of the fragrant aromatic ſpirits is perhaps ſtill greater, as perfumes for the toilet; and the flavoured ſpirits, more than all, as drams and cordials.

The other kinds of *waters* in pharmacy are ſimple ſolutions of various ſalts, as we have already mentioned. The following are retained in the London and Edinburgh pharmacopœias.

Aqua aluminis compoſita (formerly *Aqua aluminis Bateana*), is a ſolution of half an ounce of alum, and half an ounce of vitriolated zinc, in two pints of water.

Aqua cupri ammoniati (formerly *Aqua ſapphirina*, or *aqua cæleſtis*), is prepared by mixing one dram of muriated ammonia with a pint of lime water, and ſuffering them to ſtand in a copper veſſel till the ſolution has acquired that beautiful blue colour by which it is diſtinguiſhed. The ſame effect takes place in glaſs veſſels, if ſome thin pieces of copper are added. This preparation is a very weak ſolution of copper in the cauſtic ammonia, which is ſeparated from the ſal ammoniac by means of the lime water. It is uſed as a gentle eſcharotic in ſurgery, and it alſo forms a conſpicuous ornament to the druggiſt's ſhop. See Copper.

Aqua lithargyri acetati compoſita, is a mixture of two drams of the aqua lithargyri (or Goulard's extract), with two pints of diſtilled water, and two drams of proof ſpirit of wine.

Aqua zinci vitriolati cum camphora, is a ſolution of half an ounce of vitriolated zinc, in two pints of diſtilled water, to which half an ounce of camphorated ſpirit is added, and the whole filtered, to ſeparate moſt of the camphor which is precipitated by the mixture. Enough of the camphor remains to give its ſtrong ſmell to the ſolution.

Aqua ammoniæ and *aqua ammoniæ puræ*. See Ammoniacal *preparations*.

Aqua ammoniæ acetatæ. See Acetite *of Ammonia*.

Aqua kali preparati (formerly *lixivium tartari*), is a ſaturated ſolution of carbonat of potaſh in water, made by the ſpontaneous deliqueſcence of this alkaline ſalt, when kept for ſome time in a moiſt place.

Aqua kali puri (formerly *lixivium ſaponarium*), is a ſolution of potaſh made cauſtic by means of lime. See Potash.

Aqua calcis, lime water. See Lime.

Aqua phagedænica, a preparation often uſed in ſurgery, is a ſolution of half a dram of corroſive ſublimate of mercury, in one pint of lime water. The lime water here decompoſes the mercurial ſalt, and makes a turbid brick-coloured liquor, of great efficacy as an eſcharotic in foul wounds or obſtinate ulcers.

Aquæ Minerales. See Waters Mineral.

Aqua, or *Agua*, in *Geography*, a province of Africa in Guinea, on the Gold Coaſt, bounded on the ſouth by Fantin, on the north-eaſt by Dinkira, and on the weſt by the river of Chama, or St. John.

Aqua *Auguſta*, in *Ancient Geography*, called likewiſe *Alſietina*, from the lake of that name, about 14 miles from Rome, near the Claudian way, was a ſtream of water brought to the city, and entering it at the porta Eſquilina, now the gate of St. Laurence. It was not fit to drink, and ſerved merely to water gardens, and to ſupply the Naumachiæ.

Aqua *crabra*, in *Ancient Geography*, a river which paſſed by the villa of Cicero at Tuſculum, ſuppoſed by Cluver and M. D'Anville to be that which is now called Maranna: but the abbé Chauppy is of opinion that theſe were different rivers.

Aqua *Julia*, a river about 12 miles from Rome, in the Via Latina, brought by Agrippa to Rome during his ædileſhip, A. U. C. 721. Its ſource was called *Caput Juliæ*, and it is now known by the name of *Caſo d'Aqua*. It enters the city near the Eſquiline gate, and had its name, according to Frontinus, from one Julius, who diſcovered the ſpring that ſupplies it.

Aqua *Marcia*, a ſtream of water which was conveyed through a conſiderable diſtance under ground, near the Tiber. This was alſo called *Auſulia*, and is ſaid to have been firſt brought to Rome by the prætor Q. Marcius, from a ſpring near the Valerian way, upwards of 30 miles diſtant from the city, which it enters near the Eſquiline gate. This was, and ſtill is, reckoned the beſt water for drinking in Rome.

Aqua *Paulina*. See Aquæduct.

Aqua *Tepula*, a river formed by the union of ſeveral ſtreams, which had its ſource about ten miles from Rome, in the Via Latina, and was conveyed thither by Agrippa; now known by the name of *Peſori*, near Frascati.

Aqua *Virginea*, a ſtream of water; ſo called, from a country girl's ſhewing the ſpring to ſome ſoldiers who were ready to periſh with thirſt; which enters Rome at the gate Pinciana, and was brought thither by Agrippa, A. U. C. 735. At preſent it iſſues from the fountain in the Piazza di Spagna, which repreſents a ſhip, and from that of Trevi, ſo called from the Trivium, where three ſtreets meet.

Aqua Viva, a place in Etruria, north of Rome.

Aquæ, a ſmall place in Brutium, near the ſea; north-eaſt of Scylla.

Aquæ, baths of mineral waters in Mauritania Cæſarienſis; mentioned by Ptolemy, and placed by Antonin in his Itinerary, 25 Roman miles from Cæſarea. The city was once a Roman colony and epiſcopal ſee.

Aquæ *Cazalegas*, a ſmall ancient town ſituate in Hiſpania Tarragonenſis.

Aquæ, a ſmall place of Italy, in Picenum, ſouth-weſt of Aſculum.

Aquæ *Albenſes*, a town of Africa in Bizacium; alſo a town of Africa, in Mauritania Setiſſenſis, which had been an epiſcopal ſee.

Aquæ *Angitiæ*, a ſmall place of Italy, in Brutium, upon the weſtern coaſt.

Aquæ *Apollinares*, a place of Italy, in Etruria, between Tarquinii on the north-weſt, and Cære to the ſouth-eaſt.

Aquæ *Auguſtæ*, or *Tarbellicæ*, a city of Gaul, in Novempopulana, and capital of the Tarbelli. It is now *Acqs*, or *Dax*. See Acqs.

Aquæ *Billicus*, *Vaſſerbilich*, a town of Gaul, belonging to the Sunuci; and placed by Martin ſouth-eaſt of Orolaunum, and weſt of Auguſta Treverorum.

Aquæ *Bilbilitanorum*, *Banoſde Athama*, a famous place of Hiſpania Tarragonenſis, between Bilbilis to the eaſt, and Anacum to the weſt.

Aquæ *Bormonis*, *Bourbon-l'Archambaut*, a place of Gaul, belonging to the Bituriges Cubi, in Aquitania prima, between Tinconcium to the north-weſt, and Sitillia, belonging to the Boii, to the eaſt.

Aquæ *Borvonis*, *Bourbonne les Bains*, a place of Gaul, belonging to the Sequani, between Andometurum, or Lingones, to the weſt, and Dittatium to the eaſt.

Aquæ *Calentes*, a place of Gaul, belonging to the Averni, ſituate ſouthwards.

Aquæ *Calidæ*, *Bagni di Ballicano*, baths of Italy, three miles from Phiſcon.—Alſo, a town of Africa, in Numidia Propria,

Propria, wholly deſtroyed:—alſo, *Aiguee-Perſe*, a place of Gaul:—alſo, Bath in Somerſetſhire:—alſo, *Calidæ Cilinorum*, a town of Hiſpania Tarragonenſis, north of Barcino, belonging to the Laletani:—alſo, *Calidæ* or *Tibilitanæ*, in Africa, about ten leagues ſouth-weſt of Hippo Regius, now called *Hamam*, or the baths, lying to the eaſt of the Hamam-Meſkouteen, on the north ſide of the river Seibouſe, in the diſtrict of the Bookalwan, of the province of Conſtantina:—alſo, *Calidæ Colonia*, now the *Hamam* or the baths of Mereega, in the African province of Tiemſan, eight miles eaſt-north-eaſt of Maliana, between the river Sheliff and the ſea; the largeſt and moſt frequented of theſe (ſays Shaw, Travels, &c. p. 30), is a baſon of 12 feet ſquare, and four deep; and the water, which bubbles up with a degree of heat ſcarce tolerable, after it has filled this ciſtern, paſſes on to a much ſmaller one, which is made uſe of by the Jews, who are not permitted to bathe in company, or in the ſame place, with the Mahometans; reſorted to by a great concourſe of people in the ſpring, the ſeaſon of theſe waters, which are accounted very efficacious for curing the jaundice, rheumatic pains, and ſome of the moſt inveterate diſtempers: near this bath are the ruins of an old Roman town, and tombs and coffins of ſtone, ſaid to be of an unuſual ſize.—*Calidæ, Vichi*, a place of Gaul, ſouth of Vorogium, and north-eaſt of Auguſtonometum, or Averni.

Aquæ *Ceretanæ*, a place of Etruria, north-weſt of Cære.

Aquæ *Cilenorum*, a place of Spain, ſouth-eaſt of the river Iria Flavia.

Aquæ *Convenarum, Capbern* according to M. D'Anville, ſouth-eaſt of Turba and north-weſt of Lugdunum, or Convenæ. Some authors have aſſigned its ſituation to that of the preſent Bagneres; but this does not correſpond to the meaſures given in the Itineraries.—*Convenarum*, or *Oneſiorum*, *Cominge*, a town of Gallia Narbonnenſis.

Aquæ *Cumanæ*, baths near Cumas in Italy.

Aquæ *Cutiliæ*, *Pozzo Ratignano*, a lake of Italy, in the country of the Sabines. Pliny, Seneca, and Varro report, that in this lake there was a moving iſland, and the latter ſays, that it was the centre of Italy. Veſpanian uſed theſe waters every ſummer, and died in this place. By ſome they are called *Aquæ Sabinæ*; and by Strabo, *Aquæ Cotiſcoliæ*.

Aquæ *Duræ*, *Alcala del Rio*, a place of Spain, in Bætica.

Aquæ *Flaviæ*, *Chiaves*, a town of Hiſpania citerior, belonging to the Callaici, and ſituate to the north-eaſt, in the interior part of the country. Trajan built a bridge on the river now called Tamaga, the ruins of which indicate its former grandeur.

Aquæ *Helvetiæ*, *Baden*, a town of Gaul, belonging to the northern Helvetii, between Vindoniſſa to the weſt and Vitodurum to the eaſt.

Aquæ *Letinatæ*, *Sardara*, a town in the iſland of Sardinia.

Aquæ *Leæ*, a town of Spain, at the mouth of the Mincius.

Aquæ *Merom*, ſuppoſed to be the lake called by Joſephus Samachonitis, in Upper Galilee, into which the river Jordan falls before it arrives at the ſea of Geneſareth. Here Jabin, king of Hazor, encamped, when he was defeated by Joſhua. See Joſh. ch. xi. 5.

Aquæ *Neapolitanæ*, a town of the iſland of Sardinia.

Aquæ *Neræ*, or *Neri*, *Neris*, a place of Gaul, belonging to the Bituriges Cubi, and ſituate between Mediolanum to the north-eaſt, and Cantilia to the ſouth-eaſt.

Aquæ *Niſinetii*, or *Nilinei*, *Bouron-Lamy*, a place of Gaul, belonging to the Ædui, ſouth-eaſt of Decetia, and weſt of Telonnum.

Aquæ *Onoſiæ*. See Aquensis *Vicus*.

Aquæ *Origines*, a place of Spain in the country of the Callaici, upon the Minius, north-eaſt of Tyde.

Aquæ *Pannoniæ*, baths of Auſtria, now called *Baden*.

Aquæ *Paſſaris*, a place of Italy, in Etruria.

Aquæ *Patavinæ*, baths in the territory of Venice, near Padua, called *Fontes Aponi* by Livy and Martial, now *Bagni d'Abano*.

Aquæ *Piſanæ*, a ſmall place of Etruria, north-eaſt of Piſa.

Aquæ *Populoniæ*, a ſmall place of Etruria, between Salebro to the ſouth-eaſt, and Manliana to the north-weſt.

Aquæ *Querquernæ*, a place of Spain, belonging to the Callaici, between Aquæ Origines and Nometobriga.

Aquæ *Quintianæ*, a place of Spain, in the country of the Callaici, ſouth-eaſt of Lucus Auguſti.

Aquæ *Regiæ*, a town of Africa, ſituate ſome miles ſouth of Tunzo; the ruins of which ſtill remain.

Aquæ *Regiæ*, baths of Epirus, near Acroceraunia.

Aquæ *Salviæ*, a famous place in Italy, three miles from Rome. It was the ſee of a biſhop, ſuffragan to the archbiſhop of Carthage.

Aquæ *Segeſte, Ferrieres*, a place belonging to the Senonenſes, between Genabum to the ſouth-weſt and Agedincum to the north-eaſt:—alſo *Segeſte, Aiſſumin*, a place of Gaul belonging to the Seguſiani; placed by M. D'Anville near Liger, and ſouth of Forum Seguſianorum.

Aquæ *Sextiæ*, *Aix*, a town in Gaul, in Narbonnenſis Secunda, to the north of Maſſilia. See Aix.

Aquæ *Siccæ*, probably *Seiches*, a place of Gaul, ſituate, according to M. D'Anville, ſouth-weſt of Toloſa, and near it, and north-eaſt of Vernoſol.

Aquæ *Statiellæ*, or *Staticllorum*, a town of Italy in Liguria, now Acqui, in Montferrat.

Aquæ *Tacapitanæ*, a place of Africa in Bizacium, now called *El-Hammah* of Gabs, i.e. the baths of Gabs, or Tacape. Theſe baths are ſheltered from the weather by low thatched hovels; and their baſons are about the ſize of thoſe at Mereega. See Aquæ *Calidæ*. One of theſe baths is called the bath of the lepers, and below it the water ſtagnates and forms a pool; the ſame, perhaps, with the lake of lepers, mentioned by Leo.

Aquæ *Tauri*, hot baths of Etruria in Italy, three miles from the ſea, ſaid to be diſcovered by a bull, whence their name; now *Aquapendente* in Orvieto.

Aquæ *Voconis*, a place of Spain, ſouth-eaſt of Gerunda.

Aquæ *Volaterranæ*, a place of Italy in Etruria, ſouth of Volaterræ, and on the other ſide of Cecina.

Aquæ *et ignis interdictio*. See Interdiction.

Aquæ *bajulus*, an ancient name for the clerk officiating under the chief miniſter, whoſe buſineſs was to aſſiſt him in carrying the holy water. The office correſponding to it at preſent is that of the parish *clerk*.

Aquæ *hauſtus*, in the *Civil Law*, a right of drawing water, and carrying it through another's ground.

Aquæ *pavor*, is uſed by ſome to denote the hydrophobia. Phil. Tranſ. N° 147.

AQUÆDUCT, Aquæductus, q. d. *ductus aquæ*, *a conduit of water*, in *Architecture* and *Hydraulics*, is a conſtruction of ſtone or timber, built on an uneven ground, to preſerve the level of water, and convey it by a canal, from one place to another. Some of theſe aquæducts are viſible, and others ſubterraneous. Thoſe of the former ſort are conſtructed at a great height acroſs vallies and marſhes, and ſupported by piers and ranges of arches. The latter are formed by piercing the mountains, and conducting them below the ſurface of the earth. They are built of ſtone, brick,

brick, &c. and covered above with vaulted roofs or flat ſtones, ſerving to ſhelter the water from the ſun and rain. Of theſe aquæducts, ſome are double, and others triple; that is, ſupported on two or three ranges of arches. Of the latter kind are the pont-du-gard in Languedoc, ſuppoſed to have been built by the Romans to carry water to the city of Niſmes; that of Conſtantinople; and that which, according to Procopius, was conſtructed by Coſroes king of Perſia, near Petra in Mingrelia, and which had three conduits in the ſame direction, each elevated above the other. Some of theſe aquæducts were paved, and others conveyed the water through a natural channel of clay; and it was frequently conducted by pipes of lead into reſervoirs of the ſame metal, or into troughs of hewn ſtone.

Aquæducts of every kind were reckoned among the wonders of ancient Rome; their great number, and the immenſe expence of bringing water, 30, 40, or 60, and even 100 miles, either upon continued arches, or by means of other works, when it was neceſſary to penetrate mountains and rocks, may well aſtoniſh us. If, ſays Pliny (Hiſt. Nat. l. 36. c. 15.), we conſider the incredible quantity of water brought to Rome for the uſes of the public, for fountains, baths, fiſh-ponds, private-houſes, garden and country-ſeats; if we repreſent to ourſelves the arches conſtructed at a great expence, and carried on through a long diſtance, mountains levelled, rocks cut through, and vallies filled up, it muſt be acknowledged that there is nothing in the whole world more wonderful. For 440 years the Romans contented themſelves with the waters of the Tiber, and of the wells and fountains in the city and its neighbourhood. But when the number of houſes and inhabitants was conſiderably augmented, they were obliged to bring water from remote places by means of aquæducts. Appius commenced this ſcheme of improvement. See APPIAN *aquæduct*. About 39 years after him, M. Curius Dentatus, who was cenſor with Papirius Curſor, brought water from the neighbourhood of the city of Tibur; and applied towards defraying the expence, part of the ſums taken in the ſpoils of Pyrrhus. After them Lucius Papirius, Caius Servilius Cepion, Lucius Longinus Craſſus, Quintus Marcius (who brought water to Rome from a ſpring at the diſtance of ſixty-one miles), Marcus Agrippa, Auguſtus, and others, ſignalized themſelves by their noble aquæducts. Even Tiberius, Claudius, Caligula, and Caracalla, though in other reſpects not of the beſt character, took care of the city in this uſeful article. There are ſtill to be ſeen in the country about Rome wonderful remains of the ancient aquæducts, ſome elevated above the ground by arches continued and raiſed one above the other, and others ſubterraneous paſſing through rocks; ſuch is that ſeen at Vicovaro beyond Tivoli, in which a canal pierces a rock to the extent of more than a mile, and about five feet deep and four broad. With what attention theſe immenſe works were conſtructed, will appear by inſpection of the 128th plate in the 4th volume of Montfaucon's Antiquities. At certain diſtances vents were provided, ſo that the water which was accidentally obſtructed in its paſſage, might be diſcharged, till its ordinary paſſage was cleared; and in the canal of the aquæduct itſelf there were cavities into which the water was precipitated, and where it remained till its mud was depoſited, and ponds in which it might purify itſelf. In the conſtruction of theſe aquæducts, there was a conſiderable variety: that called the *Aqua Marcia* had an arch of ſixteen feet in diameter; it was conſtructed of three kinds of ſtone, and was formed with two canals one above the other: the moſt elevated was ſupplied by the waters of the Tiverone, *Anio novus*, and the loweſt by the *Claudian* water. The entire edifice was 70 Roman feet high. The arch of the aquæduct which brought to Rome the Claudian water was conſtructed of beautiful hewn ſtone. This is repreſented by Pliny (Hiſt. Nat. l. 36. c. 15.), as the moſt beautiful of all that had been built for the uſe of Rome. It conveyed the water through a vaulted canal, through the diſtance of 40 miles, and was ſo high that it ſupplied all the hills of the city. According to him, and the computation of Budæus, the charge of this work amounted to 1,385,500 crowns. This aquæduct was begun by Caligula, and finiſhed by Claudius, who brought its waters from two ſprings called Cæruleus and Curtius. Veſpaſian, Titus, Marcus Aurelius, and Antoninus Pius, repaired and extended it: it is now called *Aqua Felice*. The aquæduct that conveyed the Aqua Neroniana to Rome, was built of brick; this, as well as the former, was 62 Roman feet high. The aquæduct that brought the *Aqua Marcia* into the city was repaired by Agrippa, who laid pipes from it to ſeveral parts of the city. The Aqua Marcia, Aqua Julia, and Aqua Tepula (ſee AQUA), entered Rome in one and the ſame aquæduct, divided into three ranges or ſtories; in the uppermoſt of which flowed the Aqua Tepula, in the ſecond the Aqua Julia, and in the loweſt the Aqua Marcia. This accounts for the extraordinary height of this aquæduct, which far ſurpaſſed that of any other in Rome. From the ruins of this fabric, which ſtill ſubſiſt, and are called "Il caſtel del Acqua Marcia," it appears to have been a very ſuperb ſtructure. The aquæducts were under the care and direction, firſt of the cenſors and ædiles, and afterwards, of particular magiſtrates called "Curatores Aquarum," inſtituted by Agrippa, to whom the aquæducts of Rome were objects of particular attention. Meſſala was one of theſe curatores in the reign of Auguſtus, and Frontinus held the ſame office in that of Nerva. Auguſtus cauſed all of them to be repaired. Procopius reckons only fourteen aquæducts in ancient Rome; but Victor has enlarged the number to twenty. Frontinus, a man of conſular dignity, and who had the direction of the aquæducts under the emperor Nerva, mentions nine that emptied themſelves through 13,594 pipes, of an inch diameter. Vigenere has obſerved, that in the ſpace of twenty-four hours, Rome received from theſe aquæducts no leſs than five hundred thouſand hogſheads of water. The three chief aquæducts now in being are thoſe of the Aqua Virginea, Aqua Felice, and Aqua Paulina. The firſt was repaired by Pope Paul IV. The ſecond was conſtructed by Pope Sixtus V. and is called from the name which he aſſumed before he was exalted to the papal throne. It proceeds from Palæſtrina at the diſtance of twenty-two miles, and diſcharges itſelf at the Fontana di Termini, which was alſo built at his expence, and conſiſts of three arches, ſupported by four Corinthian pillars, and the water guſhes out through three large apertures. Over the middle arch ſtands a beautiful ſtatue of Moſes ſtriking the rock with his rod; over another arch is a baſſo-relievo of Aaron leading the people to the miraculous ſprings in the wilderneſs; and the third exhibits Gideon trying his ſoldiers by their drinking water. Round it are four lions, two of marble, and the other two of oriental granite, ſaid to be brought thither from a temple of Serapis. All the four lions eject water; and on the front is an inſcription, importing that this aquæduct was begun in the firſt and completed in the third year of the pontificate of Sixtus V. 1588. The third was repaired by Pope Paul V. in the year 1612. This divides itſelf into two principal channels, one of which ſupplies Mount Janiculus, and the other the Vatican and its neighbourhood. It is conveyed through the diſtance of thirty miles, from the diſtrict of Bracciano, and three of its five ſtreams are not inferior to ſmall rivers, and ſufficient to turn a mill.

After

After recounting the ancient and modern aquæducts of Rome, we might mention thoſe conſtructed by the Romans in other countries: one of the principal of theſe is the aquæduct of Metz, of which a great number of the arcades ſtill remain. Theſe arcades croſſed the Moſelle, which is broad and deep; and the copious waters of Gorze furniſhed water ſufficient for the repreſentation of a ſea-fight. The water was collected in a reſervoir, whence it was conducted by a ſubterraneous canal formed of hewn ſtone, and ſo lofty that a man might walk in it erect; and it then traverſed the Moſelle, at the diſtance of two leagues from Metz. This aquæduct was ſo accurately wrought and firmly cemented, that its parts have in a great degree reſiſted the ſhocks of the moſt ſevere ſeaſons. From the arcades that croſſed the river, other aquæducts conveyed the water to the baths of Metz, and alſo to the place where the naumachia was exhibited. Of the aquæduct of Segovia, there ſtill remain 159 arcades, conſiſting of ſtones of an enormous ſize, and joined without mortar. Theſe arcades are 102 feet high, and are diſpoſed in two ranges, one above the other. The aquæduct traverſes the city, and paſſes under a conſiderable number of houſes. The famous aquæducts of Conſtantinople, about ſix miles from the village of Belgrade, were built by Valentinian the firſt, Clearchus being præfect, and afterwards repaired by Solyman the magnificent, who exempted twelve adjacent Greek villages from the cuſtomary tribute of the empire, in conſideration of their keeping theſe aquæducts in repair. Of theſe the moſt remarkable are three large and lofty fabrics, built over ſo many valleys betwixt the adjoining hills, of which the longeſt has many but leſs arches, and may poſſibly (ſays Chiſhull, Travels, &c. p. 43.), be the entire work of Solyman. The other two have the appearance of a more ancient and regular architecture, conſiſting of two rows of arches one over the other; and thoſe of the ſecond were incloſed by pillars cut through the middle, ſo as to render the fabric both paſſable like a bridge, and uſeful for the conveyance of water. The more conſiderable of theſe two conſiſts of only four large arches, each twenty yards long, and ſomewhat above twenty high, ſupported by octangular pillars of about fifty-ſix yards in circumference towards the bottom. For an inquiry into the nature and conſtruction of the aquæducts of the Romans, ſee Governor Pownall's Notices and Deſcriptions of Antiquities of the Provincia Romana, of Gaul, 4to. 1788. The aquæduct built by Lewis XIV. near Maintenon, for carrying the river Bure to Verſailles, is perhaps the greateſt now in the world. It is 7000 fathoms long, and its elevation 2560 fathoms; containing 242 arcades. Vide Phil. Tranſ. ap. Lowth. Abr. vol. i. p. 594.

AQUÆDUCTUS *Fallopii*, a name improperly given by Fallopius to the bony canal through which the firm portion of the auditory nerve paſſes out of the cranium.

AQUÆDUCTUS *Cottennii*, are real aquæducts ſerving to carry off redundant water from the labyrinth of the ear. For a more full account of each of theſe articles, ſee the deſcription of the EAR.

AQUÆDUCTUS *Sylvii*, the iter a tertio ad quartum ventriculum, or canalis medius. See BRAIN.

AQUÆMANILIS, from *aqua*, *water*, and *manus*, *hand*, is particularly uſed, in *Eccleſiaſtical Writers*, for a kind of baſon or laver, anciently placed in the veſtibules of churches, ſerving to waſh the hands in.

Aquæmanilis ſtood contradiſtinguiſhed from *urceolus*, as the former was placed under the hands, the latter above them, from whence the water trickled down by a cock. The prieſt alſo, after celebrating maſs, waſhed his fingers in an aquæmanilis.

In the inventories of church plate, we frequently find mention of aquæmanilis, aquaminilia, aquiminalia, of ſilver gilt, wrought, &c. Du-Cange.

AQUAFFO, in *Geography*, a town of Africa on the Gold coaſt, where is held a ſlave market, to the weſt of Cape-coaſt-caſtle.

AQUAFORT, a ſettlement on the eaſt ſide of the ſouth-eaſtern extremity of Newfoundland iſland. N. lat. 47° 10'.

AQUAGE, a water-courſe.

AQUALICULUS, in *Anatomy*, a name given by ſome to the region of the body wherein the trunk terminates, and the thighs commence, and in which alſo the privities are placed.

The aqualiculus is the ſame with what others call *pubes*, others the *hypogaſtrium*, *ſumen*, *imus venter*, &c.

AQUALLA, in *Geography*, a town of Africa, in the country of Soko, on the Gold-coaſt.

AQUAMBOE, a kingdom of Africa on the Gold-coaſt, bounded on the eaſt by the river Volta, and on the weſt by Agonna. That part of Aquamboe which lies on the coaſt is called Acra, and might formerly have been an independent ſtate; but it is now dependent and tributary. Aquamboe is one of the moſt extenſive and powerful monarchies on the coaſt of Guinea; its maritime dominions extending twenty miles along the coaſt, and ten times as far into the inland parts. The territory towards the coaſt is ſaid to be divided into a number of petty royalties, but all of them ſubject to the king of Aquamboe, who exerciſes an unlimited and indiſcriminate authority over them as his meaneſt ſubjects; whence it has become a proverb, that in Aquamboe there are only two ranks of men, the royal family and the ſlaves. The natives of this country are haughty, turbulent and warlike; and their power is formidable to all the neighbouring kingdoms, except ACHEM. All the tributary nations are grevioufly infeſted by the incurſions of the Aquamboans. It has been thought that the king and his nobility are richer in gold and ſlaves, and poſſeſs greater treaſures than all the kingdoms on the coaſt of Guinea, at leaſt on the Gold coaſt; and the extenſive commerce of the maritime part of Acra would be much enlarged, if it were not obſtructed by perpetual quarrels between the natives of Aquamboe and Achem. The ſovereign of the former claims an annual tribute from the latter, the refuſal of which excites frequent diſſenſions; but the former, ſenſible of the ſuperiority of the latter, diverts the ſtorm by creating diſcord in the councils of Achem, and thus he artfully contrives to preſerve the tranquillity and trade of his realm. The chief buſineſs of the people is trade, agriculture, and war; and war in this country promotes trade and huſbandry, by increaſing the number of ſlaves and priſoners, who are obliged to labour for the Aquamboans, while they are maintained by them. Of courſe, they are by intereſt and inclination much addicted to war. Though the ſoil is fertile, yet before the expiration of the year, they are under a neceſſity of ſeeking ſupplies from other countries. The Aquamboans, diſdaining the employments of fiſhing and making of ſalt, leave them to the maritime negroes, who are very numerous, and carry on a great trade with the European ſhipping. The number of ſlaves ſold here is at leaſt equal to what is diſpoſed of on the whole coaſt beſide, not excepting Anamaboa. In time of war, every man fit to bear arms enters the field; and a certain number is detached to cultivate the ground and ſell the priſoners, while the reſt are engaged in oppoſing the enemy. Among the fiſhermen on the coaſt there are few warriors; for as they live under the protection of the Europeans, and are defended on the north by their more warlike countrymen, they are ſeldom attacked, or compelled to change the hook and net for the ſword and buckler.

by Mr. The countries of Lobadde, Ningo, and Soko, all of which have ports on the ſea coaſt, are merely diviſions of the great kingdom of Aquamboe.

AQUA-NEGRA. See Acqua-negra.

AQUANILE, a river of Calabria, ſuppoſed by Swinburne (Travels in the two Sicilies, vol. ii. p. 175), both on account of its name and poſition, to be the Hylias, anciently the limit between Sybaris and Croton. On its banks the Crotoniates gained the victory which made them maſters of the Sybarite territory.

AQUAPENDENTE. See Acquapendente.

AQUAPULCO. See Acapulco.

AQUARIA. See Aquaria.

AQUARIANS, in *Eccleſiaſtical Hiſtory*, a ſect, toward the cloſe of the ſecond century, who, inſtead of wine, uſed nothing but water in the ſacrament.

It is ſaid the occaſion of the abuſe was owing to the perſecution which prevailed in thoſe times: for the Chriſtians, being then obliged to celebrate the ſacrament in the night, found it neceſſary to make uſe of water, leſt the ſmell of the wine ſhould betray them to the heathens. But they afterwards went farther, and actually forbad the uſe of wine in the euchariſt, even when it might be uſed with ſafety.

Epiphanius tells us, the Aquarians were the followers of Tatian; and were ſo called from the word *aqua*, *water*, becauſe they abſtained wholly from wine, and did not uſe it even in the euchariſt.

AQUARIUS, in *Aſtronomy*, the eleventh ſign in the zodiac, reckoning from Aries; from which alſo the eleventh part of the ecliptic takes its name.

The ſun moves through Aquarius in part of the months of January and February: it is marked thus, ♒.

The poets feign that Aquarius was Ganymede, whom Jupiter raviſhed under the ſhape of an eagle, and carried away into heaven, to ſerve as a cup-bearer in the room of Hebe and Vulcan; whence the name.—Others hold, that the ſign was thus called, becauſe, when it appears in the horizon, the weather uſually proves rainy.

The ſtars in the conſtellation Aquarius, in Ptolemy's catalogue, are 45; in Tycho's, 41; in Hevelius's, 47; in Flamſteed's Britannic Catalogue, 108.

AQUARTIA, in *Botany*, a plant ſo named by Jacquin, in honour of his friend B. Aquart, merchant in Martinico, who aſſiſted him in his botanical reſearches. Linn. Gen. 136. Schrebt. g. 176. Jacq. Amer. 15. Juſſ. 126. Claſs, *tetrandria monogynia*. Nat. Order, *Solaneæ* Juſſ. Gen. Char. *Cal.* perianth monophyllous, permanent; tube, bell-ſhaped; limb, ſubquadrifid, expanding; two oppoſite diviſions obſolete. *Cor.* monopetalous, rotate; tube, very ſhort; limb, quadrifid; diviſions linear, ſpreading. *Stam.* filaments ſhort; anthers erect, very large, linear. *Piſt.* germ. ovate; ſtyle, filiform, bending, the length of the corolla; ſtigma ſimple. *Per.* a berry, globular, one-celled. *Seeds*, very many, compreſſed.

Eſſ. gen. char. *Cal.* bell-ſhaped; *corolla*, wheel-ſhaped, with linear diviſions; *berry*, many-ſeeded.

Species, 1. *Aquartia aculeata*. This is a perennial ſpinous plant, with alternate, ovate, obtuſe, petioled leaves. Jacquin obſerves that it riſes with a ſhrubby branched ſtem, to the height of four feet, producing white flowers, and yellow ſhining fruit, about the ſize of a pea. It has the appearance of a ſolanum, and Swartz thinks that it ought to be conſidered as one of that genus, with four ſtamens. A native of the Weſt-Indies, and of South America. Jacq. ed. 2. Am. pict. t. 15.

AQUA-SPARTA, in *Geography*. See Acqua-sparta.

AQUATANIO, or Aqua d'Acio; a ſmall river of Italy, which runs into the Tiber about a mile from Rome.

AQUATIA, in *Middle Age Writers*, a right of fiſhing three days in the year. Du-Cange.

In ancient deeds we find divers grants of this privilege of *aquatia*, or *aquatura*; ſometimes alſo called *aquaria*.

In ſome writings aquatia ſeems alſo to have ſignified a fee, or other ſervice, paid for the privilege of fiſhing.

AQUATIC, ſomething which lives, breeds, or grows on or about the water. Thus we have aquatic plants, and aquatic animals. Trees which grow peculiarly on the banks of rivers, or in marſhes, &c. are alſo called aquatics.

The ancient Romans had alſo their *aquatic* or *aquatile* gods, *dii aquatiles*, called by Catullus, *dii littorales*; concerning whom we have an inſcription in Reineſius, Septvno et diis aqvatilibvs.

To this claſs belonged the Tritons, the miniſters of Neptune.

AQUATIC manure, in *Agriculture*, a term applied to ſuch manure as is formed in conſequence of the diſſolution or decay of various aquatic vegetables, and depoſited at the bottoms of ponds, ditches and other ſimilar places. It has been obſerved by Mr. Marſhall, in the Rural Œconomy of the Midland Counties, that he dreſſed two lands with the aquatic manure (raiſed two or three years before out of a fiſh-pool, and afterwards turned up into a heap of digeſts), the reſt of the piece being manured with yard dung, the quantity of each about eight loads an acre, the two lands dreſſed with the aquatic manure were obviouſly the better crop of turnips; the plants were, he ſays, not more numerous but larger and cleaner-ſkinned, and what was remarkable, while the crop of the piece in general was full of cetlock and chick-weed, which aroſe after the hoeing, the two lands where this ſort of manure was applied, were in a manner entirely free from theſe weeds.

AQUATINTA, in the *Hiſtory of the Arts*, a method of producing engravings very much reſembling drawings in Indian ink.

The principle of this proceſs conſiſts in corroding the copper with aquafortis, in ſuch a manner, that an impreſſion from it has the appearance of a tint laid on the paper. This is effected by covering the copper with a powder or ſome ſubſtance which takes a granulated form, ſo as to prevent the aquafortis from acting where the particles adhere, and by this means cauſe it to corrode the copper partially and in the interſtices only. When theſe particles are extremely minute, and near to each other, the impreſſion from the plate appears to the naked eye exactly like a waſh of Indian ink. But when they are larger, the granulation is more diſtinct: and as this may be varied at pleaſure, it is capable of being adapted with great ſucceſs to a variety of purpoſes and ſubjects.

This powder or granulation is called the aquatinta grain, and there are two general modes of producing it.

We ſhall firſt deſcribe what is called the powder grain, becauſe it was the firſt that was uſed. Having etched the outline on a copper plate prepared in the uſual way by the copperſmith, (for which ſee the article Etching) ſome ſubſtance muſt be finely powdered and ſifted which will melt with heat, and when cold adhere to the plate, and reſiſt the action of aquafortis. The ſubſtances which have been uſed for this purpoſe, either ſeparately or mixed, are, aſphaltum, Burgundy pitch, roſin, gum copal, and gum maſtic; and in a greater or leſs degree all the reſins and gum reſins will anſwer the purpoſe. Common reſin has been moſt generally uſed, and anſwers tolerably well; though gum copal makes a grain that reſiſts the aquafortis better. The ſubſtance intended to be uſed for the grain muſt now be diſtributed over the plate, as equally as poſſible; and different methods of performing this eſſential part of the operation have been uſed

by different engravers, and at different times. The moſt uſual way is to tie up ſome of the powder in a piece of muſlin, and to ſtrike it againſt a piece of ſtick held at a conſiderable height above the plate. By this, the powder that iſſues falls gently, and ſettles equally over the plate. Every one muſt have obſerved how uniformly hair powder ſettles upon the furniture after the operations of the hair dreſſer: this may afford a hint towards the beſt mode of performing this part of the proceſs. The powder muſt fall upon it from a conſiderable height, and there muſt be a ſufficiently large cloud of duſt formed. The plate being covered equally over with the duſt or powder, the operator is next to proceed to fix it upon the plate, by heating it gently, ſo as to melt the particles. This may be effected by holding under the plate lighted pieces of brown paper rolled up, and moving them about till every part of the powder is melted. This will be known by its change of colour, which will turn browniſh. It muſt now be ſuffered to cool, when it may be examined with a magnifier; and if the grains or particles appear to be uniformly diſtributed, it is ready for the next part of the proceſs.

The deſign or drawing to be engraved muſt now be examined, and ſuch parts of it as are perfectly white, are to be remarked. Thoſe correſponding parts of the plate muſt be covered, or ſtopped out, as it is called, with turpentine, or what is better, maſtic varniſh, diluted with turpentine to a proper conſiſtence to work freely with the pencil, and mixed with lamp-black to give it colour; for, if tranſparent, the touches of the pencil would not be ſo diſtinctly ſeen. The margin of the plate muſt alſo be covered with varniſh. When the ſtopping out is ſufficiently dry, a border of wax muſt be raiſed round the plate in the ſame manner as in etching, and the aquafortis, properly diluted with water, poured on. This is called biting in; and it is that part of the proceſs which is moſt uncertain, and which requires the greateſt degree of experience. When the aquafortis has lain on ſo long that the plate, when printed, would produce the lighteſt tint in the drawing, it is poured off, and the plate waſhed with water, and dried. When it is quite dry, the lighteſt tints are ſtopped out, and the aquafortis poured on as before; and this is repeated as often as there are tints to be produced in the plate.

Although many plates are etched entirely by this method of ſtopping out and biting in alternately, yet it may be eaſily conceived that in general it would be very difficult to ſtop round and leave out all the finiſhing touches, as alſo the leaves of trees, and many other objects, which it would be impoſſible to execute with the neceſſary degree of freedom in this manner.

To overcome this difficulty, another very ingenious proceſs has been invented, by which the touches are laid on the plate with the ſame eaſe and expedition as they are in a drawing in Indian ink. Fine waſhed whiting is mixed with a little treacle or ſugar, and diluted with water in the pencil ſo as to work freely, and this is laid on the plate covered with the aquatint ground, in the ſame manner and on the ſame parts as ink on the drawing. When this is dry, the whole plate is varniſhed over with a weak and thin varniſh of turpentine, aſphaltum, or maſtic, and then ſuffered to dry, when the aquafortis is poured on. The varniſh will immediately break up in the parts where the treacle mixture was laid, and expoſe all thoſe places to the action of the acid, while the reſt of the plate remains ſecure. The effect of this will be, that all the touches, or places where the treacle was uſed, will be bit in deeper than the reſt, and will have all the preciſion of touches in Indian ink.

After the plate is completely bit in, the bordering wax is taken off by heating the plate a little with a lighted piece of paper; and it is then cleared from the ground and varniſh by oil of turpentine, and wiped clean with a rag and a little fine whiting, and then it is ready for the printer.

The principal diſadvantages of this method of aquatinting are, that it is extremely difficult to produce the required degree of coarſeneſs or fineneſs in the grain, and that plates ſo engraved do not print many impreſſions without wearing out. It is therefore now very ſeldom uſed, though it is occaſionally of ſervice.

We next proceed to deſcribe the ſecond method of producing the aquatint ground, which is generally adopted. Some reſinous ſubſtance is diſſolved in ſpirits of wine, as for inſtance common reſin, Burgundy pitch, or maſtic, and this ſolution is poured all over the plate, which is then held in a ſlanting direction till all the ſuperfluous fluid drains off, and it is then laid down to dry, which it does in a few minutes. If the plate be then examined with a magnifier, it will be found that the ſpirit in evaporating has left the reſin in a granulated ſtate, or rather that the latter has cracked in every poſſible direction, ſtill adhering firmly to the copper. A grain is thus produced with the greateſt eaſe, which is extremely regular and beautiful, and much ſuperior for moſt purpoſes to that produced by the other method. After the grain is formed, every part of the proceſs is conducted in the ſame manner as above deſcribed.

Having thus given a general idea of the art, we ſhall mention ſome particulars neceſſary to be attended to, in order to enſure ſucceſs in the operation. The ſpirits of wine muſt be rectified, and of the beſt quality: what is ſold in the ſhops contains camphor, which would entirely ſpoil the grain.

Reſin, Burgundy pitch, and gum maſtic, when diſſolved in ſpirits of wine, produce grains of a different appearance and figure, and are ſometimes uſed ſeparately, and ſometimes mixed in different proportions, according to the taſte of the artiſt, ſome uſing one ſubſtance and ſome another.

In order to produce a coarſe or fine grain, it is neceſſary to uſe a greater or ſmaller quantity of reſin; and to aſcertain the proper proportions, ſeveral ſpare pieces of copper muſt be provided, on which the liquid may be poured, and the grain examined before it is applied to the plate to be engraved.

After the ſolution is made, it muſt ſtand ſtill and undiſturbed for a day or two, till all the impurities of the reſin have ſettled to the bottom, and the fluid is perfectly pellucid. No other method of freeing it from thoſe impurities has been found to anſwer. Straining it through linen or muſlin fills it with hairs, which are ruinous to the grain.

The room in which the liquid is poured on the plate muſt be perfectly ſtill, and free from duſt, which, whenever it falls on the plate while wet, cauſes the grain to form a white ſpot, which it is impoſſible to remove without laying the grain afreſh.

The plate muſt be previouſly cleaned with the greateſt poſſible care, with a rag and whiting, as the ſmalleſt ſtain or particle of greaſe produces a ſtreak or blemiſh in the grain.

All theſe attentions are abſolutely neceſſary to produce a tolerably regular grain; and after every thing that can be done by the moſt experienced artiſts, ſtill there is much uncertainty in the proceſs. They are ſometimes obliged to lay on the grain ſeveral times before they procure one ſufficiently regular. The ſame proportions of materials do not always produce the ſame effect, as it depends in ſome degree upon their qualities, and it is even materially affected by the weather. Theſe difficulties are not to be ſurmounted but by a great deal of experience: and thoſe who are daily in the habit of practiſing the art are frequently liable to the moſt unaccountable accidents. Indeed it is much to be

be lamented, that ſo elegant and uſeful a proceſs ſhould be ſo delicate and uncertain.

It being neceſſary to hold the plate in a ſlanting direction in order to drain off the ſuperfluous fluid, there will naturally be a greater body of the liquid at the bottom than at the top of the plate. On this account, a grain laid in this way is always coarſer at that ſide of the plate that was held lowermoſt. The moſt uſual way is, to keep the coarſeſt ſide for the foreground, being generally the part that has the deepeſt ſhadows. In large landſcapes, ſometimes various parts are laid with different grains, according to the nature of the ſubject.

The finer the grain is, the more nearly does the impreſſion reſemble Indian ink, and the fitter it is for imitating drawings. But very fine grains have ſeveral diſadvantages. For they are apt to come off before the aqua fortis has lain on long enough to produce the deſired depth; and as the plate is not corroded ſo deep, it ſooner wears out in printing. Whereas coarſer grains are firmer, the acid goes deeper, and the plate will throw off a great many more impreſſions. The reaſon of all this is evident, when it is conſidered, that in the fine grains the particles are ſmall and near to each other, and conſequently the aqua fortis, which acts laterally as well as downwards, ſoon undermines the particles, and cauſes them to come off. If left too long on the plate, the acid would eat away the grain entirely.

On theſe accounts, therefore, the moderately coarſe grains are more ſought after, and anſwer better the purpoſe of the publiſher, than the fine grains which were formerly in uſe.

Although there are conſiderable difficulties in laying properly the aquatint grain, yet the corroding of the copper, or biting in, ſo as to produce exactly the tint required, is ſtill more precarious and uncertain. All engravers allow, that no poſitive rules can be laid down, by which the ſucceſs of the proceſs can be ſecured: nothing but a great deal of experience and attentive obſervation can enable the artiſt to do it with any degree of certainty.

There are ſome hints, however, which may be of conſiderable importance to the perſon who wiſhes to attain the practice of this art.

It is evident, that the longer the acid remains on the copper, the deeper it bites, and conſequently the darker will be the ſhade in the impreſſion. It may be of ſome uſe, therefore, to have ſeveral bits of copper laid with aquatint ground of the ſame kind that is to be uſed in the plate, and to let the aqua fortis remain for different lengths of time on each; and then to examine the tints produced in one, two, three, four minutes, or longer. Obſervations of this kind frequently repeated, and with different degrees of ſtrength of the acid, will at length aſſiſt the judgment in gueſſing at the tint which is produced in the plate. A magnifier is alſo uſeful to examine the grain and to obſerve the depth to which it is bit. It muſt be obſerved, that no proof of the plate can be obtained till the whole proceſs is finiſhed.

If any part appears to have been bit too dark, it muſt be burniſhed down with a ſteel burniſher; and this requires great delicacy and good management not to make the ſhade ſtreaky; and the beauty and durability of the grain are always ſomewhat injured by it, ſo that it ſhould be avoided as much as poſſible.

Thoſe parts which are not dark enough muſt have a freſh grain laid over them, and be ſtopped round with varniſh and ſubjected again to the aqua fortis. This is called *re-biting*, and requires peculiar care and attention. The plate muſt be very well cleaned out with turpentine before the grain is laid on, which ſhould be pretty coarſe, otherwiſe it will not lie upon the heights only, as is neceſſary in order to produce the ſame grain. If the new grain is different from the former, it will not be ſo clear nor ſo firm, but rotten.

We have now given a general account of the proceſs of engraving in aquatinta; and we believe that no material circumſtance has been omitted, that can be communicated without ſeeing the operation. But after all, it muſt be confeſſed, that no printed directions whatever can enable a perſon to practiſe it. Its ſucceſs depends upon ſo many niceties and attention to circumſtances apparently trifling, that the perſon who attempts it muſt not be ſurprized if he does not ſucceed at firſt. It is a ſpecies of engraving ſimple and expeditious, if every thing goes on well; but it is very precarious, and the errors which are made are rectified with great difficulty.

It ſeems to be adapted chiefly for imitations of ſketches, waſhed drawings, and ſlight ſubjects: but does not appear to be at all calculated to produce prints from finiſhed pictures, as it is not ſuſceptible of that accuracy in the balance of tints neceſſary for this purpoſe. Nor does it appear to be ſuited for book plates, as it does not throw off a ſufficient number of impreſſions. It is therefore not to be put into competition with the other modes of engraving. If confined to thoſe ſubjects for which it is calculated, it muſt be allowed to be extremely uſeful, as it is expeditious, and may be attained with much leſs difficulty than any other mode of engraving. But even this circumſtance is a ſource of miſchief, as it occaſions the production of a multitude of prints that have no other effect than that of vitiating the public taſte.

Engraving in aquatinta was invented by Le Prince, a French artiſt, who kept his proceſs for a long time ſecret: and it is ſaid he ſold his prints at firſt as drawings. But he appears to have been acquainted only with the powder grain, and the common method of ſtopping out. The prints which he produced are ſtill ſome of the fineſt ſpecimens of the art. Mr. Paul Sandby was the firſt who practiſed it in this country, and it was by him communicated to Mr. Jukes. It is now practiſed very generally all over Europe, but no where more ſucceſsfully than in this kingdom.

AQUATULCO. See AGUATULCO.

AQUAVIVA, CLAUD, in *Biography*, the ſon of Andrew Aquaviva, duke of Atri in Naples, was born in 1542, and at the age of 25 admitted among the Jeſuits. In 1581, he was advanced to the office of general of the fraternity, and in the exerciſe of it was diſtinguiſhed by his prudence and mildneſs. He drew up an order under the title of "Ratio Studiorum," printed at Rome in 1586, 8vo.; which much offended the Jeſuits, and was ſuppreſſed by the inquiſition; but it was reprinted in a mutilated ſtate, in 1591. This eccleſiaſtic has left "Letters" in French and Latin, "Meditations on the 44th and 93d pſalms," and alſo a treatiſe intitled "Induſtria ad curandos animæ morbos," printed in 1606, 12mo. Nouv. Dict. Hiſt.

AQUAVIVA, in *Geography*. See ACQUAVIVA.

AQUEDOCHTON, the outlet of lake Winnipiſeogee in New Hampſhire, North America, N. lat. 43° 40′: whoſe waters paſs through ſeveral ſmaller ones in a ſouth-weſt courſe, and empty into Merrimack river between the towns of Sanburn and Canterbury.

AQUELAOR, one of the Lacadives iſlands; N. lat. 10° 45′. E. long. 73° 25′.

AQUENSIS COLONIA, in *Ancient Geography*, the town of AIX.

AQUENSIS, the name of an epiſcopal ſee of Africa, in Mauritania Cæſarienſis: alſo, an epiſcopal ſee in Bizacium.

A Q U

AQUENSIS VICUS, or *Aquæ Onoſiæ*, is the ancient name of the preſent Bagneres.

AQUEOUS, AQUOSUS, ſomething that partakes of the nature of WATER, or abounds therewith.

AQUEOUS *bath*. See BATH.

AQUEOUS *humour*, in *Anatomy*, is the front humour of the eye, which occupies the ſpace between the cornea and the cryſtalline lens, and acroſs which the iris may be conſidered as floating. See EYE.

AQUETTA, a name for a kind of liquid poiſon made much uſe of by the Roman women, under the pontificate of Alexander VII.

This poiſon was prepared, and ſold in drops, by Tophania, or Toffania, an infamous woman, who reſided firſt at Palermo, and afterwards at Naples. From her they obtained the name of *aqua Tophania, aqua della Toffana*, and alſo *acquetta di Napoli*. It is ſaid, that ſhe diſtributed her preparation to wives who wiſhed to have other huſbands, and that it was ſecretly adminiſtered in many caſes, which rendered the removal of obnoxious perſons deſirable; and that five or ſix drops were ſufficient for deſtroying a man, and that the doſe might be ſo proportioned as to operate in a certain time. This woman was impriſoned at Naples, and was living there in 1730, when Keyſler viſited the city. This traveller ſays, that ſince it has been diſcovered that lemon-juice is an antidote to it, the compoſition is ſunk into diſrepute. He adds, that Dr. Branchaletti wrote a book expreſsly on the remedies or antidotes againſt theſe ſtygian drops, which continued to be privately made and vended at the period above mentioned. (Keyſler's Travels, vol. iii. p. 37.) Tophania (ſays Labat in his Travels through Italy, vol iv. p. 33.) diſtributed her poiſon in ſmall glaſs phials, with this inſcription, *Manna of St. Nicholas of Bari*, under a pretence that it was a miraculous oil which dropped from the tomb of that Saint at Bari in the kingdom of Naples, and that it was effectual for the cure of many diſeaſes. Upon being put to the rack, this woman acknowledged her wickedneſs, and impeached ſeveral eccleſiaſtics by whom ſhe was protected. She was afterwards ſtrangled. This art of adminiſtering ſecret poiſon was much practiſed in France and Italy about the cloſe of the 17th and commencement of the 18th century. It was communicated by Godin de Sainte Croix, a diſſipated young man of reſpectable family in France, to the Marchioneſs de Brinvillier, with whom he had intrigues. St. Croix was ſuffocated in his laboratory, whilſt he was preparing his poiſon; and the Marchioneſs, whoſe whole life had been ſingularly infamous, and who confeſſed her horrid crimes, was executed at Paris, July 16th, 1676, and afterwards beheaded and burned. Garelli, phyſician to the emperor Charles VI. who was king of the two Sicilies when Toffania was arreſted, in a letter to the celebrated Hoffman, in 1718 or 1719, ſays, that the ſlow poiſon adminiſtered by this wretch to the deſtruction of 600 perſons, was nothing elſe than cryſtallized arſenic, diſſolved in a large quantity of water by decoction, with the addition, for ſome purpoſe unknown to him, of the herb *cymbalaria*. Hoffman. Med. Ration. Syſtem. t. ii. p. 2. c. 2. § 19. p. 185. Hala 1729. 4to. It has been concluded alſo from the effects produced by the poiſons of Toffania and Brinvillier, that they were arſenical mixtures; though ſome have maintained, that they were compoſed of opium and cantharides. This mixture is repreſented as a liquor, no leſs limpid than rock-water, and altogether inſipid. Its effects were ſlow and almoſt imperceptible, and a few drops of it were adminiſtered in tea, chocolate, or other dietetic liquid.

AQUI, or AQUITA, in *Geography*, a town and province of Japan, in the ſouthern part of the iſland of Niphon, near the ſtraits of Sanguar.

AQUIABENSIS, in *Ancient Geography*, an epiſcopal ſee of Africa, in Bizacium.

AQUIDNECK, the ancient name of Rhode iſland.

AQUIFOLIUM. See ILEX.

AQUIGUI, or ACQUIGNI, in *Geography*, a town of France in the department of the Eure, one league from Louviers.

AQUILA, in *Aſtronomy*, a conſtellation of the northern hemiſphere; uſually joined with Antinous.

The ſtars in the conſtellations, Aquila and Antinous, in Ptolemy's catalogue, are 15; in Tycho's, 19; in Hevelius's, 42; in the Britannic catalogue, 71: but in Aquila alone, Tycho reckons 12 ſtars, and Hevelius 23: the principal ſtar being Lucida Aquila, between the firſt and ſecond magnitudes.

AQUILA, in *Chemiſtry*, has ſeveral ſignifications, according to the epithets joined with it.

AQUILA *alba* is a name given to a combination of corroſive ſublimate with freſh mercury, called *mercurius dulcis*.

AQUILA, in *Ancient Geography*, a river of Scythia, near mount Caucaſus.

AQUILA, anciently *Avia* or *Avella*, in *Geography*, a city of Italy, and the capital of Abruzzo ultra, ſituate on a hill near the river Peſcara; is the ſee of a biſhop, and was once fortified, but now quite diſmantled. In 1703, it ſuffered much from an earthquake, which damaged a great part of the town, and deſtroyed 24,000 perſons, and dangerouſly wounded 1500; on this occaſion, 800 were ſwallowed up, together with the church, to which they had fled for refuge. The territory of Aquila formerly furniſhed Italy, almoſt excluſively, with ſaffron; but ſince that plant has been ſo much cultivated in Lombardy, it has declined in Abruzzo. Aquila is 50 miles NE. of Rome, and 93 N. of Naples. N. lat. 42° 19'. E. long. 14° 20'.

AQUILA, in *Biography*, a native of Sinope, a city of Pontus, flouriſhed at the beginning of the ſecond century, under Adrian, and was employed by him as ſuperintendant of the public buildings, and particularly of the new city called Ælia, which the emperor was erecting on the ſite of the ancient Jeruſalem, deſtroyed by Titus. Here he became a proſelyte to Chriſtianity, and was baptized; but his attachment to aſtrology offended the Chriſtians, and they excluded him from their communion. Diſguſted by this treatment, he renounced Chriſtianity, joined the Jews, and became a diſciple of the rabbi Akibha. At their requeſt, being previouſly inſtructed in the Hebrew language, he undertook, about the year 128 or 129, a new Greek verſion of the Hebrew ſcriptures. In this tranſlation, which was very acceptable to the diſperſed Jews, and which was read in their ſynagogues, he propoſed to adhere more literally and accurately to the Hebrew text than the Septuagint; but he has been charged, both by ancient and modern writers, with perverting the original text, in order to render his verſion leſs favourable to the Chriſtians. On the other hand, it has been alleged in favour of its accuracy and fidelity, that it was not only adopted by the Jews in their ſynagogues, but mentioned with approbation by many Chriſtian writers, and frequently cited by the Chriſtian fathers, inſtead of the Hebrew text, which few of them were capable of reading. This verſion was corrected and improved by Aquila, in a ſecond edition; the public uſe of which was prohibited, as ſome have thought, in Juſtinian's Novella 146, under the title of Διδλεωσιν: but others have ſuppoſed, with greater probability, that this prohibition refers to a diſtinct work, framed by Aquila, from the inſtructions of his maſter Akibha; and containing the traditionary inſtitutions of the Jews. Of Aquila's verſion, ſome few fragments only are extant. See HEXAPLA.

Euſebius Eccl. Hiſt. l. v. c. 8. p. 173. Cave, Hiſt. Lit. vol. i. p. 54. Fabr. Bib. Græc. l. iii. c. 12. t. ii. p. 332, &c.

Aquila and Priscilla were natives of Pontus, and converted to the Chriſtian faith by the apoſtle Paul. They lived at Corinth, being obliged to quit Rome and remove thither by the edict of Claudius, which baniſhed all Jews from that city; and here Paul lodged with them. When the apoſtle left this city, Aquila and Priſcilla accompanied him to Epheſus, A. D. 56, where they expoſed their own lives to danger for preſerving him. When the apoſtle wrote his epiſtle to the Romans, A. D. 58, they were at Rome, as he diſtinguiſhes them in this epiſtle by his ſalutations. We find them again at Epheſus, when St. Paul wrote his ſecond epiſtle to Timothy, A. D. 61., but what became of them afterwards is not known. Theſe early converts were tent-makers; and as they had, probably, a conſiderable number of ſervants in their houſe, who were inſtructed by them in the Chriſtian faith, they had, by means of theſe, "a church in their houſe," wherever they ſettled. Acts, xxvii. 2. &c. Rom. xvi. 4. 2 Tim. iv. 19. The Greeks call Aquila, biſhop and apoſtle, and honour him July 12. The feſtival of Aquila and Priſcilla is placed, in the Roman calendar, July 8.

Aquila, Francesco Faraone, an engraver of ſome eminence, who flouriſhed from 1691 to 1722, was born at Palermo, but chiefly reſided at Rome. His engravings are numerous, and many of them eſteemed. His ſtyle of engraving, in general, is rather neater than that of Pietro, but much inferior in drawing and expreſſion. Strutt.

Aquila, Pietro, an eminent engraver, was born at Palermo, and flouriſhed about the year 1696, and reſided at Rome. As a deſigner and painter, he ſtands high in the eſtimation of the curious; but he is more generally, and perhaps more deſervedly known, as an engraver. He drew admirably, and etched in a bold free manner, finiſhing his lights and harmonizing his ſhadows with ſmall dots. His general faults are want of effect from ſcattering his lights, and what by the artiſt is called "manner" in his drawing. In all his works he manifeſts much ſcientific knowledge. Strutt.

AQUILÆ *Arbor*, in *Botany*, a name given by ſome authors, to the tree whoſe wood is the *agallochum*, or lignum aloes of the ſhops.

AQUILANO, Serafino, in *Biography*, ſo called from Aquila in Abruzzo, the place of his nativity, was born in 1466; and obtained great reputation as an "improviſatori," or extemporaneous maker of verſes, which he recited with enthuſiaſm, and accompanied with the ſtrains of his lute. In conſequence of his performances in this way, he was patronized by many Italian princes; and his written poems alſo gained conſiderable applauſe. A collection of his ſonnets, eclogues, epiſtles, &c. was printed at Rome in 1503, 8vo. The ſonnets have obtained the higheſt reputation, and ſome have preferred them even to thoſe of Petrarch: but the works of Serafino have now ſunk into oblivion. He died at Rome in 1500. Nouv. Dict. Hiſtor.

AQUILANUS, Sebastianus, ſuppoſed to have taken his name from Aquila, the place of his birth, was profeſſor of medicine at Padua, in the latter part of the fifteenth century. He is one of the early writers on the venereal diſeaſe, his account of which "De Morbo Gallico," dedicated to Lewis de Gonzaga, biſhop of Mantua, was publiſhed, Aſtruc ſuppoſes, in 1489. It now ſtands firſt in Luiſinus's collection of writings on the ſubject. He was acquainted with the uſe of mercury in the cure of the diſeaſe, and cautions us againſt employing it in weak and debilitated habits. His work paſſed through ſeveral editions. He alſo wrote "Queſtio de febre ſanguinea," firſt printed at Baſil, in 1537. Aſtruc de morbo Gallico, p. 578, and Haller's Bib. Med. Pract.

AQUILARIA, in *Botany*, from *Aquila*, an eagle, a large tree affecting a lofty ſituation. Lin. gen. Schreb. 1753. Juſſ. 439. Cavanill. Diſſ. 7. p. 377. t. 224. *Alœxylum*, Loureiro Cochinch. 274. Claſs, *decandria monogynia*. Gen. char. *Cal.* perianth. one-leafed, permanent; tube, bell-ſhaped; limb, five-cleft; clefts ovate, acute, flat, ſpreading. *Cor.* none; nectary one-leafed, pitcher-ſhaped, of the length of the tube of the calyx, half five cleft; clefts bifid, obtuſe. *Stam.* filaments ten, alternating with the clefts of the nectary; anthers oblong, verſatile. *Piſt.* germ ovate ſuperior; ſtyle none; ſtigma ſimple. *Per.* capſule on a very ſhort pedicle, obovate, woody, two-celled, two-valved; with the partition contrary, and bipartite. *Seeds* ſolitary, oblong.

Eſſ. gen. char. *Cal.* five-cleft. *Cor.* none; nect. pitcher-ſhaped, half five-cleft; clefts bifid; capſule ſuperior, woody, two-celled, two valved. *Seeds*, ſolitary.

Species, 1. *Aquilaria ovata*; leaves alternate, ovate, mucronate. This is a large tree covered with greyiſh bark. Its leaves are entire, ſmooth, veined, about eight inches long, and ſtand on ſhort hairy footſtalks. The flowers terminate the branches, on many-flowered peduncles. A native of the mountains of Malacca and Cochin-China. The wood of this tree has been long uſed as a perfume; and was formerly an article of the materia medica, under the name of agallochum, lignum aloes, or aloes wood. This wood in its natural ſtate is white and inodorous. That which poſſeſſes the peculiar *aroma* for which it is valued, is ſuppoſed to be the conſequence of a diſeaſed proceſs in the tree, cauſing the oleaginous particles to ſtagnate and concrete into a reſin, in the inner parts of the trunk and branches; by which the natural appearance of the wood is altered, ſo as to become of a darker colour, and of a fragrant ſmell. At length the tree dies, and when ſplitten, the reſinous part is taken out. The perfumes which this wood affords, are highly eſteemed by the oriental nations; and from the bark of the tree is made the common paper which the Cochin-Chineſe uſe for writing; in the ſame manner the Japaneſe make uſe of the bark of a ſpecies of mulberry (morus papyrifera). This perfume is ſaid to be uſeful in vertigo and palſy: given in the form of powder, it is recommended to reſtrain vomitings and alvine fluxes. To us, however, it ſeems to contain little elſe than that camphoraceous matter common to many other vegetable ſubſtances. From its bitter taſte, it has the name of aloes, although no otherwiſe allied to it.

Aquilaria, in *Ancient Geography*, *Lowhareah*, a town of Africa, eaſt-north-eaſt of Niſua, or Seedy Doude, and ſouth-weſt of the promontory of Mercury. In this place, ſays Cæſar (De Bell. Civil. l. ii. 21.), Curio diſembarked his troops, which were afterwards cut in pieces by Sabura. Many fragments of antiquities are ſtill extant in this place. Shaw's Trav. p. 88.

AQUILEGIA, in *Botany*, alſo called Aquilina (from *Aquila*, an eagle; the nectaries being fancied to reſemble an eagle's claws), the plant named columbine, from a ſuppoſed reſemblance the ſame parts of the flower bear to the head of a pigeon (*columba*). Lin. gen. 684. Schreb. 934. Juſſ. 234. Gærtn. t. 118. Claſs, *polyandria pentagynia*. Nat. order, *multiſiliquæ*, *ranunculaceæ*, Juſſ. Gen. char. *Cal.* none. *Cor.* petals five, lanceolate-ovate, flat, ſpreading, equal; nectaries five, equal, alternate with the petals, horned, gradually broader upwards, with an oblique mouth, attached to the receptacle; each produced below into a long attenuated tube, with an obtuſe top. *Stam.* filaments thirty or forty, ſubulate, the outer ones ſhorter; anthers oblong, erect, the height of the nectaries. *Piſt.* germs five, ovate-oblong, ending in ſubulate

ulate ſtyles, longer than the ſtamens; ſtigmas erect, ſimple; chaffs ten, wrinkled, ſhort, ſeparate, involving the germs. *Per.* capſules five, diſtinct, cylindric, parallel, ſtraight, acuminate, one-valved, gaping from the tops inward. *Seeds* very many, ovate, keeled, annexed to the gaping future.

Eſſ. gen. char. *Cal.* none; petals five; nectaries five, horned between the petals. *Capſ.* five, diſtinct.

Species, 1. A. *viſcoſa;* clammy columbine; ſtem almoſt naked, with viſcid hairs, and one or two flowers; leaves ſubtrilobate. It riſes about a foot high, covered with glutinous hairs. Radical leaves palmate, three-lobed; ſtem leaves commonly one, ſometimes two, ternate; peduncles one-flowered. A native of the ſouth of France. 2. A. *vulgaris;* common columbine. It grows three feet high, producing its flowers, which are blue, from the tops of its naked branches. The lower leaves are petiolate, biternate, ſmooth, glaucous underneath; the upper digitate. This plant grows wild in England, and in moſt parts of Europe; and varies much not only in the colour of its flowers, but in the number of its piſtils and nectaries. The varieties to be found in gardens, are α. ſingle garden columbine; β. double-flowered columbine; γ. double inverted columbine; δ. roſe columbine; ε. A. *degener virеſcens* of Ray, Parkinſon, &c.; ζ. ſtarry columbine; η. Siberian columbine. The common columbine has been eſteemed for its medicinal virtues; and for this purpoſe every part of the plant has been uſed: but judging from its ſenſible qualities, there ſeems little or no foundation for its ſuppoſed medical properties, although Linnæus has affirmed that children have loſt their lives by an over doſe of it. 3. A. *alpina;* Alpine columbine; nectaries ſtraight, ſhorter than the lanceolate petal. It has been doubted by ſome botaniſts, whether or not this is a variety of the A. *vulgaris*, from which it differs in having larger flowers, though its ſtem and leaves are ſmaller than thoſe of the common columbine. A native of the Alps, and alſo ſaid to have been found in Weſtmoreland; cultivated by Miller, in 1731. Biennial. 4. A. *Canadenſis;* Canadian columbine; nectaries ſtraight; ſtamens longer than the corolla; root perennial; ſtems very ſlender, reddiſh; lower leaves biternate, irregularly divided, the extreme lobes blunt; the upper lobes ſimply ternate, toothed, or perfectly entire; the uppermoſt ſimple, lanceolate, acuminate; the corollas yellow within and red on the outſide. A native of the northern parts of America. Miller, fig. t. 47. Introduced here by Mr. John Tradeſcant, ſen. before the year 1640. 5. A. *viridiflora;* green-flowered columbine; nectaries ſtraight, thickened, and a little bent at the tip; ſtamens nearly equal to the corolla; root perennial; ſtems a foot high or more, ſlightly angular, villoſe; petals pale green, wrinkled, ſhorter than the borders of the nectaries; which are of a greeniſh yellow within, and browniſh on the outſide; ſtamens only half the length of the corolla; ſtyles longer than the corolla. A native of Siberia, where it was found by Pallas.

Propagation and culture. Theſe plants are all raiſed by ſowing the ſeeds, or parting the old roots, but the former is chiefly practiſed; for the old roots are very apt to degenerate, and produce plain flowers. The ſeeds ſhould be ſown in Auguſt or September, in a nurſery-bed. The ſpring following the plants will appear, when they ſhould be conſtantly cleared from weeds, and occaſionally refreſhed with water. Towards the latter end of May, theſe plants will be ſtrong enough to tranſplant into a bed of good freſh earth; and in the following autumn, the roots ſhould be carefully taken up and planted in the borders of the flower-garden, where they will flower the ſucceeding ſpring. To prevent the plants from degenerating, the flower ſtem ſhould be cut off as the flowers begin to wither. In order to keep up a ſucceſſion of good flowers, freſh ſeeds ſhould be ſown every year, obſerving, not to ſow thoſe that are produced from plain flowers. See Miller's Dict. by Martyn.

AQUILEIA, in *Ancient Geography, Aquilea*, an ancient and a large city of Italy, ſituate on the ſea coaſt at the entrance of the Sinus Tergeſtinus, or gulf of Trieſte, was built, according to Strabo (l. v.), by the Romans, in order to reſtrain the barbarians; and a Roman colony was conducted thither between the firſt and ſecond Macedonian wars. It was waſhed, ſays Pliny (H. N. l. iii. c. 18.), by the two rivers Natiſo and Turrus. It was augmented, according to Livy (l. xliii. c. 17.), by 1500 families, by a decree of the ſenate; and afterwards, as Herodian (l. viii. c. 11) informs us, became a celebrated emporium. Julian aſcribes its name to the augury of an eagle (*aquila*) at the time of building it: Voſſius deduces it from the abundance of its waters, as if it were "Aquilegia;" but the appellation was more probably derived from aquila, the eagle, which was the ſtandard of the Romans, who had long encamped in this place. Strabo (ubi ſupra) ſays, that the harbour, at the mouth of the Natiſo, was at the diſtance of 60 ſtadia from the city, ſo that ſhips of burden were towed up the river. This city was of ſuch importance, that it was one of the firſt places which the partiſans of Veſpaſian took poſſeſſion of A. D. 69. In the year 166, the emperors Marcus Aurelius and Verus wintered there, previouſly to their taking the field againſt the Marcomanni; who, having defeated Vindex, the prætorian prefect, in 170, entered Italy, and approached Aquileia. In 238, it was beſieged by the troops of Maximin, who demoliſhed its ſuburbs and beautiful vineyards, and employed the timber of the buildings, in the engines and towers with which the city was on every ſide aſſaulted. It was defended, however, by the invincible conſtancy of the citizens, and the army of Maximin was repulſed in repeated attacks: his machines were deſtroyed by ſhowers of artificial fire; and the generous enthuſiaſm of the Aquileians was exalted into a confidence of ſucceſs by the opinion that Belenus, their tutelar deity, combated in perſon in the preſervation of his diſtreſſed worſhippers. The Celtic deity, ſuppoſed to be Apollo, received, under that name, the thanks of the ſenate; and a temple was likewiſe erected to Venus the bald, in honour of the women of Aquileia, who had parted with their hair to make ropes for the military engines. In 452, Attila invaded Italy, and beſieged Aquileia with an innumerable hoſt of barbarians. On this occaſion, the walls of the city were aſſaulted by a formidable train of battering rams, moveable turrets, and engines that threw ſtones, darts, and fire; and the monarch of the Huns employed the forcible impulſe of hope, fear, emulation, and intereſt, to ſubvert this only barrier which delayed his conqueſt of Italy. Aquileia was, at that period, one of the richeſt, the moſt populous, and the ſtrongeſt of the maritime cities of the Adriatic coaſt. After an ineffectual ſiege of three months, Attila was compelled, by the want of proviſions, and the clamours of his army, to relinquiſh the enterpriſe, and to iſſue orders for this purpoſe; but as he rode round the walls, penſive, angry, and diſappointed, he obſerved a ſtork preparing to leave her neſt in one of the towers, and to fly with her infant family towards the country. He ſeized, with the ready penetration of a ſtateſman, this trifling incident which chance had offered to ſuperſtition, and exclaimed, in a loud and cheerful tone, that ſuch a domeſtic bird, ſo conſtantly attached to human ſociety, would never have abandoned her ancient ſeats, unleſs thoſe towers had been devoted

devoted to impending ruin and ſolitude. The favourable omen inſpired an aſſurance of victory; the ſiege was renewed and proſecuted with freſh vigour; a large breach was made in the part of the wall from whence the ſtork had taken her flight; the Huns mounted to the aſſault with irreſiſtible fury; and the ſucceeding generations could ſcarcely diſcover the ruins of Aquileia. Gibbon's Hiſt. vol. vi. p. 122—124.

This place, formerly ſo rich and flouriſhing, is now known only by its ruins; and is reduced into a mean village, whence the patriarch of Aquileia derives his title: but as the territory of Aquileia belonged to the houſe of Auſtria, this houſe, and alſo the Venetians, pretended to nominate the patriarch. However, in 1751, the pope ſuppreſſed this patriarchate, and erected Udino, where the patriarch had uſed to reſide, into an archbiſhopric for the Venetians, and Goritia, or Goritz, a town of Carniola, into an archbiſhopric for the houſe of Auſtria. Aquileia is diſtant 18 miles S. S. W. from Goritz, and 20 S. from Friuli. N. lat. 45° 55′. E. long. 13° 30′.

AQUILEIA, *Aquapendente*, a ſmall town of Italy, in Etruria, S. E. of Florentia. The name of *Aquileia* has been alſo ſometimes applied to Forum Julii (Cividad del Friuli), the more recent capital of the Venetian province.

AQUILICIA, in *Botany*. See LEEA.

AQUILICIUM, or AQUÆLICIUM, in *Antiquity*, a ſacrifice celebrated among the Romans, in time of exceſſive droughts, to obtain rain of the gods.

Danet calls this *aquiliciana*. The prieſts who officiated at it were denominated *aquilices, quia aquam eliciebant*, becauſe they brought down water: but where he finds this new order of prieſts, he does not tell us.

AQUILIFER, from *aquila, eagle*, and *fero, I bear*, among the Romans, an enſign-bearer, who carried the ſtandard on which the eagle was repreſented.

AQUILINE, ſomething belonging to an eagle. Hence, aquiline noſe denotes an hooked noſe, or ſuch as is like the beak of an eagle; called alſo a hawk's noſe.

AQUILO, is uſed by Vitruvius for the north-eaſt wind; or that which blows at 45° from the north towards the eaſt point of the horizon.

The poets gave the name *aquilo* to a ſtormy wind dreaded by the mariners.

AQUILONDA, in *Geography*, a large lake of Africa, in Ethiopia, at the foot of the mountains of the ſun, on the confines of Congo and Angola.

AQUILONIA, in *Ancient Geography*, a town of Italy, in Apulia, ſituate in the road from Beneventum to Venuſia. It belonged to the Samnites. This is alſo the name of another town in Apulia, in the road from Beneventum to Canuſium, between Æquus Tullicus to the ſouth-weſt, and Æce to the north-eaſt.

AQUILUS, among the *Ancients*, a dark or duſky colour, approaching to black.

Hence ſome of the heathen gods were called *dii aquili*, q. d. *nigri*.

AQUIMINARIUM, in *Antiquity*, a kind of luſtral veſſel wherein the Romans carried their holy water for expiation, and other religious offices.

AQUINAS, THOMAS, in *Biography*, a famous ſcholaſtic divine, a deſcendant of the illuſtrious family of Aquino in the Terra di Lavora, in Italy, was born at Aquino in the year 1224. He was ſent, at five years of age, for education to Mount Caſſino, and from thence he was removed to the univerſity of Naples. Here he acquired that ſtrong predilection in favour of a retired and ſtudious life, which induced him to enter himſelf, without the knowledge of his parents, among the Dominicans, in the order of the preaching friars. His mother was peculiarly ſolicitous to divert his deſign, and wiſhed to obtain an interview with him for this purpoſe; but the monks were as anxious to retain him; and in order to prevent the effect of his mother's perſuaſion, removed him from one place to another, that ſhe might have no opportunity of ſeeing him. At length, whilſt they were conducting him to Paris, her other ſons ſeized him and conveyed him to her caſtle, where he was confined for two years. Notwithſtanding all his mother's importunities, his purpoſe was fixed; and for the accompliſhment of it, he let himſelf from a window by night; and aided by his Dominican brethren, he eſcaped to Naples. In the year 1244, he was conducted by the maſter of the Teutonic order to Paris; and after ſome ſtay there, he removed to Cologne, and became a diſciple of the famous Albert. Under this eminent preceptor, he was aſſiduous in his application, and made great attainments. His ſilence, however, and apparent ſtupidity, induced his fellow-ſtudents to call him by the contemptuous appellation of the "dumb ox;" but Albert, more penetrating than they, ſaid, "this ox, if he begin to bellow, will fill the whole world with his roaring." Accompanying Albert to Paris in 1246, he remained as a ſtudent in that univerſity till 1248. At length Aquinas, having made himſelf maſter of the dialectics, philoſophy, and theology of the age, became, at 24, an eminent teacher at Paris; and in 1255, obtained the degree of doctor in divinity. Such was his diſtinguiſhed reputation, that he was honoured by the peculiar attention of princes and of popes. On one occaſion, as he was dining with Louis IX. of France, called St. Louis, his thoughts were buſily employed on the objections of the New Manichæans againſt the orthodox faith, and ſtriking the table with his hand, after muſing a long time in ſilence, he ſuddenly exclaimed, "this is a deciſive anſwer to the Manichæans." Upon a viſit to Rome, whilſt he was in the cloſet of pope Innocent IV., an officer brought in a bag of money, procured by the ſale of abſolutions and indulgences: "You ſee, young man," ſaid the pope, "the age of the church is paſt, in which ſhe ſaid, *ſilver and gold have I none:*" Aquinas, replied, "True, holy father; but the age is alſo paſt, in which ſhe could ſay to a paralytic, *riſe up and walk.*" In 1263, he returned to Italy, and was appointed rector of his order in the Roman province; and he continued to diſtinguiſh himſelf as a public preceptor in ſcholaſtic theology in ſeveral of the chief univerſities of that country. He was offered the archbiſhopric of Naples by pope Clement IV., but declined accepting a charge ſo weighty; and when the univerſity of Paris, at a general chapter of the order held at Florence in 1272, demanded his return, he was detained by Charles, king of the Sicilies, and appointed profeſſor of theology at Naples, with a monthly allowance of an ounce of gold as his penſion. Being ſummoned to a general council held at Lyons in 1274, in order to preſent a book which he had written by order of pope Urban IV. for refuting the errors of the Greek church, he was ſeized, in his way through Campania, with a violent diſorder; and died in the monaſtery of Foſſa Nova, in the dioceſe of Terracina, in the year 1274. After his deceaſe, the whole weſtern world began to load him with honours. The Dominican fraternity removed his body to Touloufe; pope John XXII. canonized him; Pius V. gave him the title of "The fifth doctor of the church;" by others he was denominated "the angel of the ſchools," "the eagle of divines," and "the univerſal and angelic doctor;" and the

the vulgar believed that many miracles were wrought at his tomb; and it was ſaid that the ſoul of Auguſtine had paſſed into Thomas Aquinas. His writings were held in the higheſt eſtimation; and his name was aſſumed, in the next century, by a ſect, who, under the appellation of Thomiſts, long occupied the field of controverſy with the Scotiſts, followers of Duns Scotus, in various metaphyſical and theological queſtions.

Notwithſtanding all the extravagant praiſes and honours which were laviſhly beſtowed on Thomas Aquinas, it is certain, that his learning was almoſt wholly confined to ſcholaſtic theology, and that he was ſo little converſant with elegant and liberal ſtudies as not to be even able to read the Greek language. For all his knowledge of the Peripatetic philoſophy, which he ſo liberally blended with theology, he was indebted to the defective tranſlations of Ariſtotle, which were ſupplied by the Arabians; but he obtained from ſome unknown perſon a more accurate verſion of his philoſophical writings. Adopting the general ideas of the age, that theology is beſt defended by the weapons of logic and metaphyſics, he mixed the ſubtleties of Ariſtotle with the language of ſcripture and of the Chriſtian fathers; and, after the manner of the Arabians, framed abſtruſe queſtions without end upon various topics of ſpeculative theology. Upon the whole, his talents and induſtry, which under better direction might have been uſefully employed, were miſapplied to ſubtleties, which tending neither to enlighten the underſtanding nor to improve the heart, muſt be pronounced altogether uſeleſs. His writings are numerous: but the moſt celebrated are his "Summa Theologiæ," or ſummary of theology, which was received with great applauſe, and uſed as a text book of high authority in the inſtruction of youth; of this the ſecond ſection, treating of morals, may be read with advantage; and his "Commentaries upon the works of Ariſtotle." A collection of his works was publiſhed, in ſeventeen folio volumes, at Venice, in 1490; at Nuremburg, in 1496; at Rome, in 1570; at Venice, in 1594; and at Antwerp, in 1612. The "Summa Theologiæ," has ſeparately paſſed through ſeveral editions, as at Cologne, in 1604; Antwerp, 1624; Paris, 1638. But as neither the matter nor the ſtyle of the angelic doctor is much ſuited to modern taſte, his writings have ſunk into neglect and oblivion. Lord Herbert, in his life of Henry VIII., ſays, that one of the chief reaſons that induced him to write againſt Luther, was his having ſpoken contemptuouſly of Aquinas. Cave. Hiſt. Lit. vol. ii. p. 306, &c. Brucker's Hiſt. Phil. by Enfield, vol. ii. p. 372, &c. Nouv. Dict. Hiſtor.

AQUINO, Philip, a learned Jew, was converted to the Chriſtian faith, and baptized at Aquino his native place, whence he derived his name. The clergy of France allowed him a penſion. Such was his knowledge of the Hebrew language, that Le Jay entruſted him with the charge of printing and correcting the Hebrew and Chaldee texts of his polyglot bible. He was the author of ſeveral works; but the principal was his "Dictionarium Hebræo Chaldæo-Thalmudico-Rabbinicum," printed in folio, at Paris, in 1629. His ſon, Lewis Aquino, was alſo very learned in the oriental languages, and has left ſeveral rabbinical works. His grandſon, Antony Aquino, was firſt phyſician to Louis XIV. Nouv. Dict. Hiſtor.

Aquino, *Aquinum*, in *Geography*, a town of Italy, in the kingdom of Naples and territory of Lavora; thirteen miles S. S. E. from Sora. It was the birth-place of Juvenal and of Thomas Aquinas. It was formerly a large municipal town, and a Roman colony; but the emperor Conrade ruined it; and it is now reduced to about thirteen houſes. There are ſome remains of a theatre and amphitheatre, which indicate its former grandeur. N. lat. 41° 32′. E. long. 14° 30′.

AQUIQUI, in *Zoology*, the name of a particular ſpecies of monkey, called by the people of Braſil, the king monkey, as being much larger than all the other monkies. It is the Simia *Beelzebul* of Linnæus.

AQUITANI, in *Ancient Hiſtory*, a people of Gaul, ſituated between the Garonne and the Pyrenees. Cæſar diſtinguiſhes the Aquitani from the Celtæ or Gauls; and, in reality, they were a different nation, and derived their origin from Spain. They were diſtributed in various diſtricts; but that which preſerved the name, was ſituated at the foot of the Pyrenees, where are now found Bearn and the dioceſe of Auch. The Aquitani were rich, as they poſſeſſed many mines, and an extenſive commerce both by ſea and land; hence they became corrupt and effeminate; and in this ſtate the Romans found them; and though they made many efforts for reſiſting the attacks of theſe conquerors, they were at laſt compelled to ſubmit in common with the other Gauls.

AQUITANIA, *Gallia Aquitanica*, or *Provincia Aquitanica*, in *Ancient Geography*, a conſiderable province of Tranſalpine Gaul, Gallia Comata, or Gaul properly ſo called. Some have ſuppoſed that it derives its name from the abundance of waters which the Romans found in this country. Aquitania, in the time of Julius Cæſar, was bounded by the Pyrenees and the Garumna or Garonne: Auguſtus extended it to the Liger or Loire. From his time it comprehended two provinces, known afterwards by the names of Aquitania Prima and Secunda; to which, in the time of Honorius, was added a third province, which had formerly been denominated Novem-populania. *Aquitania Prima* was bounded on the north by the Aureliani; on the eaſt, by the Senones, Ædui, and Seguſiani, the Helvii, and the Volcæ Arecomici; on the ſouth by the Volcæ Arecomici, the Umbranici, and the Toloſates; and on the weſt, by the Nitiobriges, the Petroconi, and the Pictones. It extended about 84 leagues from north to ſouth, and in its greateſt breath about forty. Its chief city was Avaricum, afterwards Bituriges, and now Bourges. *Aquitania Secunda*, ſituate towards the ſea, had on the north the river Liger; on the eaſt, the Bituriges, Lemovices, and Cadurci; on the ſouth, the Veſales, and Cecoſates; and on the weſt, the ocean. It comprehended the Meduli on the left of the Garumna, towards its mouth. Its length was ſixty-three leagues, and its greateſt breadth forty. Its metropolis was Burdigala, now Bourdeaux. *Aquitania Tertia*, or Novem-populania, was bounded on the north by the Bituriges Viviſci; on the eaſt by the Nitiobriges and Volcæ Tectoſages; on the ſouth, by the Pyrenees; and on the weſt, by the ſea. It was about forty leagues long and as many broad. The firſt two provinces, viz. Aquitania Prima and Secunda, were conquered by Cæſar; the third by his lieutenants. When the emperor Honorius was under a neceſſity of ſurrendering to the Viſigoths that part of Gallia Narbonenſis, which was afterwards called Septimania, they ſoon took poſſeſſion of the three provinces of Aquitania, and retained them till the time of Clovis, A. D. 486. Aquitania, after having undergone many revolutions, was erected into a kingdom in 778, by Charlemagne, and afterwards reduced into a dukedom by Charles the Bald. Aquitania, or Aquitaine, in later times, has been included between the Loire, the ocean, and the Pyrenees, and comprehended Guienne and Gaſcony.

AQUIZEBA,

AQUIZEBA, in *Geography*, a river of Spain, which runs into the Orio, below Tolola, in Guipuſcoa.

AQUSA, in *Geography*, a port on the ſouth ſide of the iſland of Candia. N. lat. 35° 3′. E. long. 24° 55′.

AQUULA, the name of a diſorder of the eyes, called alſo *hydatis*.

AR. See Aar.

Ar, called alſo *Areopolis*, *Ariel* of Moab, and *Rabbath-Moab*, in *Scripture Geography*, the capital of the Moabites, on one ſide of the river Arnon, oppoſite to *Aroer* on the other, in Arabia Petræa. St. Jerom ſays, that this city was deſtroyed by an earthquake, when he was young.

Ara *thuribuli*, the *Altar of incenſe*, in *Aſtronomy*, a ſouthern conſtellation, not viſible in our hemiſphere, conſiſting, according to Ptolemy, of ſeven ſtars; and according to Sharp's Catalogue, annexed to that of Mr. Flamſteed, of nine ſtars.

Ara, *Cape*, in *Geography*, anciently *Neptunium promontorium*, is the moſt ſouthern cape of Arabia Felix, forming with the coaſt of Ajan, in Africa, the ſtraights of Babelmandel.

Ara *Amoris*, in *Ancient Geography*, a cape of Ethiopia, upon the Arabian gulph, according to Ptolemy.

Ara *Cæſaris*, *Arſago*, a place of Italy in Inſubria, ten miles north of Melodunum.

Ara *Flavia*, a colony of Germany, noticed on a medal of Domitian.

Ara *Jovis Montani*, a place near the iſthmus of the Thracian Cherſoneſus, between Pteloë and Leucê-Acté.

Ara *Jovis Panomphæi*, a place in the Troade, between the Sigæan and Rhætian promontories.

Ara *Lugdunenſis*, an altar conſecrated to Auguſtus by ſixty cities of Gaul, in the year of Rome 742, upon the point of land formed by the confluence of the Rhone and Saone; called by the writers of the middle age *Attanacum*, now the point of Annai. Dion Caſſius informs us, that in his time, two centuries after Auguſtus, the altar, and the honours rendered to this emperor, ſubſiſted. Juvenal mentions it in his firſt ſatire, v. 44.

Ara *Palladis*, an iſland of the Arabian gulph, mentioned by Ptolemy.

Ara *Tutila*, an ancient city on the eaſtern ſide of the iſland of Corſica, according to Ptolemy.

Ara *Ubiorum*, *Gots-berg*, a place of Gaul, in Germania Secunda, now occupied either by Cologne or Bonn. In this place the Roman Legion, called *prima legio*, was encamped.

Ara *parva*, *the little altar*, a denomination in the *Ancient Surgery*, given to an elegant kind of bandage, ſaid to have been invented by Soſtratus.

Ara, in *Geography*, a river of Spain, which joins the Cinca at Ainſa in Arragon.

Ara, in *Ichthyology*, a name by which the Linnæan ſpecies of Scomber, *Trachurus*, has been called by Kæmpf. jap. i. pl. ii. fig. 5. Vide Donov. Brit. Fiſhes.

Ara, in *Ornithology*, a generic name given by Briſſon, Buffon, and others, to ſome birds which belong, in the Linnæan arrangement, to the genus Psittacus; thus, for example, Psittacus *Macao* of Linnæus and Gmelin is called Ara *Braſilienſis* by Briſſon, Ara *premier* by Fermin, and Ara *rouge* by Buffon; in like manner alſo, Psittacus *Aracanga* Linn. is Ara *Jamaicenſis* of Briſſon, and *Petit* Ara *rouge* of Buffon; Psittacus *ater*, Linn. Ara *noir* of Buffon; Psittacus *cæruleus*, Ara *Jamaicenſis cyaneo-crocea* of Briſſon, &c.

Ara, is alſo a ſynonym of Cuculus *tahitius* of Gmelin, a bird that inhabits the Society Iſlands, and is called by the natives Ara wirroa. Vide Cook's Voyages.

ARAB, or Arabian *horſe*. See Horse.

Arab, in *Scripture Geography*, a town of Paleſtine, belonging to the tribe of Judah. Joſh. xv. 52.

Arab, in *Geography*, a town of Aſia, in Arabia Deſerta, in the country of Najed or Nedſched; one of the moſt ancient of this country, and perhaps of Aſia.

ARABA, a town of Perſia, in Segeſtan, between the city of this name and Candahar. Some have thought that this is the ancient town of Ariaſpe, the capital of Drangiana.—Alſo a river of Perſia, which ſerves as a nominal boundary towards Hindoſtan.

Araba, in *Ancient Geography*, a city of Ethiopia, ſituate, according to Pliny, on the bank of the Nile.

ARABAH, in *Scripture Geography*, a town of Paleſtine, belonging to the tribe of Benjamin. Joſh. xviii. 18.

ARABAN, in *Geography*, a ſmall town of Aſia, on the river Kabur, in Diarbekir, in the Turkiſh government of Urfa or Raca.

ARABANT, from *aro*, *I plough*, in *Law*, *ad curiam domini*, was a term applied to thoſe who held by the tenure of ploughing and tilling the lord's lands within the manor.

ARABAT, in *Geography*, a ſmall maritime town of Europe, in the eaſtern part of Crim Tartary, on the borders of the ſea of Azof, ſouth of Bacha-ſerai, and ſixty miles ſouth-eaſt of Perekop. In 1771, it was aſſaulted and taken by the Ruſſians, under the conduct of prince Tſchibaloff. Moſt of the beſieged were put to the ſword, and the reſt made priſoners of war.

ARABAZARI, a town of Aſiatic Turkey, in the province of Caramania, ſixteen miles north-eaſt of Alameh.

ARABEIA, or Arbela, in *Ancient Geography*, a town of Sicily, mentioned by Silius Italicus, l. xiv. v. 271.

" Sidonios Arbela ferox, et celſus Ietas."

Thoſe critics who would ſubſtitute Arbeia for Arbela, introduce the epithet *ferax*, denoting *fertile*, inſtead of *ferox*. See Sil. Ital ed. Drakenborch. in loc.

ARAB-HISAR, in *Geography*, a town of Aſiatic Turkey, in the province of Natolia, twenty-eight miles north-weſt of Mogla.

ARABESQUE, or Moresque, denotes a ſtyle of painting or of ſculpture, ſo called from the Arabians and Moors, who employed ornaments of this kind for want of human and animal repreſentations, which their religion prohibited their uſing. Theſe ornaments are ſtill in practice; but executed only in painting, and not in ſculpture. Such are ſeen at the chateau of Meudon, that of Sceaux, of Chantilly, at the Menagerie, and at Trianon, painted by Audran; and, in ſhort, at the ſeats of various noblemen, &c. at home and abroad. Berin, Gillot, and Vateau, likewiſe excelled in this ſpecies of decoration, which has furniſhed models for tapeſtry at the Gobelins and La Savonerie, as hangings in the royal private apartments, to which this ſort of ornament is adapted, and no where elſe. Accordingly the beſt architects have only made uſe of them in retiring rooms, or at moſt in ſmall apartments, treating with contempt the bad taſte of thoſe artiſts, who are profuſe of theſe chimerical and imaginary ornaments in apartments that demand gravity, inſtead of preferring the real and beautiful productions of nature.

Arabeſc is uſed by Stephen Riou, eſq. in his book on architecture, to denote that ſtyle of building which is vulgarly

called

called *Modern Gothic*, which he alſo terms *Saracenic* and *Moreſc*; the introduction of which he aſcribes to the Moors, or, which he ſays is the ſame thing, to the Arabians or Saracens, who have expreſſed, he adds, in their architecture, the ſame taſte as in their poeſy, which are both falſely delicate, crowded with ſuperfluous ornaments, and often very unnatural. This manner of building, he ſays, was introduced into Europe through Spain. The cruſades gave the Chriſtians an idea of *Saracenic* architecture, which they afterward imitated. Sir C. Wren diſtinguiſhes the heavy *Gothic* as *Anglo-Saxon*, the lighter as *Arabeſc*.

ARABI, *gulf of Gli*, in *Geography*, called alſo *Gyſis* or *Zygis*, a ſmall gulf on the coaſt of Barbary, between the coaſts of Barca and thoſe of Egypt.

ARABIA, in *Ancient* and *Modern Geography*, a conſiderable country of Aſia, which, taken in its largeſt extent, lies between N. lat. 12° 30′ and 31° 30′, and E. long. 34° 14′ and 59° 14′, and forms one of the largeſt peninſulas in the world. It is bounded on the eaſt by the Euphrates, the Perſian gulf, and the bay of Ormus, on the weſt by Paleſtine, part of Syria, the iſthmus of Suez, and the Red Sea, on the ſouth by the ſtraits of Babelmandel, and the Indian ocean, and on the north by part of Syria, Diarbekir, Irak, and Khuzeſtan. Its northern limits, however, are leſs ſtrongly marked than the others; for in both ancient and modern times, they aſcend to an angle about 100 miles to the eaſt of Palmyra, which is not included in Arabia. In theſe parts, the proximity of the Euphrates to the Mediterranean forms a peninſula. Its length, eſtimated from the cape of Babelmandel to the extreme angle on the Euphrates, may be ſtated at about 1800 Britiſh miles, and its mean breadth at about 800; or from the port of Jedda to the cape of Razal-Gad, not leſs than 1200. Its limits, however, have been either enlarged or contracted by various geographers, according to the times in which they wrote; ſome having compriſed under the name of Arabia, ſuch of the neighbouring countries as might perhaps be ſubject to ſome particular tribes, and others detaching from it certain diſtricts ſubmitted to a foreign dominion. Accordingly the limits of the Proper Arabia reached no farther than the iſthmus, extending from Ailah at the north point of the Arabian gulf to the extremity of the Perſian gulf, and the borders of the territory of Cufa; which tract of land was nearly comprehended by the Greeks under the appellation of Arabia Felix: and here the Arabs have been ſettled almoſt ever ſince the flood. The eaſtern geographers aſſign Arabia Petræa partly to Egypt and partly to Syria; and they call Arabia Deſertâ, the deſerts of Syria: but as the Arabs have for many ages reduced theſe two provinces, the Turks and Perſians now include them in Arabiſtan. The ancients alſo aſſigned different limits to this large peninſula. Pliny extended it as far as the border of Commagène, the northern part of Syria, on account of the many Arabian colonies eſtabliſhed there by Tigranes; and Xenophon included in it the greateſt part of Meſopotamia: but, according to Ptolemy, the city of Phara, between the Elanitic and Heroopolitan gulfs, or rather a line paſſing a little weſtward of this city, near the diſtrict of Heroopolis, was its boundary on the ſide of Egypt. On the weſt, it was terminated by Paleſtine, part of Syria, the confines of Egypt, and the Arabian gulf; on the north, by the Euphrates, from the city of Thapſacus, near the borders of the Palmyrene, to the diſtrict of Idicara in Babylonia; on the eaſt, by the Chaldean mountains and the Perſian gulf; and on the ſouth, by the Erythræan ſea. The ſame ſituation and extent are aſſigned to it by Diodorus and Strabo. Whatever be deemed its extent, it may juſtly be conſidered as a peninſula, becauſe in the northern region it is confined between the Euphrates and the Mediterranean.

The revolutions of time have produced no change in its primitive denomination; ſince even in the ages bordering upon the deluge it was known by the name of Arabah; which ſome derive from the Hebrew ערב, *arab*, or *ereb*, ſignifying *the weſt*, a *mixture*, or *merchandiſe*, or *traffic*; others from Jarab, the ſon of Joktan, and grandſon of Eber; and others again from Arabah or Arbah, a diſtrict of Tehama, inhabited by Iſhmael. By the Syrians and many of the orientals, it was called Arabiſtan; and, in our ſacred books, it is ſometimes denominated the land of Cuſh. Moſes himſelf ſtyles the weſtern Arabia, Arabah, which affords a ſtrong preſumption, that its original name was derived from its ſituation: and when the Iſhmaelites, who poſſeſſed it, gradually reduced the adjacent parts, they carried with them the appellation Arabah, and applied it to the whole peninſula. The firſt part of the peninſula of the Arabs was divided into Kedem and Arabah, as we learn from ſcripture. Kedem comprehended the Arabia Felix and Arabia Deſerta of Ptolemy. Arabah correſponded to that country which was called, from Petra its metropolis, Arabia Petræa by Ptolemy; Arabia Citerior, from its ſituation with reſpect to Italy, by Pliny; and Arabia Vetus, by Stephanus and Procopius. Moſes, with a geographical accuracy that defies the ſeverity of criticiſm, determines the boundaries of this kingdom, when he tells us, that on the ſouth, it reached to the ſea of Suph, or the Red Sea; on the weſt, to Paran and Tophel; on the north, to Laban, Hatſeroth, and Di-Zahab, that is, to the borders of Syria; and on the eaſt, to Kadeſh-Barnea, about eleven days journey from Mount Horeb. As Arabah imports the *weſt*, ſo Kedem does the *eaſt*: and theſe ſignifications correſpond to the reſpective ſituation of theſe countries. The firſt inhabitants of Arabah, or the weſtern Arabia, were the Caſluhim, deſcended from Mizraim, the Caphtorim, and the Horites, who occupied Mount Seir, before they were expelled from thence by Eſau and his poſterity. Afterwards Iſhmael and his deſcendants ſettled here; and laſt of all, the Edomites or Idumæans. Kedem, or the eaſtern Arabia, was firſt peopled by the ſons of Joktan, who are reputed the aboriginal Arabians; though, in proceſs of time, the Iſhmaelites ſpread themſelves over this country. Some of the Cuſhites alſo gained early poſſeſſion of part of it; and the children of Abraham by Keturah contributed, as ſacred hiſtory informs us, to augment the number of its inhabitants.

Ptolemy ſeems to have been the firſt who divided this peninſula into Arabia Petræa, Arabia Deſerta, and Arabia Felix; and ſince his time this diviſion has generally prevailed.

Arabia Petræa, or the *ſtony*, was contiguous, on the eaſt, to Syria and Arabia Deſerta; on the weſt, to Egypt and the iſthmus of Suez; on the north, to Paleſtine, the lake Aſphaltites, and Cœloſyria; and on the ſouth to Arabia Felix. This tract did not admit of much cultivation, the greateſt part of it being covered with dry ſands and rocks (whence its name), interſperſed with ſome fruitful ſpots. Its metropolis was Petra: the other moſt conſiderable places noticed in ſcripture as belonging to this diſtrict were Paran, Duma, and Pithom. The principal people that inhabited it were the Iſhmaelites, the Nabathæans, the Cedræi or Kedareni, and the Hagareni or Agareni. Of theſe the Iſhmaelites were the moſt powerful, if they did not comprehend the whole of it. The moſt remarkable places in this region were the town of Kolſum or Kolzom, the wilderneſs of Shur, that of Sin, that of Sinai, the mounts Caſius and

Sinai, Eziongaber, the promontory of Paran, Adra, Elusa, Bostra, and Mocha. See the several articles.

Arabia Deserta was bounded on the north by the Euphrates, separating it from Mesopotamia: on the west, by Syria, Judæa, and Arabia Petræa; on the east, by Chaldæa and Babylonia, or a ridge of mountains dividing it from those countries; and on the south, by Arabia Felix, from which it was disjoined by several ranges of hills. The Canchabeni, according to Ptolemy, inhabited that part of this province bordering upon the Euphrates, and the Batanæi occupied that which lay on the confines of Syria. The Agubeni and Rhaabeni were placed more southerly towards the frontiers of Arabia Felix, and near the Persian gulf, the Orcheni. Near the Canchabeni, on the borders of Babylonia, dwelt the Æsitæ, supposed by Bochart to have inhabited that tract in which was the country of Job; and above the Rhaabeni were the Masanæ. In the interior part were the Agræi; and in the mountainous region, near Chaldæa, were situated the Marteni. The towns of this district, enumerated by Ptolemy, if such they might be called, were places of no great importance.

Arabia Felix was limited on the north by the provinces already mentioned; on the south, by the Erythræan sea; on the east and west by part of that sea, together with the Arabian and Persian gulfs; and corresponded to that tract which the oriental geographers regarded as the proper peninsula of the Arabs. Strabo says (l. xvii.) that, in his time, it was divided into five kingdoms, corresponding to the division of the proper Arabia into five provinces by the eastern writers. The principal nations noticed by the ancients in this province were the Sabæi, Gerræi, Minæi, Atramitæ, Maranitæ, Catabani, Asciræ, Homeritæ, Sapphoritæ, Omanitæ, Saraceni, Nabathæi, Thamydeni, and Bnizomenæ. The most remarkable places were Nysa, Arga, Badeo, Pudni, Musa, Ocelis, Arabiæ emporium or Aden, Mosha or Maskat, and Atamas portus or Cadhema.

The best eastern writers have divided this peninsula into five provinces or kingdoms, namely Yaman, Hejaz, Tehama, Naid, and Yamama. The province of *Yaman* or *Yemen*, so called either from its situation to the right hand or south of the temple of Mecca, or from the verdure of its soil, extends along the Indian ocean from the straits of Babelmandel to cape Razal-Ghad or Rasalgat. It is bounded by part of the Red Sea on the west and south, and on the north by the town of Nairan, the Nagara of Ptolemy; Haly or Haljo on the sea Al Kolzom, and Oman or Sohar; and it is subdivided into several lesser provinces as Hadramaut, Shihr, Oman, Najran, and Mahra, of which Shihr alone produces the frankincense. This country has been famous, from a very remote period, for its fertility and riches, and the happiness of its climate. The principal cities known to the ancients were Mocha, Aden, Sanaa the capital of the province, and now reckoned the chief city of Arabia, Saba or Mareb, Shibam, Dhafar, and Oman or Sohar. This province, known under the appellation of Arabia Felix, called by the Greeks *most happy*, and formerly extolled for the verdure of its trees, the purity of its air, the flavour of its fruits, and the diversity and abundance of its products, manifests at present few traces of its ancient opulence; insomuch that it is difficult to conceive how it has acquired the name of *happy;* being a country where the greater part of the land remains without culture; and, exsiccated by burning heats, it is destitute of inhabitants, excepting in places remote from the sea, where the mountains afford a refuge by their shade. It may therefore be presumed, that the articles of luxury which it produces, and which polished nations have converted into wants, have given rise to the belief, that wherever superfluities are found, there the necessaries of life must be enjoyed in abundance; just as the vulgar imagine, that the most fortunate countries are those which produce gold, pearls, and diamonds. This province, far less fertile than either Egypt or Syria, which lie at no great distance, seems only to have usurped the title of *happy*, from a comparison with the barren and indigent tracts that surround it.

Hejaz, so called because it *divides* Najd from Tehama, is limited on the south by Yemen and Tehama; on the west, by the sea Al Kolzom; on the north, by the deserts of Syria; and on the east, by the province of Najd. The chief towns are Mecca, Medina, Taifa, Aidab, Yanbo, Madian, and Hejr. The soil in this province is more barren than that of Yemen, and it is so parched as to afford neither water, nor fruits, nor genial harvests; and yet superstitious credulity produces plenty, insomuch that a province, doomed by nature to scarcity and want, is become the wealthiest and most flourishing of Arabia. It was known, in the earliest ages, under the name of the Madianite, or Arabia Petræa. It owes its opulence and celebrity to the towns of Mecca and Medina; the former having had the honour of giving birth to Mahomet; and the other boasting of having granted him an asylum, when, at the commencement of his ministry, he was obliged to retire from the sword of his persecutors. Many honourable pretensions add lustre to this province. It was here, according to report, that Abraham laid the foundations of the most ancient temple in the world; it was hither that Ishmael, on being forced to quit the paternal roof, came to seek a second country; it was hither that Moses, when a fugitive from Egypt, withdrew from the vengeance of those who wanted to punish him for having killed the Egyptian; here he married the daughter of Jethro, a prophet highly revered, who, as the Arabians relate, gave useful lessons to the leader of the Hebrews; in short, it is here that we behold the two mountains of Horeb and Sinai, where Jehovah gave laws to his people, amidst awful thunder and lightning. It is from these illustrious claims that a province, which offers to the sight only sands and rocks from whence flow bitter waters, establishes its pre-eminence, and finds resources ever new in a glorious and profitable tradition.

The province of *Tehama*, so denominated from the vehement heat of its sandy soil, and *Gaur*, from its low situation, is bounded on the west by the Red Sea, and on the other side by Hejaz and Yemen, extending almost from Mecca to Aden. The Arabian geographers have sometimes confounded this province with Yemen and Hejaz. Abulfeda mentions several towns in Tehama, which must have been undoubtedly of great antiquity, but unknown both to the Greeks and Romans. As the ground of this district is the lowest in Arabia, it abounds with springs, which are an invaluable treasure to a dry and parched region.

The province of *Najd* or *Neged*, signifying a rising country, lies between those of Yamama, Yemen, and Hejaz, and is bounded on the east by Irak. This elevated country presents to the view only rocks and deserts, from whence men and animals are totally excluded, on account of the scarcity of water, except in some few more favoured districts, where the shade of the mountains affords a defence against the scorching heat of the sun.

Yamama, called also *Arud*, from its oblique situation in respect of Yemen, is surrounded by the provinces of Najd, Tehama, Bahrein, Oman, Shihr, Hadramaut, and Saba. The chief city is Yamama, which gives name to the province; and it was anciently called Jaw or Gjauva; it is particularly famous for having been the residence of Mahomet's competitor, the false prophet Moseilama.

The inland parts of Arabia, occupied by the extensive province

province or defert called *Neged*, were, till of late years, almoft utterly unknown. The relations of travellers were confined to the coafts of that vaft country, to which, without doubt, their peregrinations were limited. Michaelis, the celebrated profeffor of Gottingen, propofed to the late king of Denmark, to find five able perfons to explore the territory and productions of Arabia. Of thefe five Danes, four dying in the journey, M. Niebuhr, who had been appointed to the geographical department, took upon him to execute the object of the expedition alone. From the relation which he publifhed in 1772, we fhall make fome extracts. Of all the maps of Arabia that have hitherto been publifhed, this learned traveller gives the preference to that of M. D'Anville, publifhed in 1751, under the title of "Premiere Partie de la Carte de l'Afie, la Turquie, l'Arabie, l'Inde, & la Tartarie." He collected a great number of inferiptions and medals in Cufic characters, to which he annexes the explications given by Mr. Reifke, profeffor at Leipfic. Among thefe antiques, he prefents one of bronze, on which appears the figure of the crofs, with the name of a caliph and a Turkifh legend. Our aftonifhment at this curious mixture will ceafe, on learning that the medal was ftruck in a country that was, at the fame time, governed by the Greek emperors and the caliphs of Bagdad.

Arabia is divided by the inhabitants themfelves into eight provinces, entirely independent on one another, viz. Yemen, on the fouth, towards the ftraits of Babelmandel, Hadramaut, on the fhores of the Indian Ocean, Oman, on the fouth of the entrance of the Perfian Gulf, Hadsjar, or Hajar, the Héjer of M D'Anville, or Lahfa, Nedfied, or Neged, and Hedjas, or Hejaz. The territory of the Bedouins, or of the Arabs in the defert of Syria, may be reckoned a feventh province; and to this again may be added the Arabian eftabliffments on the fouthern coaft of Perfia. See the feveral articles.

Of all the governments of Arabia, which is divided among numerous Imams and Sheiks, that of Yemen is the moft uniform and beft regulated, and an idea of the reft may be formed from that of Yemen, defcribed by Niebuhr. The title of Imam, denoting Vicar, that is of Mahomet, is eccleſiaſtical; in Arabia it is confidered as fynonymous with Caliph, and Emir el Mumenin, or prince of the faithful. Its antiquity is not explained, but the hiftory of the Imams of Yemen is very modern: and though they fometimes celebrate divine fervice, the ſtyle of Emir, which they themfelves aſſume on their coins, feems more proper and preciſe. The inferior governments are conducted by Sheiks, a term fignifying old men, and rarely blended with the eccleſiaſtical character.

The throne of Yemen is hereditary; and the Imam, or Emir, an independent power, acknowledging no fuperior in fpiritual or temporal affairs. He poſſeſſes the prerogative of peace and war; but cannot be called defpotic, as he cannot deprive even a Jew or a Pagan of life; but the cauſe muſt be tried before the fupreme tribunal of Sana, conſiſting of feveral Cadis, while he is only preſident. When an Emir fhews a defpotic diſpoſition, he is merely dethroned. The next in rank are the Fakis, a title ſo lax as ſeemingly only to imply gentlemen. The governors of diſtricts are called Dolas; or, if ſuperior in birth, Walis. The Dola correſponds in ſome degree with the Turkiſh Paſha. The chief magiſtrate of a ſmall town without a garriſon is called Sheik; as a ſuperior governor is ſometimes called Emir, and in little villages, Hakim. The Baſkateb, or comptroller, is an officer who depends on the prince, and inſpects the conduct of the Dola, and the management of the revenues. In each diſtrict there is alſo a Cadi, who, like thoſe in Turkey, are judges of eccleſiaſtical and civil affairs; and perhaps depend on the chief Cadi at Sana, as thoſe of Turkey do on the Mufti: but in Arabia the prince himſelf is the high prieſt. His army, in peace, was computed at 4000 infantry, and 1000 cavalry; the ſoldiers being, as uſual in the eaſt, without uniforms. There is no navy, and the veſſels in general are very rudely conſtructed, thoſe of Yemen having ſails made of matting. Yemen adopted the koran in the 7th year of the Hegira. This fine province has at ſeveral times excited the ambition of Egypt, and been ſubjected to the Ottoman ſultan. It ſucceſſively became a prey to Saladin, Guri, and Solyman; but the love of liberty always triumphed in the mountains over the Ottoman arms. In 1630, Khaſſem, one of the independent Sheiks, forced the Turkiſh Paſhas to quit the country; and Iſmael, his ſon, eſtabliſhed this happy revolution, and took on himſelf the office of Imam.

The general aſpect of Arabia, ſays a modern geographer (Mr. Pinkerton), preſents a central deſert of great extent, with a few fertile "oaſes," or iſles, as in Africa; while the flouriſhing provinces are thoſe ſituated on the ſhores of the ſea, which ſupplies rain ſufficient to maintain the vegetation. In Yemen there are mountains of conſiderable height, but chiefly barren and unwooded; while the temperature and plants form a ſtriking contraſt with thoſe of the plains; yet the want of rivers, lakes, and perennial ſtreams, muſt diffuſe ideas of ſterility through the Arabian landſcape. In the defect of rivers ſtrictly belonging to Arabia, the Euphrates and Tigris, which paſs through Irak-Arabi, have been claimed by ſome geographers; and the Euphrates may be juſtly conſidered as an Arabian river. But in Arabia Proper, what are called rivers are mere torrents, which deſcend from the mountains during the rains, and for a ſhort period afterwards. Such is the Aſtan of Neged. The moſt important river is probably that which ariſes near Sana, and joins the Indian ſea below Harjiah. The little river of Krim flows from Mahrah into the ſame ſea, and is followed by two or three brooks in Omon, or Oman. One or two ſmall ſaline lakes occur in ſituations encircled with hills, which prevent the eſcape of the water.

The chief range of mountains ſeems to proceed in the direction of the Red ſea; towards the north, not more than 30 miles diſtant, and ſometimes in the ſouth about 150; a circumſtance which imparts extent and fertility to Yemen. The hills of Oman ſeem a continuation of thoſe on the other ſide of the Perſian gulf; and the iſles in the mouth of that gulf may be regarded as ſummits of that range. In the country of Segar, commonly aſcribed to Hadramaut, there is a range of hills remarkable for the product of frankincenſe. The direction of the other ranges cannot be accurately aſcertained in the imperfect geography of the country. In Arabia Petræa is the celebrated mountain of Sinai, with its two ſublime ſummits of red granite.

The agriculture of Arabia is employed in the production of wheat, maize, "durra," or a kind of millet, barley, beans, lentiles, and rape, with the ſugar cane, tobacco and cotton. Rice ſeems unknown in Yemen, and oats throughout Arabia: the horſes being fed with barley, and the aſſes with beans. They alſo cultivate "uars," a plant which dyes yellow, and is exported in great quantities from Mocha to Oman; and "ſua," uſed in dyeing red; likewiſe indigo. The wheat, in the environs of Maſkat, yields little more than ten for one; and in the beſt cultivated diſtricts of Yemen, 50 to one; but the durra ſometimes much exceeds this ratio, yielding in the highlands 140, and in the Tehama, or plain, from 200 to 400. By their mode of ſowing, and watering this grain, the inhabitants of Tehama reap

three ſucceſſive crops from the ſame field in the ſame year. The plough is ſimple, and the pick is uſed inſtead of the ſpade. The principal exertion of the huſbandman's induſtry is to water the lands from the rivulets and wells, or by conducting the rains. Barley is reaped near Sana in the middle of July; but the ſeaſon depends on the ſituation. At Maſkat, wheat and barley are ſown in December, and reaped in March; but durra is ſown in Auguſt, and reaped in the end of November. The Arabians pull up their ripe corn by the roots; but the green corn and graſs, as forage for the cattle, are cut with the ſickle. In threſhing their corn, they lay the ſheaves down in a certain order, and then lead over them two oxen dragging a large ſtone.

The greater part of Arabia, being compoſed of dry barren deſerts of ſand, either wholly deſtitute of water, or furniſhing ſcanty ſprings of that which is brackiſh, preſents few objects to botanical inveſtigation. The vegetables in ſuch diſtricts, expoſed to the vertical ſun, and refreſhed merely by nightly dews, belong for the moſt part to the genera of aloe, meſembryanthemum, euphorbia, ſtapelia, and ſalſola. On the weſtern ſide of the Arabian deſert, numerous rivulets, deſcending into the Red Sea, diffuſe verdure; and on the mountains from which they run, vegetation is more abundant. Hither many Indian and Perſian plants, diſtinguiſhed for their beauty or uſe, have been tranſported in former ages, and are now found in a truly indigenous ſtate: ſuch is the caſe probably with the tamarind, the cotton tree (inferior to the Indian), the pomegranate, the banyan tree or Indian fig, the ſugar cane, and many ſpecies of melons and gourds. Arabia Felix may peculiarly boaſt of two valuable trees, namely, the coffee (coffæa Arabica), found both cultivated and wild; and the amyris opobalſamum, which yields the balm of Mecca. Of the palms, Arabia poſſeſſes the date, the cocoa nut, and the great fan palm. It has alſo the ſycamore fig, the plantain, the almond, apricot, and peach, the papaw, the bead tree, the mimoſa nilotica, and ſenſitiva, and the orange. Among its ſhrubs and herbaceous plants may be enumerated the ricinus, the liquorice, and the ſenna, uſed in medicine; and the balſam, globe amaranth, the white lily, and the greater pancratium, diſtinguiſhed for their beauty and fragrance.

The mineralogy of Arabia is not very important. It has no native gold, nor any ſilver, beſides that which is mingled in the lead mines of Oman. In the northern diſtrict of Yemen, called Saade, there are ſome mines of iron, which is brittle. Its precious ſtones have been imported from Hindoſtan; its agates, called Mocha ſtones, are brought from Surat, and the beſt cornelians from the gulph of Cambay. Yemen, however, produces onyxes; a kind of Sardonyx is found near Damar. Rock ſalt appears near Loheia; and in Ajemen, Niebuhr has obſerved pentagonal pillars of ſalt, with bluiſh alabaſter, ſelenite, and various ſpars; but it does not appear that any of the gems are produced in Arabia. The pearls and ſpices, of which Arabia formerly boaſted, were probably the products of the Indies and the coaſts of Africa, whither the Egyptians went to fetch them, in order to diſperſe them among the nations of the weſt; and as it was their intereſt to conceal the ſource of their wealth, they choſe rather to have it thought that they traded to Arabia, where it was impoſſible to penetrate far, without imminent danger of death in the ſands of the deſerts.

The principal riches of Arabia conſiſt in flocks and herds, and eſpecially thoſe ſpecies of animals that require only ſucculent herbs for their nouriſhment. The cow here yields but little milk; and the fleſh of the ox, which like her delights in fat paſtures, is inſipid and juiceleſs. The wool and mutton of the ſheep are coarſe. In the mountains of Arabia Petræa is found the rock-goat. It is probable that Arabia, notwithſtanding the ſterility of its ſoil, was formerly overſtocked with cattle, ſince that commodity formed a prime object of commerce with the neighbouring countries; nevertheleſs it is a well-known fact, that in all the torrid regions there is a greater conſumption of fruits and vegetables than of fleſh. Of all the animals of Arabia, the horſe claims the pre-eminence. According to Zimmerman (Zool. Geog. 1777, 4to. p. 140.), this animal is found wild in the extenſive deſerts on the north of Hadramaut: this might have been the caſe in ancient times, unleſs it ſhould be thought more probable that the wild horſe of Tartary has paſſed through Perſia, and has been only perfected in Arabia. The horſes here are diſtributed into two claſſes, *viz.* the *Kadiſchi*, or common kind, whoſe genealogy has not been preſerved, and the *Kochlani*, or noble horſes, whoſe breed has been aſcertained for 000 years, proceeding, as their fables aſſert, from the ſtalls of Solomon. They are reared by the Bedouins in the northern deſerts between Baſſora, Merdin, and the frontiers of Syria; and though they are neither large nor beautiful, their race and hereditary qualities being the only objects of eſtimation, the preſervation of their breed is carefully and authentically witneſſed; and the offspring of a Kochlani ſtallion with an ignoble race is reputed *Kadiſchi*. Theſe will bear the greateſt fatigues, and paſs whole days without food, living, according to the Arabian metaphor, on air. They are ſaid to ruſh on a foe with impetuoſity; and it is aſſerted that ſome of them, when wounded in battle, will withdraw to a ſpot where their maſter may be ſecure; and if he fall, they will neigh for aſſiſtance. Accordingly their value is derived from their ſingular agility, an extreme docility, and an uncommon attachment to their maſters. The Arabian ſteeds are ſometimes bought at exceſſive rates by the Engliſh at Mocha. The duke of Newcaſtle aſſerts, that the ordinary price of an Arabian horſe is 1000, 2000, or even 3000l.; and that the Arabs are as careful in preſerving the genealogy of their horſes, as princes in recording that of their families: the grooms are very exact in regiſtering the names of the ſires and dams of theſe animals, and ſome of them are of very ancient date in this ſpecies of pedigree. It is affirmed that Arabian colts are brought up with camel's milk. In this country there is alſo a ſuperior breed of aſſes, in form and qualities approaching to the mule, and ſold at high prices. Arabia, or Africa, ſeems to be alſo the native country of the camel. Niebuhr obſerved camels of different kinds, and he ſeems to have decided the queſtion concerning the dromedary, by ſaying that this animal in Arabia and Egypt has always one hunch only, and can otherwiſe be ſcarcely diſtinguiſhed from the camel, but in being more light and ſpeedy. The buffaloe ſeems to be unknown in this country; and the cattle in general have a hunch on the ſhoulder. Arabia is infeſted with almoſt all kinds of ferocious beaſts, that prefer burning ſands and arid mountains to humid regions: they fix their abode in the caves of the mountains, in the clefts of the rocks, or in dens which they dig for themſelves. The other animals are the jackal, or chacal; the hyæna, towards the Perſian gulf and the deſert mountains of Arabia Petræa; numerous monkies in the woods of Yemen; the jerboa, or rat of Pharaoh, in Neged; and there are alſo antelopes, and wild oxen, with wolves, foxes, and wild boars, and the large panther, called in Arabia, "nemer," and a ſmall panther, called the "fath." The tiger ſeems utterly unknown, and the lion only appears beyond

yond the Euphrates. But if ferocious animals of various kinds exercife with impunity their ravages in the deferts, the mountains teem with other animals, which produce great advantages to commerce; fuch as the civet-cat, the bezoar goat, the muſk-rat, and various others, which are diveſted by nurture of their ſavage diſpoſition, and inured by habit to domeſtic diſcipline.

Among the birds may be named the pheaſant, common in the foreſts of Yemen, and the grey partridge in the plains, beſides all ſorts of common poultry. On the coaſts of the Red Sea, the ſpecies of ſea-fowls that live on fiſh are numerous, and in an iſland of this ſea are pelicans; in the deſerts are oſtriches; and the birds of prey in Arabia are eagles, falcons, vultures, and ſparrow-hawks. A bird of the thruſh kind, called by Mr. Forſkal, "turdus ſeleucus," is very ſerviceable in deſtroying locuſts, and is thought to come annually from Khoraſan. It is denominated "Samarman," or, "Samarmog." Arabia abounds with land-tortoiſes, which are eaten by the eaſtern Chriſtians in Lent; ſeveral ſorts of lizards, and alſo of ſerpents; and of the latter, the only ſort that is formidable is that called "Bætan," which is ſmall and ſlender, and ſpotted with black and white; its bite is ſo poiſonous, that it occaſions inſtant death. The Red ſea is ſtored with a great variety of fiſhes. Mr. Forſkal is ſaid to have obſerved more than 100 new ſpecies; ſome of which he could not rank among any of the known genera. The locuſts are very numerous; and that ſpecies which infeſts Arabia is called by Mr. Forſkal, "Gryllus gregarius," which he thinks to be different from the "Gryllus migratorius" of Linnæus. All the Arabians, whether living in their native country or in Perſia, Syria, and Africa, are accuſtomed to eat locuſts; and they aſcribe a peculiar delicacy to the red ſort, which they eſteem fatter and more ſucculent than any of the others. The ſwarms of theſe inſects darken the air, and at a diſtance appear like clouds of ſmoke. In flying, their noiſe is tremendous, and reſembles that of a water-fall. When ſuch a ſwarm falls upon a field, it is ſoon conſumed and deſpoiled of its verdure. A ſmall inſect, named "Arda," (the "Termes fatale" of Linnæus,) is another ſcourge of Arabia, as well as of hot countries in general. Theſe live and work together like ants, and are very deſtructive to trees. The inhabitants of the country, for preſerving their gardens from the depredation of theſe miſchievous inſects, ſurround their trees with ſheep's dung, the ſmell of which the arda cannot endure. A ſpecies of "ſcolopendra" torments the Arabians, and affects thoſe on whom it fixes with burning pains. Among the "Tenebriones," there is one ſpecies which the women of Arabia and Turkey dig out of the filth of the garden; and they ſwallow three of them fried in butter every morning and evening, in order to acquire that plumpneſs which is deemed in the eaſt a beauty.

The Red Sea is full of marine inſects; and Mr. Forſkall, from a number of obſervations, inferred, that an immenſe number of theſe animals contribute to produce the refulgence perceived at night in ſea-water. The ſhells of the Arabic gulf are numerous, and ſome of them belong to rare ſpecies. The moſt beautiful is a "pinna," with ſuperb colours. The Arabic gulf abounds with immenſe banks of coral; ſo that moſt of the houſes in the Tehama are built of coral rock. Theſe rocks, riſing ſometimes ten fathoms above the ſurface of the ſea, are ſoft under the water; and as they are eaſily wrought, they are preferred to all other ſtones for the purpoſes of building.

In the whole peninſula of Arabia the year has only two diſtinct ſeaſons, the dry and the rainy. The latter commences in the province of Yemen, about the middle of June, and terminates in September; but the ſky is rarely covered with clouds for 24 hours at a time. At Maſkat, and in the eaſtern mountains, it falls from the middle of November to the middle of February; and in Oman and Hadramaut, from the middle of February to the middle of April. Theſe regular rains are very beneficial, as they render the vallies lying among the mountains fertile and delightful. In the plains of Yemen rain is ſometimes uncommon for a whole year; and in the dry ſeaſon, a cloud is ſcarcely to be ſeen. The heat is no leſs ſubject to variation, than the wet and cold. At Sana, in the mountains, it has never exceeded 85° from the 18th to the 29th of July; whereas in Tehama, which is lower than Yemen, it has ſtood at 98° from the 6th to the 20th of Auguſt. It ſometimes, though rarely, freezes at Sana, while at Loheia the thermometer is at 86°. Hence the inhabitants of Yemen live as if they belonged to different climates; and even at a ſmall diſtance are found fruits and animals which might indicate remote countries. The wind from the ſea is generally moiſt, that from the interior deſerts dry; and in the northern deſerts are chiefly perceived the diſaſtrous effects of the burning wind called Sam, Smam, or Samiel. The Arabs diſcern its approach by an uncommon redneſs in the air; and to defend themſelves from the imminent danger, they throw themſelves flat on the earth. The people of the iſle of Chaudſi and of the Maredin, have nothing to dread from this deadly wind; ſleeping in the open air from the 18th of May to October, without feeling any inconvenience.

Although the Arabians are ingenious and diligent, their manufactures are of little conſequence. Even in Yemen, the works in gold and ſilver, and the coin itſelf, are produced by Jewiſh manufacturers. In the whole country of Arabia there are neither wind-mills nor water-mills. The muſkets that are made in the country, warlike as the Arabians were formerly deemed, are mere matchlocks of mean fabric. At Mocha there is one glaſs-houſe; and in Yemen there are ſome linen manufactures, chiefly coarſe. Among the chief vegetable products of Arabia, Niebuhr reckons aloes, myrrh, frankincenſe of an inferior kind, and coffee; and alſo cocoa trees, pomegranates, dates, apricots, peaches, almonds, filberts, pears, figs, and tamarinds. But the beſt frankincenſe, with ſpikenards, cinnamon, caſſia, cardamums, and pepper, are imported from Hindoſtan. The orange trees are brought from Portugal, and the lemon from Italy; the mangoſteen and cocoa, with ſeveral others, are imported from Hindoſtan.

The commerce of Arabia was formerly very conſiderable, as its ports facilitated a communication between the eaſtern and weſtern world. But ſince the Portugueſe opened a paſſage to India by the Cape of Good Hope, its intercourſe with Hindoſtan has very much declined.

The chief articles exported from Yemen are coffee, aloes, and myrrh (of which the beſt is brought from Abyſſinia), oliban (or an inferior kind of frankincenſe), ſenna, ivory, and gold from Abyſſinia. The European imports are iron, ſteel, cannons, lead, tin, cochineal, mirrors, knives, ſabres, cut glaſs, and falſe pearls. Niebuhr regards aloes and frankincenſe (the latter chiefly from Hadramaut) as the only native articles of commerce, before coffee came into uſe. The principal trading ports are Jidda or Gedda, the harbour of Mecca, Loheia, and Beit el Fakih, carrying on a conſiderable trade in coffee; Gezan, trading in ſenna and coffee; Hodeida, Mocha, Aden, Maſkat, Sur or Seger, Faitach and Dafar, on the Arabian ocean; Bahrin and El Katif, in the gulf of Baſſora; Baſſora, &c. See the articles.

Beſides the maritime commerce, a conſiderable traffic is carried on by land by means of the caravans of Aleppo and

Suez, which bring hither velvets, fattins, armoiſins, and all ſorts of rich ſtuffs; ſaffron, mercury, vermilion, &c.; and take in return, partly the natural products of the country, partly manufactures, and partly the foreign merchandizes that have been brought from the Indies, from Aleppo, and from Europe. Niebuhr obſerves, that the trade on the coaſt of the Red Sea cannot be advantageous to any nation that has not ſettlements in India. The Arabians, he ſays, make no uſe of the productions of Europe. It will be, therefore, neceſſary to ſupply them with India goods, and to take coffee in return, which can be bought cheaper from ſhips which take it in merely to avoid returning empty. There is, however, a great quantity of iron ſold in Arabia, which the Engliſh purchaſe chiefly from the Danes. This ingenious traveller cautions ſtrangers againſt the knavery of the Mahometan brokers; and he recommends their applying rather to the Banians, among whom are many very conſiderable merchants, who are very honeſt men. In his deſcription of the extenſive country of Neged, he informs us, that the Arabs, who inhabit it, are not more inhuman towards ſtrangers than the reſt of their nation, nor leſs hoſpitable; but as this country contains many little independent ſtates, each governed by a Sheik, it may be eaſily conceived that travellers here find little ſecurity. Each prince endeavours to get from them all he can; and as they are commonly at war with each other, ſtrangers are deſpoiled by the firſt, that his neighbours may not be the richer. Hence opulent foreign merchants cannot hazard their caravans in theſe regions; and thoſe that come from Oman and Lahſa to Mecca, are generally compoſed of beggars, or people who wiſh to paſs for ſuch; and the caravan which every year leaves Bagdad for Mecca, accompanied with many rich Perſians, is, in proportion to its number, charged with ſimilar expences and extortions with thoſe of Turkey, Egypt, and Magreb, which paſs by Hejaz. Yet there is reaſon to believe that the towns of Neged carry on a conſiderable trade among themſelves, and with the neighbouring places in Hejaz, Yemen, and Lahſa; and by theſe means it may be poſſible for an European traveller to inſpect this internal part of Arabia.

The population of Arabia conſiſts chiefly of Mahometans, intermixed with ſome Jews and Chriſtians. Banians alſo from India are ſettled in great numbers in their commercial cities. For their manners and cuſtoms, language, and literature, and other particulars, ſee the following articles, and thoſe already referred to in the general account of the country.

Of the various Arabian colonies ſettled in the maritime parts of the gulf of Perſia, the moſt conſiderable is the city of Abuſchar, 28° 59′ from the equator. That of Gombron, founded by Shah Abbas, has been loſing, ever ſince the troubles conſequent on the death of Shah Nadir, the opulence and ſplendour which it derived from the extent of its commerce. Beſides ſeveral iſles of little conſequence in the Arabian gulf, there are SOCOTRA in the Arabian ſea; and the iſle of BAHRIN, or AUAL, in the Perſian gulf, in which there is a fortified town; and on this and the groupe of adjacent ſmall iſles, there are 50 or 60 mean villages.

ARABS, *hiſtory, Character, cuſtoms*, &c. *of the*. According to the oriental writers, the Arabs are diſtinguiſhed into two claſſes, viz. the old loſt Arabians, and the preſent. The former were very numerous, and divided into ſeveral tribes, which are now all deſtroyed, or elſe loſt and ſwallowed up among the other tribes; nor are any certain memoirs or records extant concerning them. The moſt famous tribes among theſe ancient Arabians were *Ad*, *Thamud*, *Taſm*, *Jadis*, the former *Jorham*, and *Amalek*. The preſent Arabians, according to their own hiſtorians, are ſprung from two ſtocks, Kahtan or Joktan, the ſon of Eber, and Adnan, deſcended in a direct line from Iſhmael, the ſon of Abraham and Hagar. The poſterity of the former they call *Al Arab*, *Al Arabi*, i. e. the genuine or pure Arabs; and thoſe of the latter, *Al Arab al Moſtarcba*, i. e. naturalized or inſtitutious Arabs. Beſides theſe tribes of Arabs, mentioned by their own authors, who were not deſcended from the race of Shem, others of them were the poſterity of Ham, by his ſon Cuſh, who inhabited the banks of the Euphrates, and of the Perſian gulf, whither they came from Chuzeſtan, or Suſiana, the original ſettlement of their father. To theſe three ſtocks traditionary report aſcribes the origin of the Arabians. Some time after the confuſion of languages at Babel, or according to the computation admitted in Europe about 3600 years ago, Yarab, the elder of Joktan's ſons, it is ſaid, ſucceeded his father in the kingdom of Yemen, giving name, as the Arab writers maintain, to their country and language; and Jorham, the younger, founded the kingdom of Hejaz, where his poſterity poſſeſſed the throne till the time of Iſhmael. The kingdom of Yemen, or at leaſt the better part of it, particularly the provinces of Saba and Hadramaut, was governed by princes of the tribe of Hamyar, the ſon of Saba, and the great grandſon of Kahtan; though at length the kingdom was tranſlated to the deſcendants of Cahlan his brother, who ſtill retained the title of king of Hamyar. The princes of the Hamyarites, called Homerites by the later Greek and Latin authors, had the general title of "Tobba," ſignifying ſucceſſor, as the Egyptian kings had that of Pharaoh, the Roman emperors that of Cæſar, and the ſucceſſors of Mahomet that of Caliph. This kingdom laſted, according to Abulfeda, 2020 years; or, as other Arabian writers ſay, above 3000; the length of the reign of each prince being very uncertain. The firſt great calamity that befel the tribes ſettled in Yemen was the inundation of Aram, which is ſaid to have happened ſoon after the time of Alexander the Great, and to have been occaſioned by the irruption of a mound, or dam, erected near the city of Saba, afterwards called Mareb, and ſerving as a reſervoir for receiving the water which came down from the mountains for the ſupply of the city, and for watering their lands. On this occaſion, eight tribes were forced to abandon their dwellings; and ſome of them, in their migration, gave riſe to the two kingdoms of Ghaſſan and Hira; both of them out of the proper limits of Arabia. The founders of the former, in Syria Damaſcena, maintained their kingdom, according to Abulfeda, 616 years. Five of theſe princes were named Hareth, written by the Greeks Aretas; and it was the governor of one of theſe who ordered the gates of Damaſcus to be watched, for the purpoſe of apprehending the apoſtle Paul. This tribe was Chriſtian; but their laſt king, on occaſion of the ſucceſſes of the Arabs in Syria, profeſſed Mohammediſm under the Caliph Omar; however, on receiving ſome diſguſt, he returned to his former faith, and retired to Conſtantinople. The other kingdom of Hira, founded in Chaldæa, or Irak, continued, with ſome ſmall interruption by the Perſians, till the caliphate of Abubeker, and its duration was near 623 years. The princes were under the protection of the kings of Perſia, acting as their lieutenants over the Arabs of Irak, as the kings of Ghaſſan were for the Roman emperors, over thoſe of Syria.

Jorham, the ſon of Kahtan, who founded the kingdom of Hejaz, and his poſterity, maintained poſſeſſion of it till the time of Iſhmael, who, marrying the daughter of Modad, one

one of the princes of the country, had 12 ſons; to one of whom, called Kidar, the crown was reſigned by his uncles, the Jorhamites; but others ſay, that the deſcendants of Iſhmael expelled that tribe, who, retiring to Johainah, were, after various fortune, all deſtroyed by an inundation. Of the ſucceſſive kings of Hamyar, Hira, Ghaſſan, and Jorham, Dr. Pococke, in his "Specimen Arab." has given catalogues, that are ſaid to be tolerably exact.

After the expulſion of the Jorhamites, the government of Hejaz ſeems not to have remained for many centuries in the hands of one prince, but to have been divided among the heads of tribes, almoſt in the ſame manner as the Arabs of the deſert are governed at this day. At Mecca, an ariſtocracy prevailed, where the chief management of affairs, till the time of Mohammed, was in the tribe of Koreiſh; more eſpecially after they had obtained the cuſtody of the Caaba from the tribe of Khozaah, one of thoſe tribes that had migrated from Al-Aram.

Beſides the kingdoms already enumerated, there were ſome other tribes, which in latter times had princes of their own, and formed ſtates of inferior note; ſuch, in particular, was the tribe of Kenda, which had ſeveral kings.

Having given a brief abſtract of the hiſtory of the ancient Arabs before Mahomet, it may not be improper to ſubjoin a conciſe account of the principal tranſactions in which thoſe people were concerned with the Egyptians, Perſians, Greeks, and Romans, extracted from the moſt approved writers of the two laſt nations. According to Diodorus Siculus (lib. i.), Seſoſtris, the Seſac of Joſephus and Sir Iſaac Newton, ſubdued Arabia. But it is evident, that the Arabs were never completely ſubjugated, nor for any long time rendered any homage to the kings of Egypt, becauſe Seſac himſelf, as the ſame author informs us, was obliged to draw a line from Heliopolis to Peluſium, in order to ſecure Egypt from the incurſions of the Arabs and Syrians. The Scenite Arabs, contiguous to Paleſtine and Syria, muſt, therefore, have been independent on that prince. Nor can it be inferred from Diodorus, that he ever haraſſed Arabia Felix, though he had a fleet of 400 ſail upon the Red Sea; but only coaſted it, or at moſt ſeized upon ſome of its maritime provinces in his voyage to India: and by the teſtimony of this hiſtorian, who has extolled the conqueſts of Seſoſtris, it ſufficiently appears, that the whole peninſula of the Arabs never was, at leaſt for any conſiderable time, in a ſtate of ſervitude to the Egyptians. It appears on the contrary, that they gave kings to Egypt, who were known under the name of Shepherds. From Diodorus (l. ii.) we alſo learn, that neither the Aſſyrians, Medes, nor Perſians, could ever gain any conſiderable ſettlement among them. The Perſian monarchs were reſpected by them as their friends, and received from them, as Herodotus informs us (l. iii. c. 97.), an annual preſent of frankincenſe; and yet they never made them tributary, and gave law to them; nor is Arabia found in any enumeration of their provinces: ſo far indeed were the Perſians from being their maſters, that Cambyſes, in his expedition againſt Egypt, was obliged to aſk permiſſion to paſs through their territories. The Spartans, inured to conqueſt, made a deſcent on their coaſts, and repented of their temerity. When Alexander the Great had ſubdued the Perſian empire, the Arabians, however exorbitant and generally dreaded his power was, in conſequence of the extent and fame of his victories, had ſo little apprehenſion of him, that they alone, of all the neighbouring nations, ſent no ambaſſadors to him. The preparations which he made ſhew, that he regarded this conqueſt as worthy of his utmoſt exertions, but death put a ſtop to his enterpriſe, ſo that it is impoſſible to decide what would have been the event; but perhaps this people might have convinced him that he was not abſolutely invincible. The ſucceſſors of Alexander, who attempted to proſecute his deſign, were as often defeated. For an account of the unſucceſsful enterpriſe of Athenæus, the general of Antigonus, ſee ANTIGONUS.

The reply of the Arabs to Demetrius, who undertook a ſecond expedition againſt them, demonſtrates their manly reſolution, and their indifference to the fame that is acquired by arms. "King Demetrius" ſaid they, "what are thy pretenſions? what wouldſt thou have of us? what motive brings thee to diſturb the ſilence of our deſerts, where nature, a cruel ſtepmother to us, grants her children no other than the painful means of ſubſiſtence? our parched and ſandy deſerts have no charm for us except the liberty they allow us to enjoy, and which thou art come to raviſh from us. It is the love of independence, that renders ſuch hardſhips as are unknown to the other inhabitants of the earth, ſupportable to us. Our rocks are too hard to be broken by thy ſceptre: if then thou wouldſt ſubject us to thy yoke, begin by ſubjugating our ſentiments; alter our manner of life; but firſt contrive means of ſubſiſtence in a country that has nothing but ſand, and rocks, and metals. Be adviſed, and let thoſe people live in peace againſt whom thou haſt no cauſe of complaint, and who deſire to have no quarrel with thee. Accept the preſents we here bring thee; and may they induce thee to believe that the Nabathæans are thy friends."

The Romans made incurſions into Arabia, but never ſubdued it. Some few tribes, vanquiſhed by Lucullus, did homage to the majeſty of the Roman people. Pompey, as Plutarch informs us, obliged Aretas, an Arab prince, whoſe dominions bordered upon Syria and Meſopotamia, to receive a Roman garriſon; and the ſame general likewiſe ſubdued the Arabs who dwelt about mount Amanus, by his lieutenant Afranius. After which the king of the Arabs, reſiding in Petra, addreſſed a letter of ſubmiſſion to him; but it does not appear that Pompey ever gained poſſeſſion of that fortreſs. Craſſus, ambitious of making the conqueſt of this country, entered a diſtrict of it with a numerous army, which periſhed in the deſerts from thirſt and miſery. Ælius Gallus, in the reign of the emperor Auguſtus, in ſome meaſure repaired the diſgrace of this diſaſter. He, of all the Roman generals, ſeems to have penetrated fartheſt into theſe immenſe and frightful deſerts. At firſt he met with ſome brilliant ſucceſſes; but the deadly heats conſumed the flower of his troops, and he was obliged to retire with the remains of his army, whoſe fruitleſs victories were celebrated by the flatterers of Auguſtus. Caius, his grandſon, convinced of the impoſſibility of ſubjugating a people, who only regarded life inaſmuch as they could live free, inveſted their towns with fire and ſword; and having forced them to ſurrender, he thence made excurſions upon the territories of the empire; but after all his exertions, contented himſelf with the glory of having deprived them of the means of offence. From that time to the reign of Trajan, we read of no conteſt between the two nations. This emperor laid ſiege to the capital of the Hagarenes; and after repeated efforts, ſubmitted to the diſgrace of raiſing it. Notwithſtanding the flatteries of Trajan, by the hiſtorians and orators of his time, and the medals ſtruck by him, he did not ſubdue the Arabs; the province of Arabia, which he is ſaid to have added to the Roman empire, ſcarcely reaching farther than Arabia Petræa, or the very ſkirts of the country. About eighty years after this period, the emperor Severus, being greatly incenſed againſt the Arabs bordering on Syria, laid ſiege to Atræ their capital, with a formidable army; but he was obliged to raiſe it, and to retire into his own dominions. The Sa-

racens,

racens, the moſt celebrated people among the Arabs, ravaged Meſopotamia in the time of the emperor Conſtantius, and joined the Perſians againſt Julian. This prince, and ſome of his predeceſſors, had paid a ſubſidy to the Saracens who ſerved in their armies; but Julian, who conſidered them as his ſubjects and not as his allies, thought the treaty degrading to the majeſty of the empire, and refuſed to pay a tribute under the qualifying term of a ſubſidy. Of thi infraction the barbarians complained; but the prince, who knew how to fight as well as to govern, haughtily anſwered: "My implements are iron: I know nothing of gold." This expreſſion they reſented, deſerted to the Perſian, and ever after continued faithful to him. Sometime afterwards theſe warlike people marched to the relief of Conſtantinople, of which city they became the deliverers. It was under the reign of Theodoſius that they began to make war in their own behalf; and after having been the ſtay of the tottering empire, they became its terror. The Arabs, hitherto divided in tribes, now united their forces, and ſallied forth to make conqueſts. It appears that the ſeeds of that barbarous valour they now diſplayed had been concealed in their breaſts, and that their hard and laborious life had prepared them for becoming intrepid ſoldiers. Their deſerts were a rampart that ſecured them from foreign incurſions; it was impoſſible to penetrate them without the danger of periſhing for want of water, as the wells for the ſupply of it were known only to the inhabitants, who never diſcloſed the ſecret. Their towns were little elſe than magazines, in which they ſtored up the fruits of their predatory attacks, conſiſting of little more than a collection of huts, which they abandoned on the approach of an enemy; their citadels were the work of nature, ſteep rocks from whence they defied the moſt numerous hoſts, who, like them, had nothing to fear, except the dearth of water and famine. Being ignorant in the art of fortification, they were but little verſed in the attack of ſtrong holds; thus their offenſive wars were nothing more than tranſitory incurſions: the forts which their enemies erected on the frontiers were ſufficient to reſtrain their depredations. They were wont to thank heaven for giving them ſwords inſtead of ramparts. Their education was martial; they trained their children to the uſe of the bow and the ſword, and in breaking their horſes. An excellent ſword was a family token, which a father bequeathed to his children, to remind them of the bravery of their anceſtors. Prodigal of their own blood, it cannot be imagined that they were ſparing of that of others. They fought only by day-light, becauſe courge is roufed by having witneſſes of its efforts, and they thought that darkneſs was favourable to cowardice. It is therefore by no means ſurpriſing, that a people born with ſuch noble propenſities ſhould have achieved ſuch prodigies of valour, when once they had yielded to the ambition of conqueſts. The Arabs then, naturally warlike, only waited for circumſtances to render them conquerors; for a long time, however, pacific and obſcure, they took up arms merely from greedineſs of ſpoil, and never with a view of extending their borders, holding mankind in too great contempt for wiſhing to have them for ſubjects. They marched to battle without order or diſcipline; but accuſtomed to contend with ferocious animals, they carried courage to the exceſs of ferocity. Some, however, more ſavage than the reſt, ſold their blood and their ſervices to ſuch kings as were able to buy them; and it was not ſo much from a ſentiment of honour, as from the hope of ſpoil, that they abandoned the tranquillity of their ſolitudes. The Romans and the Perſians, as we have ſeen, had in their armies a body of Saracens, who frequently decided the fortune of war. Though ſatisfied with their independence, they were ſcrupulous of attacking the liberty of their neighbours; and their greateſt glory was their never having ſubmitted to foreign dominion. To this, however, they have undoubtedly a diſtinguiſhing claim; thoſe who at different times attempted to ſubjugate them, having merely ſucceeded againſt a few tribes, ſettled in the cities on the Arabian gulf, or in the vicinity of Syria; and even here their power was extremely tranſient. After the time of Mahomet, Arabia was for about three centuries under the Caliphs his ſucceſſors; but neither he, nor the Caliphs, could ever entirely ſubdue their own nation. Many chiefs in the interior parts of the country ſtill maintained their independence, without reſpecting the Caliph in any other light than as the head of their religion; and the authority of the Caliphs was merely ſpiritual, except in their dominions over a part of the coaſt, where they were acknowledged as ſovereigns. In the year 325 of the Hegira, a great part of the country was poſſeſſed by the KARMATIANS, to whom the Caliphs were obliged to pay tribute, that the pilgrimage to Mecca might be regularly performed. After the ruin of the power of the Caliphate by the Turks, Arabia ſhook off the yoke to which it had been partly ſubjected, and was governed, as it formerly had been, by a number of chiefs more or leſs powerful, deſcended from different indigenous families. No neighbouring power ever attempted to ſubdue this country, till the Portugueſe penetrated into India, and made their appearance in the Red Sea. Then, in the beginning of the 16th century, Sultan "El-Gury," fitted out a fleet to expel theſe invaders; and their fleet ſeized almoſt all the ſea-port towns of Arabia. But when the dynaſty of the Mamelukes was terminated by the Turks, theſe cities fell again into the hands of their natural ſovereigns. In the continuance of the war between the Turks and the Portugueſe, Solomon Pacha, with a powerful fleet, ſeized all the towns upon the Arabian gulf. His ſucceſſors puſhed their conqueſts ſtill farther, and ſubdued great part of Yemen, penetrating into the highlands; ſo that Arabia became almoſt entirely a province of the Sultan of Conſtantinople, and was governed by Pachas, like the other provinces of the Ottoman empire. Theſe events happened, under a lieutenant of Soliman I., A. D. 1538, and under Selim II., A. D. 1568. In the interior parts, however, there were ſtill independent princes and Sheiks, who had never been ſubdued; but continued to haraſs the Turks, and to drive them towards the coaſts. After various reiterated efforts, a prince of the family now reigning at Sana, at length ſucceeded, about the middle of the 17th century, and obliged the Turkiſh nation to evacuate all the places upon the Arabian coaſt, which they had occupied for more than a century. The Turks now poſſeſs nothing in this country, ſays Niebuhr, but a precarious authority in the city of Jidda; and it is therefore abſurd to reckon Arabia among the Ottoman provinces, ſince it is properly to be conſidered as independent of all foreign powers. From the view above preſented of the independence of Arabia, the contemptuous reflection of a popular hiſtorian (ſee Gibbon's Hiſt. vol. ix. p. 229.), ſeems not juſtly warranted; who, after obſerving, that "the perpetual independence of the Arabs has been the theme of praiſe among ſtrangers and natives," adds, "the arts of controverſy transform this ſingular event into a prophecy and a miracle, in favour of the poſterity of Iſhmael. Some exceptions, that can neither be diſſembled nor eluded, render this method of reaſoning as indiſcreet as it is ſuperfluous." This reflection was aimed at the authors of the Ancient Univerſal Hiſtory, who had obſerved (vol. xvi. p. 299.), that the manner of life, diſpoſition, power, and government of

of the Scenite Arabs, now known under the name of Bedouins, as well as their never having been thoroughly ſubjugated by any foreign power, from the age of Iſhmael to the preſent time, illuſtrate the truth of a ſcripture prediction, Gen. xvi. 12. The learned hiſtorian himſelf allows, that, though the kingdom of Yemen has been ſucceſſively ſubdued by the Abyſſinians, the Perſians, the ſultans of Egypt, under a brother of the great Saladin, A. D. 1173, who founded a dynaſty of Curds or Ayoubites, and the Turks: though the holy cities of Mecca and Medina have repeatedly bowed under a Scythian tyrant; and though the Roman province of Arabia embraced the peculiar wilderneſs, in which Iſhmael and his ſons muſt have pitched their tents in the face of their brethren; yet theſe exceptions are temporary or local, and the body of the nation has eſcaped the yoke of the moſt powerful monarchies. This writer, however, has admirably delineated the cauſes of the freedom and independence of the Arabs, and alſo the effects thus produced on their diſpoſition and character.

Arabia, like other nations of the eaſt, was partitioned into different tribes, each of which had its chief, its cuſtoms, and its ſacred rites peculiar to itſelf: although every family formed a ſpecies of domeſtic government abſolutely independent, though diſtant from one another, without any relations of intereſt or friendſhip, they had retained certain features which clearly indicated, that they were ſo many branches ſprung from the ſame ſtock; all had the ſame love of independence, and, free in their native deſerts, they pitied the nations that were ſubjected to maſters. This love of liberty which is the paſſion of noble and generous minds, was in them a national fanaticiſm; which, cauſing them to deſpiſe the reſt of mankind, prevented their participating in the diſorders and crimes which have poiſoned the ſource of public morals. The long memory of their independence was the firmeſt pledge of its perpetuity; and ſucceeding generations were animated to prove their deſcent, and to maintain their inheritance. Their domeſtic feuds were ſuſpended on the approach of a common enemy; and when they advanced to battle, the hope of victory was in the front; in the rear, the aſſurance of a retreat. The arms and deſerts of the Bedouins are not only the ſafeguards of their own freedom, but the barriers alſo of Arabia Felix; whoſe inhabitants, remote from war, are enervated by the luxury of the ſoil and climate. In every tribe among the Arabs, ſuperſtition, or gratitude, or fortune, has exalted a particular family above the heads of their equals. The dignities of ſheik, and emir, invariably deſcend in this choſen race; but the order of ſucceſſion is looſe and precarious; and the moſt worthy, or aged, of the noble kinſmen, are preferred to the ſimple though important office of compoſing diſputes by their advice, and guiding valour by their example. The momentary junction of ſeveral tribes produces an army, their more laſting union conſtitutes a nation: and the tribes and families are held together by a mutual and voluntary compact. In the ſimple ſtate of the Arabs, the nation is free, becauſe each of her ſons diſdains a baſe ſubmiſſion to the will of a maſter. His breaſt is fortified with the auſtere virtues of courage, patience, and ſobriety; the love of independence prompts him to exerciſe the habits of ſelf-command; and the fear of diſhonour guards him from the meaner apprehenſions of pain, of danger, and of death. The vigour of their frame is preſerved by the laborious exerciſes of an active life, that enures them to toil and fatigue. The frugality to which they are conſtrained by the ſterility of their climate, ſeems to be a virtue in them; and they are thus preſerved from the imbecility and diſeaſe that are the reſult of intemperance either in eating or drinking, and enabled to prolong their life to old age. Their virtues and their vices partake of the influence of their ſituation and climate. That complexional gravity, which renders them inſenſible to whatever affects the reſt of mankind, that ſcornful indifference and inſolent pride with which they regard others, and that torpid inſenſibility which they manifeſt, are contracted and nouriſhed in their ſtate of ſolitude. The gravity and firmneſs of the mind are indicated in the outward demeanour of an Arab; his ſpeech is ſlow, weighty, and conciſe; he is ſeldom provoked to laughter; his only geſture is that of ſtroking his beard, the venerable ſymbol of manhood; and the ſenſe of his own importance teaches him to accoſt his equals without levity, and his ſuperiors without awe. A more ſerious charge than any thing already mentioned is brought againſt the Arabs, and from which it is difficult to juſtify them; this is an habitual cruelty prompting them to ſhed human blood without benefit and without remorſe. Their own hiſtorians have tranſmitted to us ſuch acts of atrocity, as teſtify that this ferocious people propoſed not ſo much to conquer the world, as to deſtroy it. "In the ſtudy of nations and men," ſays Mr. Gibbon, "we may obſerve the cauſes that render them hoſtile or friendly to each other, that tend to narrow or enlarge, to mollify or exaſperate the human character. The ſeparation of the Arabs from the reſt of mankind has accuſtomed them to confound the ideas of ſtranger and enemy; and the poverty of the land has introduced a maxim of juriſprudence, which they believe and practiſe to the preſent hour. They pretend, that in the diviſion of the earth, the rich and fertile climates were aſſigned to the other branches of the human family; and that the poſterity of the outlaw Iſhmael might recover, by fraud or force, the portion of inheritance of which he had been unjuſtly deprived." Thus, the ſeizure of a caravan is not a robbery that can excite in them any remorſe. They look upon it as the recompence of their courage, as well as a reſtitution of uſurped property; and hence their errors concerning the right of war have precipitated them into a deluge of crimes. According to the remark of Pliny, the Arabian tribes are equally addicted to theft and merchandiſe. If a Bedouin diſcovers from afar a ſolitary traveller, he rides furiouſly againſt him, crying with a loud voice, "Undreſs thyſelf, thy aunt (my wife) is without a garment." A ready ſubmiſſion entitles him to mercy, reſiſtance will provoke the aggreſſor, and his own blood muſt expiate the blood which he preſumes to ſhed in legitimate defence. A ſingle robber, or a few aſſociates, are branded with their genuine name; but the exploits of a numerous band aſſume the character of lawful and honourable war. The temper of a people, thus armed againſt mankind, was doubly inflamed by the domeſtic licence of rapine, murder, and revenge. Each Arab might, with impunity and renown, point his javelin againſt the life of his countryman; as in each community, the juriſdiction of the magiſtrate was weak and impotent. Hoſtility was embittered with the rancour of civil faction, and the recital, in proſe or verſe, of an obſolete feud, was ſufficient to rekindle the ſame paſſion among the deſcendants of the hoſtile tribes. In private life, every man, at leaſt every family, was the judge and avenger of its own cauſe. The nice ſenſibility of honour, which weighs the inſult rather than the injury, ſheds its deadly venom in the quarrels of the Arabs; the honour of their women, and of their beards, is moſt eaſily wounded; an indecent action, or a contemptuous word, can be expiated only by the blood of the offender; and ſuch is their patient inveteracy, that they expect whole months and years the opportunity for revenge.

A fine or compenſation for murder is familiar to the barbarians of every age; but in Arabia, the kinſmen of the dead are at liberty to accept the atonement, or to exerciſe with their own hands the law of retaliation. The refined malice of the Arab refuſes even the head of the murderer, ſubſtitutes an innocent to the guilty perſon, and transfers the penalty to the beſt and moſt conſiderable of the race by whom they have been injured. If he falls by their hands, they are expoſed, in their turn, to the danger of reprifals; the individuals of either family lead a life of malice and deſpotiſm; and fifty years may ſometimes elapſe, before the account of vengeance is finally ſettled. The modern theory and practice, in the revenge of murder, are deſcribed by Niebuhr; and the harſher features of antiquity may be traced in the Koran, c. 2. p. 20, c. 17. p. 230, with Sale's obſervations. The attachment of the Arabs to their cuſtoms and opinions, their ſecluded life ſevering them from mankind, and their contempt of death, which they contemplate with a cold intrepidity, were ſo many cauſes adapted to render them barbarous. He who deſpiſes life is inacceſſible to pity; and no enemy is more formidable than he who is ready to die. Nevertheleſs, this ſanguinary ſpirit, ignorant of pity or forgiveneſs, has been moderated by the maxims of honour, which require, in every private encounter, ſome decent equality of age and ſtrength, of numbers and weapons. An annual feſtival of two, perhaps of four months, was obſerved by the Arabs before the time of Mahomet, during which their ſwords were religiouſly ſheathed, both in foreign and domeſtic hoſtility. But the ſpirit of rapine and revenge was further attempered by the milder influence of trade and literature. The ſolitary peninſula is encompaſſed by the moſt civilized nations of the ancient world; the merchant is the friend of mankind; and the annual caravans imported the firſt ſeeds of knowledge and politeneſs into the cities, and even the camps of the deſert. The Arabs have always blended a very conſiderable degree of beneficence, hoſpitality, and politeneſs, with their ferocity. The ſame hoſpitality which was practiſed by Abraham, and celebrated by Homer, is ſtill renewed in the camps of the Arabs; and examples of this kind, among them, exceed any thing that can be produced from other nations. The contrary vice was held among them in ſuch contempt, that one of their poets upbraids the inhabitants of a certain diſtrict in terms of bitter reproach, alleging, that none of their men had the heart to give, nor their women to deny. After the time of Mahomet, they were no leſs liberal than their anceſtors had been. Sale (Pref. Koran, p. 21.) mentions the following ſingular inſtance. Three men were diſputing in the court of the Caaba, who was the moſt liberal perſon among the Arabs. One gave the preference to Abdallah, another to Kais, and a third to Arabah. It was propoſed, however, for the deciſion of the diſpute, that each ſhould go to his friend, and aſk his aſſiſtance. Abdallah's friend found him with his foot in the ſtirrup, mounting his camel, and juſt ſetting out on a journey, and thus accoſted him; "Son of the uncle of the apoſtle of God, I am a traveller, and in diſtreſs." Upon which Abdallah inſtantly diſmounted, and preſented the pilgrim with his camel, its rich capariſon, ſome veſts of ſilk, and a purſe of 4000 pieces of gold. The ſervant of Kais informed the ſecond ſuppliant that his maſter was aſleep, but that he had rather relieve his neceſſity, than awake his maſter: accordingly, he gave him a purſe of 7000 pieces of gold, aſſuring him that it was all the money they then had in the houſe; and he directed him to go to thoſe who had the charge of the camels, with an order for a camel and a ſlave. When Kais awoke, and was informed of what his ſervant had done, he gave him his freedom, and aſked him why he did not call him; for, ſays he, "I would have given him more." The third perſon went to Arabah, who, being dim-ſighted, was leaning on two ſlaves, and juſt coming out of his houſe in order to attend the hour of prayer. As ſoon as his caſe was made known, Arabah clapped his hands, lamented his misfortune, as he had no money, but deſired him to take his two ſlaves. When theſe were refuſed, Arabah proteſted, that if they were not taken, they ſhould be enfranchiſed; and, leaving the ſlaves, groped along by the wall. Arabah was pronounced the moſt generous of the three. The character of Hatem is the moſt perfect model of Arabian virtue. He is repreſented, by D'Herbelot (Bibl. Orient. p. 406.), as brave and liberal, an eloquent poet, and a ſucceſsful robber; forty camels were roaſted at his hoſpitable feaſts; and at the prayer of a ſuppliant enemy, he reſtored both the captures and the ſpoil. In the deſert, and on the roads, the Arabs will carry off the ſpoils of the traveller, and in a moment afterwards embrace, without inquiry or heſitation, the ſtranger who dares confide in their honour, and enter their tent. His treatment is kind and reſpectful; he ſhares the wealth or the poverty of his hoſt; and, after neceſſary repoſe, he is diſmiſſed on his way with thanks, with bleſſings, and perhaps with gifts. In every inhabited diſtrict, fires are lighted up at night, which are called the fires of hoſpitality, to invite the travellers that miſs their way, or are in want of reſt from the fatigues of their journey; and after well regaling them, they are ſet forward on their route with the ſound of inſtruments and with preſents. Their humanity is alſo manifeſt in the modes and degrees of puniſhment which they inflict on perſons convicted of crimes. The Arabs extend their generoſity and kindneſs even to the animals that grow old in their ſervice; granting them the privilege of grazing in the richeſt paſtures, exempt from every ſpecies of labour; and they ſend them provender even to the ſummits of their mountains. In politeneſs, the Arabs vie with the Perſians. The common mode of ſalutation is the "ſalam aleikum," or, peace be with you; in pronouncing which words, they raiſe the right hand to the heart; but this form is ſeldom addreſſed to Chriſtians. On meeting, in their wide deſerts, the ſalutations are multiplied; and the hand of a ſuperior is kiſſed in token of reſpect, a ceremony which ſometimes paſſes among equals; and hence probably was derived, by means of their Mooriſh victors, the Spaniſh expreſſion of kiſſing the hands. Nor were theſe the only good qualities of the Arabs; they are commended by the ancients for the affection and reſpect that ſubſiſt between parents and children, and other kindred; and for the fidelity with which they fulfil their engagements. He who violates the ſanctity of an oath, is doomed to grow old in ignominy; and it is with their blood that they ſign their alliances, in order to impreſs upon them a more ſacred character. The rights of friendſhip are deemed inviolable; and when two friends contract reciprocal obligations, they cannot decline them without being treated as profligates.

The primitive form of government, among the Arabs, was of the patriarchal kind; and the ſame form, according to Niebuhr, has ever ſubſiſted without alteration; a circumſtance which proves the antiquity of this people. Among the Bedouins, or paſtoral Arabs, the deſcendants of the ancient Scenites, it is preſerved in all its purity. Of theſe, ſuch who live in tents, have many ſheiks, each of whom governs his own family with a power almoſt abſolute. All the ſheiks, however, who belong to the ſame tribe, acknowledge a common ſheik, whoſe authority is limited

by cuſtom. The dignity of grand ſheik is hereditary in a certain family; but the inferior ſheiks, upon the death of a grand ſheik, chooſe a ſucceſſor out of his family, without regard to age, or lineal ſucceſſion, or any other conſideration, except ſuperiority of abilities. This right of election obliges the grand ſheik to treat thoſe of the inferior order rather as aſſociates than ſubjects, ſharing with them his ſovereign authority. The ſpirit of liberty, which animates this warlike nation, renders them incapable of ſervitude. But this ſpirit is leſs prevalent among thoſe who live in towns, or who are employed in huſbandry. In the fertile diſtricts of this country, there have been always monarchies, formed either by conqueſt, or religious prejudices. Such are the preſent dominions of the ſheriff of Mecca, of the imams of Sana and Maſkat, and of ſome princes in the province of Hadramaut. However, as theſe countries are interſected by large ranges of mountains, the mountains are occupied by independent ſheiks. But, although ſo many independent chieftains have their domains interſperſed through the territories of theſe ſeveral ſovereigns, yet nothing of the feudal government appears here. The ſheiks poſſeſs no fiefs; they have only a ſort of property in the perſons of the people of their ſeveral tribes. Even thoſe who ſeem to be tributary ſubjects to the princes within whoſe dominions they dwell, are not actually ſo, but they retain their independence; and the tribute they pay, is merely a tithe for the uſe of the land of which they are a ſort of farmers. Such are the ſheiks ſettled in Syria, Egypt, and over the whole of mount Atlas. This multiplicity of petty ſovereigns, occaſions ſeveral inconveniences to the people in general. Wars cannot but frequently ariſe among ſtates, whoſe territories are ſo intermingled together, and whoſe ſovereigns have ſuch a variety of jarring intereſts to manage. But, happily, theſe quarrels are ſcarcely ever productive of very fatal conſequences. An army of a thouſand Arabs will betake themſelves to flight, and think themſelves routed, if they loſe ſeven or eight of their number; and their conteſts are terminated as eaſily as they are excited. It is ſomewhat ſurpriſing, that the Arabs, in a country ſo rich and fertile, ſhould be ſo uncomfortably lodged, indifferently fed, ill cloathed, and deſtitute of almoſt all the conveniences of life. But the cauſes are ſufficient to account for the effects. As to the wandering Arabs, their poverty is voluntary. They prefer liberty to wealth, paſtoral ſimplicity to a life of conſtraint and toil, which might procure for them a greater variety of gratifications. Thoſe who live in cities, or who are employed in the cultivation of the land, are kept in poverty by the exorbitancy of the taxes to which they are ſubject. The whole ſubſtance of the people is conſumed in the ſupport of their numerous princes and prieſts. The general cauſe of the impoveriſhment of Arabia is, without doubt, its having ceaſed to be the channel of trade with India, ſince the diſcovery of the paſſage by the Cape of Good Hope. Yet, if the lands were better cultivated, this country might, without the aid of foreign trade, afford ſufficient reſources to ſupply all its inhabitants with abundance of the neceſſaries and common conveniences of life.

The houſes of the Arabs are built of ſtone, and have terrace roofs; but thoſe occupied by the lower people are ſmall huts, formed, for ſuch as inhabit the banks of the Euphrates, of branches of the date-tree, having a round roof, covered with ruſh mats. The poor ſpread their floors with ſtraw mats, and the rich with fine carpets. No perſon ever enters a room, without having firſt put off his ſhoes. The men occupy the fore part of the houſe, and the women the back part. If there are no ſeparate apartments for the different ſexes, the Arabians, when they introduce a ſtranger, enter before him, and cry out, "Tarik," retire; upon which the women inſtantly diſappear. The great have often in their halls baſons with *jets d'eau* to cool the air. The Arabians practiſe ſeveral modes of ſitting; but that to which they recur, for the greateſt eaſe, is croſſing their legs under their body; but in the preſence of ſuperiors, an Arab ſits with his two knees touching each other, and with the weight of the body reſting upon the heels. The chief amuſements of the Arabians are ſought at coffee houſes, in markets, and public meetings, which they are fond of frequenting; and in order to divert the dulneſs of domeſtic life, they recur much to the uſe of tobacco; and perſons of opulence and faſhion carry with them a box of odoriferous wood, a piece of which they put into the pipe of a perſon to whom they wiſh to ſhew reſpect; this communicates a fragrant ſmell and an agreeable taſte. Inſtead of opium, which the Arabians do not uſe, they conſtantly chew "kaad," or the buds of a certain tree, which are brought in ſmall boxes from the hills of Yemen. The lower people addicted to intoxication, ſmoke, for this purpoſe, the dried leaves of a ſort of hemp, which raiſes their ſpirits, and throws them into a ſtate in which delightful viſions dance before their imagination. At their meals, they ſquat themſelves upon the ground when they ſit; and as they have no knives nor forks, they uſe their fingers with great dexterity, and eat of all diſhes with the hand. The food of the moſt eminent ſheiks is "pilau," or boiled rice. The Arabs repeat always a ſhort prayer before they ſit down to a meal; "In the name of the moſt merciful God;" and every one when he has done retires, pronouncing, "God be praiſed." As they drink little when they eat, after waſhing they drink cold water and a cup of coffee, which they uſe without either milk or ſugar. In Yemen, however, of which the coffee-plant is a native, the uſe of coffee is rare. The favourite drink of this province is prepared from the huſks of coffee-beans ſlightly waſhed and pounded; it taſtes like tea, and is deemed refreſhing. Intoxicating liquors of various kinds are privately uſed in different parts of Arabia; and they are obtained from the Chriſtians and Jews. The Arabians, in general, are ſober, frugal, and abſtemious. Their uſual articles of food are rice, pulſe, milk, butter, and whipped cream. They ſeldom eat animal food. Of this, mutton is the moſt common; and the Arabians in the deſert uſe it freely. The common people in Arabia have little other food beſides bad bread, made of "durra," by kneading it with camel's milk, oil, butter, or greaſe. Their grain is bruiſed with ſtones, as they have no mills; and in the deſert they bake their cakes on a plate or gridiron, or on live coals, or on camel's dung, where they cover it till it is penetrated by the heat. In the towns, they have ovens like ours, and their bread is of barley meal, in form reſembling our pancakes.

There is a great variety in the national dreſs of the Arabians. Their head-dreſs conſiſts of fifteen caps laid over one another; ſome of which are of linen, and the reſt of thick cloth or cotton. The uppermoſt is one richly embroidered with gold, and ſome ſentence of the Koran; and over all they wrap a large piece of muſlin, ornamented at the ends, and flowing looſe upon the ſhoulders, with ſilk or golden fringes. The Arabs of the common claſs wear only two caps, with the ſaſh careleſsly bound on the head. Some have drawers and a ſhirt; but the greater number have only a piece of linen about their loins, a large girdle, and a piece of cloth upon their ſhoulders; in other reſpects they are naked, having neither ſhoes nor ſtockings. In the highlands, where the weather is colder, the people wear

ſheep ſkins; and in the night, as a ſecurity againſt inſects, they ſleep in ſacks. Perſons of middle rank wear ſandals inſtead of ſhoes. The ordinary dreſs of the Arabs is very ſimple; but they have alſo a ſort of great coat without ſleeves, called "abba," which is ſtill more ſimple. In ſeveral parts of Arabia, the men wear no drawers; but theſe, with a large ſhirt, are the whole dreſs uſed by the women. In ſeveral provinces, they wear different ſorts of veils. All wear rings on their fingers, arms, noſe, and ears. They ſtain their nails red, and their hands and feet of a brownish yellow, with the juice of the alhenna; and they paint the circle of the eyes, and even the eye-laſhes, black, with a preparation of lead ore. The women of Yemen alſo make black punctures in the face, to improve their beauty. Every body, without exception, wears the beard of its natural length; but the Arabs keep their muſtachios very ſhort. The Jews are forbidden the uſe of the turban, uſing inſtead of it a ſmall bonnet; nor are they permitted to dreſs in any colour but blue. The dreſs of the Banians ſettled in Arabia, conſiſts of a red turban of a particular form, a piece of white linen upon the ſhoulders, another about their loins, and ſlippers.

The Arabs are attached to certain cuſtoms, which they inherit from their progenitors, and which they obſerve in common with other oriental nations with which they have no immediate connection; and this circumſtance ſeems to prove that they have been led to them by the nature of their climate. As cleanlineſs is indiſpenſably neceſſary to health, the founders of ſeveral ſects have enjoined various purifications and frequent ablutions as a religious duty; and the Arabians are ſcrupulous in the obſervance of the precepts that enforce them. They not only waſh, bathe, and pare their nails very often, but cut away all hairs from the body. The painful rite of circumciſion, which they adopted from Iſhmael, has been retained under the perſuaſion that it checked the ravages of particular diſeaſes; and hence the practice of circumciſing girls is general in the ſame countries where boys are circumciſed. The diſtinction of meats into allowed and prohibited was a leſſon deduced from experience, teaching that ſuch aliments as have an influence on the phyſical conſtitution, had in like manner a ſecret influence on the moral; and therefore a diſcreet police was authorized to interdict the fleſh of the hog, and other unclean animals, that might at once be prejudicial to the health and to morals. With ſimilar views, Mahomet, and ſome other founders of ſects, have affixed ideas of ſpiritual impurity to the act of touching a dead body.

Polygamy, which was authorized by the example of the patriarchs, has been perpetuated in Arabia; but the Arabians ſeldom avail themſelves of the privilege of marrying four lawful wives, and entertaining at the ſame time any number of unlawful ones. None but rich voluptuaries marry ſo many, and their conduct is blamed by all ſober men. An Arabian, in moderate circumſtances, ſeldom marries more than one wife; and as the huſband is by law obliged to treat his wives ſuitably to their condition, and to diſpenſe his favours among them with perfect equality, the privilege of polygamy is thought rather troubleſome than convenient. Beſides, divorce may be obtained without much difficulty; though the Arabians never exerciſe the right of repudiating a wife, unleſs urged by the ſtrongeſt reaſons, becauſe this is conſidered as diſhonourable, and entails diſgrace on the woman and her relations. Wives are entitled to demand a divorce, when they think themſelves ill uſed by their huſbands. The Arabian women enjoy a great portion of liberty, and often, of power, in their families. Their dowries, and the annual income which they afford, remain at their diſpoſal during marriage; and, in the caſe of divorce, the whole of their own property is reſerved to them. Some travellers have abſurdly ſaid, that the Mahometan wives are all ſlaves, and ſo entirely the property of their huſbands, that they are even inherited by their heirs. This repreſentation confounds ſlaves that have been purchaſed with women of free eſtate, who diſpoſe of themſelves in the Eaſt as they do in Europe; and the erroneous opinion ſeems to have ariſen from the equally miſtaken notion, that fathers in Arabia ſell their daughters to the higheſt bidder. The caſe is ſo much otherwiſe, that every man, in tolerably eaſy circumſtances, inſtead of ſelling his daughter, ſtrives to give her a dowry, which may continue her own property. The marriage is made out by the Cadi, and ſigned in his preſence; and it ſecures to the wife not only her dowry, but alſo a ſeparate maintenance in caſe of a divorce. Many ridiculous ſtories have been related of the teſts of virginity which an Arab expects when he marries a young woman: but moſt of theſe ſtories greatly exaggerate the truth. The Bedouins and the highlanders of Yemen, a rude and almoſt ſavage race, do indeed regard the want of theſe tokens as a mark of diſhonour, and ſend a woman back to her relations, when her chaſtity cannot be thus evinced; but the more civilized inhabitants of the towns ſeldom or never concern themſelves about ſuch trifles. Many ſuperſtitious obſervances reſpecting marriage ſtill prevail in Arabia. The Arabs believe in the virtue of enchantments, and in the art of tying and untying the knots of fate. The miſerable victim of this art addreſſes ſome phyſician, or ſome old woman; for the old women are always ſkilled in ſorcery. The Chriſtians of the Eaſt have ſtill a more certain remedy againſt the effects of witchcraft. They ſay maſſes for the afflicted perſon, and the honour of his cure is always aſcribed to the influence of theſe maſſes. In Arabia there are no eunuchs; and the Arabians abhor the cruel operation which is requiſite to render a man a fit guardian of the chaſtity of a haram.

The characters of nations are very much formed and modified by climate, government, and education. To the firſt of theſe the Arabs owe their vivacity and their diſpoſition to indolence; the ſecond increaſes their ſloth, and gives them a ſpirit of duplicity; and the third is the one principal cauſe of that formal gravity which influences the faculties of their minds, as well as their carriage and exterior aſpect. The mode of education among the Arabs is very different from that of the Europeans. The former ſtrive to haſten the age of maturity, as much as the latter endeavour to retard it. The Arabs, ſays Niebuhr, are never children; but many Europeans continue children all their lives. As ſoon as boys in Arabia leave the Haram, about the age of five or ſix years, they are accuſtomed to think and ſpeak with gravity, and to paſs whole days in the company of either fathers or preceptors. As muſic and dancing are eſteemed indecent among the Arabs, women are alſo excluded from all aſſemblies, and the uſe of ſtrong drinks is forbidden. The young Arabs thus become penſive and ſerious even in infancy. Nevertheleſs they have in reality a great degree of vivacity, which varies in the different provinces. This vivacity makes them fond of company and of large aſſemblies, notwithſtanding their ſeeming ſerioufneſs. Several travellers accuſe the Arabs of being cheats, thieves, and hypocrites. An arbitrary government, which impoveriſhes its ſubjects by extortion, can, indeed, have no favourable influence upon the probity of the nation, yet Niebuhr avers, from his own experience, that ſuch accuſations have been exaggerated beyond the facts. The irritable and vindictive ſpirit of the Arabians has been already noticed.

The Arabs, proud of their remote origin, have always made

made their genealogies a ſubject of ſerious ſtudy; and as their anceſtors could neither read nor write, they were unable to tranſmit to them the records of their deſcent; and for the ſame reaſon, it is impoſſible to convict them of error. For about thirty-ſix centuries, however, the filiations have been depoſited in the public archives. This cuſtom, which is religiouſly obſerved, is ſaid to have been introduced by Adnan, one of the anceſtors of Mahomet. In ſhort, a people ſo little numerous, that has not contracted any foreign alliance, and which, in its ſolitary leiſure, is always occupied about the intereſts of its vanity, may eaſily have preſerved the remembrance of its anceſtors, and the ſeries of its generations. All thoſe petty princes, who govern in Arabia, are very proud of their birth, and this pride may be aſcribed to the independence and ſovereign power which their families have enjoyed from time immemorial. The nobility, who are free, or dependent only on the chiefs of their tribes, are infected with the ſame vanity. What adds to the high conceit which the Bedouins have of their nobility is its being incommunicable, and not to be transferred by any ſovereign prince, nor even by the caliphs. The deſcendants of Mahomet are thoſe who hold the firſt rank among the great families in Arabia. Theſe deſcendants have received different titles; in Arabia, they are called SHERIFFS or SEJIDS; in the Mahometan countries ſituate northward, *Sheriffs* or *Emirs*; and in the Arabian colonies in the eaſt, ſimply *Sejids*. Of all the titles in uſe among the Arabian nobility, the moſt ancient and moſt common is that of SCHEICK or SHEIK. Other families that are anxious to preſerve their genealogies, are thoſe that are deſcended from the tribe of Koreiſh, and who have held, by hereditary right, certain employments ſince the days of Mahomet and his ſucceſſors. The Arabs ſeem ſtill to be vain of thoſe long names which are ſo diſguſting in their hiſtory; but their length of names and titles is occaſioned by the difficulty of diſtinguiſhing individuals among a nation that knows not the uſe of family names.

Although in Arabia there are neither numerous academies nor men of profound learning, yet the Arabian youth are not entirely neglected. In the cities, many of the loweſt rank are taught both to read and write; and the ſame qualifications are alſo common among the ſheiks of the deſert, and in Egypt. Perſons of diſtinction retain preceptors in their families to inſtruct their children and young ſlaves. In almoſt every moſque is a ſchool, having a foundation for the ſupport of teachers, and the entertainment and inſtruction of poor ſcholars. In great towns, there are likewiſe other ſchools, to which people of middle rank ſend their children to receive religious inſtruction, and to learn reading, writing, and arithmetic. There are no girls taught in theſe ſchools, but they are privately taught by women. Beſides theſe ſmall ſchools, there are more conſiderable ſeminaries of education in ſome of the great towns of Arabia. There are colleges in which the ſciences of aſtronomy, aſtrology, philoſophy, and medicine are taught; but the Arabians, for want of books and good maſters, make little progreſs, and their attainments are very partial and imperfect. In the dominions of the Imam, there have been for a long time two famous academies; one at Zebid for Sonnites, and the other at Damar for the Zeidites. The chief employments of men of letters among the Arabians are the interpretation of the Koran, and the ſtudy of the ancient hiſtory of the Mahometans.

Some ſeeds of the ſciences ſeem to have ſprung up in Arabia before they were known to other nations. They were the firſt who ſtudied the laws of the heavenly bodies. A roaming people, in a region lying beneath a ſerene and cloudleſs ſky, ſolely employed in tending their flocks, either in the open plains, or on the tops of mountains, muſt, at an early period, have acquired ſome knowledge of the planets and the ſtars; and it affords a preſumption of their having been among the firſt aſtronomers, that the names which denote the different conſtellations, are taken from the different ſpecies of animals known in thoſe parts, and many of the ſtars are called by their names. Their knowledge, however, was neither very accurate nor very extenſive. It was derived from long obſervation and experience, and not from any regular ſtudy or aſtronomical principles and rules. The Arabians, as well as the Indians, chiefly reſtricted themſelves to the obſervation of the fixed ſtars, and in this they differed from other nations, whoſe obſervations were almoſt confined to the planets; and they foretold their effects from their influences, not from their nature; and hence, it hath been ſaid, aroſe the difference between the idolatry of the Greeks and Chaldæans, who chiefly worſhipped the planets; and that of the Indians, who worſhipped the fixed ſtars. The ſtars by which they moſt uſually obſerved the weather, were thoſe they called "Anwâ," or houſes of the moon, which were twenty-eight in number, and divided the zodiac into ſo many parts, through each of which the moon paſſes every night; and from their riſing and ſetting, the Arabs, by long experience, obſerved the changes that happened in the air; and at length they were led to aſcribe a divine power to them, ſaying that their rain was from ſuch and ſuch a ſtar, which expreſſion Mahomet condemned and prohibited. The old Arabians, therefore, ſeem to have made no farther progreſs in aſtronomy, which ſcience they afterwards cultivated with ſo much ſucceſs and applauſe, than to obſerve the influence of the ſtars on the weather, and to give them names: ſo that they became aſtrologers and magicians, rather than aſtronomers. The infancy of ſcience is generally infected with an inclination to the marvellous; accordingly, in Arabia, pretended ſages aroſe who boaſted of underſtanding the language of birds; and others, profaning the name and office of prophet, retired into caverns and deſerts, where, after long faſtings and painful macerations to gain the favour of the deity, they were gratified with viſions, which they ſolemnly related to the multitude, who could not diſcern the impoſtor concealed under the figure of a pale and haggard being, often covered with wounds and ulcers which they fondly and fooliſhly imagined to be the marks of ſanctity. It was likewiſe in that part of Arabia, which borders on Egypt, that the ſwarms of adventurers ſtarted up, who, wandering on the globe, without a native home, under the appellation of gypſies and fortune-tellers, procure a wretched livelihood by their tricks from the ſtupid vulgar. It was with arrows, divinity rods, philters, amulets, and charms, that theſe vagabond impoſtors, by pronouncing certain myſterious words, practiſed their magical operations, and impoſed on the credulity of mankind in an *age of ignorance*: ſuch was the Arabian expreſſion for the period that preceded the time of Mahomet. The Arabians, even in a later period, deſtitute of books and inſtruments, have made little progreſs in aſtronomy. Although it is known to all men of ſenſe in Arabia, that eclipſes are owing to the interception of one heavenly body by the interpoſition of another, yet the multitude ſtill maintain the abſurd opinion, that a huge fiſh purſues the planet which is eclipſed; and women and children aſcend the roofs of their houſes, and make a hideous noiſe with brazen kettles and baſons, in order to chaſe away the fiſh. The Arabians, indeed, at this time, ſeem to ſtudy aſtronomy ſolely with a view to their ſucceſs in the cultivation of aſtrology, which is a ſcience highly eſteemed, and very lucrative, in the eaſt. The occult ſciences, as they are called, are in high eſtimation.

tion among the Arabians. One of theſe is denominated "Ism Allah," or the ſcience of the name of God, which is the moſt ſublime of all: for God, they ſay, is the lock, and Mahomet the key; and conſequently none but Muſſulmans can acquire it. It enables its poſſeſſor to diſcover what is paſſing in the moſt diſtant countries, to make himſelf familiar with genii, and to oblige them to obey his pleaſure; to diſpoſe of the winds and ſeaſons as he chuſes; and to cure the bites of ſerpents, and many other diſeaſes and infirmities. To this ſcience, the abſurdity of which is evident from the mere mention of it, belongs alſo the art of diſcovering hidden treaſure; and in this the Magrebins, or Arabians of Barbary, are known to excel. The art of procuring ſublime viſions is alſo known to the Arabians. The ſecond of the occult ſciences, called "Simia," teaches juggling tricks, and this is practiſed even by ſome orders of the derviſes to prove the truth of their religion and the ſanctity of the founder of their order. The ſcience of "Kurra" teaches a perſon to compoſe billets which ſecure him that wears them from the power of enchantment, and from all ſorts of accidents. Theſe billets are incloſed in ſmall purſes of ſkin, and worn on the head, arm, or breaſt; and bound for particular purpoſes upon the necks of horſes or aſſes. The ſcience of "Ramle" is the art of fortune-telling; and that of ſorcery is called "Sihhr, which is applied to many infamous purpoſes. Alchemy is ſtill in vogue among the Arabians.

The grave and ſerious ſciences that depend on calculations and reaſoning could not make any great progreſs among a people governed by an imagination always heated, and almoſt incapable of direction and reſtraint. Theſe ſciences, baniſhed from the climate bordering on the tropic, have been replaced by the agreeable arts that delight in the irregularities and diſorders which aſtoniſh the mind, and captivate the heart. In Arabia we find the cradle of poetry and eloquence, which had ſcarcely appeared before they arrived at a ſudden maturity. The Arabs are all poets and orators: for an account of the poetry of the Arabs, ſee ARABIAN *Poetry*. Among the ancient Arabs, eloquence was an accompliſhment for which they valued themſelves. Their orations were of two ſorts, metrical and proſaic: the one being compared to pearls ſtrung, the other to looſe ones. They attempted to excel in both; and whoever was able, in an aſſembly, to perſuade the people to a great enterpriſe, or to diſſuade them from a dangerous one, or gave them any other ſalutary advice, was honoured with the title of "Khatab," or orator, which is now given to the Mahometan preachers. They purſued a method very different from that of the Greek and Roman orators; their ſentences being like looſe gems, without connection; ſo that this ſort of compoſition ſtruck the audience chiefly by the fulneſs of the periods, the elegance of the expreſſion, and the acuteneſs of the proverbial ſayings; and ſo confident were they of their pre-eminence in this way, that they would not allow any nation to underſtand the art of ſpeaking in public, except themſelves and the Perſians; and the Perſians were reckoned, in that reſpect, ſays Pococke (Spec. 161.), much inferior to the Arabians. In Arabia, eloquence is not now much cultivated. Occaſions for the exerciſe of it very rarely occur. The Arabians, however, tell us that they have great orators in their moſques. The only theatres for the exerciſe of profane eloquence are the coffee-houſes, which are commonly large halls, having their floors ſpread with ſtraw mats, and illuminated at night by a multitude of lamps. The gueſts are ſerved with pipes and a cup of coffee. They are alſo amuſed by readers and orators, who are commonly "Mullahs," or poor ſcholars, and who either read or repeat paſſages from ſome favourite authors, or recite tales and fables of their own invention. When the orator has ended, he obtains a voluntary contribution from his hearers.

It was Arabia that gave birth to the Apologue, a method of inſtruction, which, in all ages, has been in uſe among the oriental nations, who love to conceal under a myſterious veil the moſt trivial ſubjects, in order to give them an air of dignity. The Arabs eſpecially have diſplayed their ſubtilty in the ſolution of ænigmas. They boaſt of having produced a Lokman, ſurnamed "Al Hakim," i. e. the wiſe or the ſage, whoſe features bear too great a reſemblance to thoſe of *Æſop*, to admit a doubt concerning the identity of their perſons. Some, however, have thought it more likely that the compiler of theſe fables had ſeen thoſe of *Æſop*, and choſe to inſert ſome of them in his own collection. This celebrated fabuliſt has ſerved as a model to all thoſe who have come after him; and the Arabians have thus, guided by their own genius alone, drawn from its native funds thoſe riches which others have reciprocally borrowed of their neighbours. For the Arabic characters, chronology, language, muſic, philoſophy, phyſic, poetry, and religion; ſee the following articles.

The mechanical arts could not well be brought to any conſiderable degree of perfection among a people who knew but few wants. As their productions are leſs ſplendid than uſeful, it is rather in towns than in the boſom of deſerts that they grow up, becauſe neceſſity is the parent of induſtry. The Arabs, entirely occupied in warring againſt man and beaſt, excelled only in the manufacture of ſcymetars, bows and arrows, and darts; nor, as it has been already obſerved, have they made any great progreſs in modern times. Their cotton ſtuffs were never greatly eſteemed; and few of their other manufactures are the produce of the ſkill and labour of native Arabians. Sale's Koran Pref. Anc. Un. Hiſt. vol. xvi. p. 242—327. Aſiatic Reſearches, vol. ii. p. 1, &c. Niebuhr's Travels through Arabia, &c. paſſim. Pinkerton's Mod. Geog. vol. ii. p. 405—430.

ARABIC, or ARABIAN, ſomething that relates to Arabia, or the Arabs.

ARABIC *Characters* or *Figures*, are the numerical characters commonly made uſe of in arithmetical computations; and they ſtood contradiſtinguiſhed from the Roman. Concerning the origin of theſe figures, ſee FIGURES.

ARABIC *Chronology*. The Arabs divided their year formerly, as is now the caſe, into twelve months, to which they gave names; but an anceſtor of Mahomet gave them new names deduced from certain events happening in every month; and the old ones were, by the authority of Mahomet, totally aboliſhed in every part of Arabia. The year was alſo anciently divided into ſix ſeaſons, viz. 1. The ſeaſon of herbs and flowers; 2. Summer; 3. The hot ſeaſon; 4. The ſeaſon of fruits; 5. Autumn; 6. Winter. The ancient Arab year was luniſolar; but the cuſtom of intercalary months, in order to make the courſe of the moon agree with that of the ſun, was aboliſhed by Mahomet; and the learned now reckon by months correſponding to the courſe of the ſolar year, and conſiſting of the ſame number of days with ours. See YEAR. The Arabs, like the Egyptians, Indians, Greeks, and Romans, anciently computed their time by weeks, or periods of ſeven days, as we learn from a very ancient poet, who died many ages before the publication of the Koran. The Arabian day conſiſts of twenty-four hours, and laſts from ſun-ſetting to ſun-riſing; ſo that their hours are of uncertain duration, and vary with the length of the natural day, or the time during which the ſun is above the horizon. The different parts of the day, as they have no preciſe idea of the duration of their hours, are diſtinguiſhed by vague and uncertain denominations.

ARABIAN *Gulf.* See RED *Sea.*

ARABIC *gum, gum Senegal, gummi Arabicum, Acaciæ veræ ſuccus.* This valuable article of commerce is a very pure concrete mucilage, which exudes from the *Mimoſa Nilotica*, or *Acacia Vera*, a tree that grows abundantly on the ſandy ſoil of Egypt and Arabia, on the banks of the rivers Senegal and Niger, near the Cape of Good Hope, and in ſeveral other parts of Africa. The fruit of the ſame tree alſo yields another mucilaginous juice, but at the ſame time conſiderably aſtringent, and of a brown colour, which has been already mentioned under the article ACACIA.

The pureſt gum arabic is brought in caravans to Cairo by the Arabs of the country around mount Tor and Sinai, who bring it from this diſtance on the backs of camels, ſewn up in bags of ſkin, and often adulterated with ſand and other matters.

The ſettlement at Senegal is another great mart for this commodity; and the gum, which bears the name of this place, is generally in larger maſſes, and of a yelloviſh or amber colour, but it does not ſenſibly differ from the Egyptian gum in any of its properties.

This mucilage exudes ſpontaneouſly in a liquid ſtate from the trunk and boughs of the tree, and hardens by contact with the air and the heat of the ſun. It begins to flow about December, immediately after the rainy ſeaſon, near the flowering time of the tree. Afterwards as the weather becomes hotter, inciſions are made through the bark, to aſſiſt the tranſudation of the juice.

The beſt gum arabic is brought over in oblong or roundiſh lumps ſeldom bigger than a walnut, nearly tranſparent, white, or of a pale yellow, wrinkled, and of a ſhining fracture. It is ſo brittle as eaſily to be reduced to a fine powder. It is alſo perfectly inſipid and inodorous, diſſolving in the mouth into a clammy liquid.

As the gum arabic is the moſt perfect ſpecimen of a *gum* MUCILAGE, all the properties which we ſhall now mention to belong to it, may be conſidered as deſcriptive of this whole claſs of chemical ſubſtances.

The habitudes of this gum with water affords one of its moſt ſtriking characters. When added to water, either cold or hot, and not leſs than twice its weight, it diſſolves ſlowly, and converts the whole into a very ſlimy viſcid liquor. Heat does not coagulate this ſolution; a gentle evaporation will expel the water and leave the gum as ſolid and brittle as before, equally reſoluble in water, and unaltered in any of its properties. In this reſpect it differs in a ſtriking manner from moſt other vegetable ſubſtances.

It is entirely inſoluble in ardent ſpirit and in oils; alcohol indeed coagulates the watery ſolution, by uniting with the water, and thus precipitating the gum.

Gum mucilage is but little inflammable, when put into the fire it ſwells and grows puffy, and ſoon is reduced into a voluminous coal. Diſtilled *per ſe* in a retort, it firſt yields a limpid water, then an acid (which was at one time ſuppoſed to be peculiar, and was termed the PYRO-MUCOUS), and afterwards a thick empyreumatic oil, and a little volatile alkali, like all the diſtillations of vegetable matter.

The pure gum mucilages, when dry and ſolid, will remain unchanged for any length of time: the watery ſolution is likewiſe the leaſt alterable of all the vegetable liquids; but by long keeping it becomes ſour and grows mouldy on its ſurface, if it is prevented from drying up by the evaporation of its water.

When nitric acid is diſtilled off gum arabic, or any other of the gum mucilages, a peculiar acid is formed, which appears as a white powder of difficult ſolution, and has been termed the MUCOUS *acid*. It is the ſame with the SACCHOLACTIC *acid* of Scheele.

The ſpecific gravity of the ſolid mucilages, according to Fourcroy, is from 1.3 to 1.48.

The gum which exudes in conſiderable abundance in our own climates from the apricot, plum and cherry trees, bears the ſtrongeſt reſemblance to the gum arabic in all its properties, only it is generally of a yellower colour, not ſo brittle, and forms a mucilage of ſomewhat leſs tenacity.

Gum arabic is employed for a number of valuable purpoſes both in the arts and in medicine. It may be uſed either to ſuſpend in water a number of ſubſtances which could not otherwiſe be kept equally diffuſed in this liquid, or as a means of glueing together a variety of articles of light work; and as a clean colourleſs cement perfectly eaſy of application, and which may be prepared in a few minutes, it is peculiarly valuable. Gum Senegal is uſed in very large quantities by the calico printers, to mix the colours and the mordants in block printing; gum arabic forms the baſis of crayons, and the cakes of water colours, and of ſeveral liquid colours, of which common writing ink is a familiar example.

All the gum mucilages are conſiderably nutritious; in the countries where the gum arabic and ſenegal grow native, it forms an important article of food, either by itſelf, or mixed with milk, rice, &c. Haſſelquiſt relates an inſtance of the travellers of a large caravan, who had conſumed all their proviſions in the middle of their journey, preſerving themſelves from famine by the gum arabic which they were bringing as merchandiſe.

In medicine, this gum is employed, either by itſelf, or as a vehicle for other ſubſtances. Taken internally, it has been ſuppoſed to be incraſſating and obtunding; qualities, however, which probably have little foundation in fact and real obſervation. As it is ſimply mucilaginous, it will certainly in ſome degree protect the parts with which it comes in contact from the effect of any acrid and ſtimulating ſubſtances; and thus it is of uſe in quieting the tickling cough which ariſes from any acrimony in the fauces, and in ſome caſes it is of material ſervice in diarrhœa and dyſentery. It is given either in powder, or diſſolved in water, almond milk, &c.; and one ounce of the gum is ſufficient to give a conſiderable thickneſs to a pint of liquid, without making it too ſlimy to drink with pleaſure.

In pharmacy, gum arabic poſſeſſes the valuable property of rendering miſcible with water the balſams, reſins, fixed oils, and ſimilar ſubſtances, whereby they may be very commodiouſly taken in a liquid form. One part of gum arabic previouſly ſoftened with water (or an equivalent quantity of the mucilage), will thus render four parts of balſam or oil ſoluble in any watery liquid, and will form an uniform emulſion. Even mercury may be thus ſuſpended in water by being previouſly rubbed for a conſiderable time with gum arabic, which preparation is called, from the inventor, *Plenk's ſolution.* The corroſive acids, when taken internally, are beſt diluted with a ſolution of this gum.

The pharmaceutical preparations, in which gum arabic enters as a principal ingredient, are the *Mucilago gummi Arabici*, a ſimple ſolution of one part of the gum in two parts of boiling water; the *Emulſio Arabica Ph. Edin.* which is gum arabic diſſolved in almond milk; the *Trochiſci Arabici*, with gum arabic, ſtarch and ſugar; and the *Pulvis tragacanthæ compoſitus Ph. Lond.* a powder made of tragacanth, gum arabic, ſtarch, and ſugar. *Murray Appar. Med. Fourcroy, &c.*

ARABIC *language* is derived from the ſame ſtock with the Hebrew, Syriac, and Chaldaic tongues. Its near affinity to the Hebrew is almoſt univerſally acknowledged, and ſome have even maintained, that it was not only a ſiſter dialect of

this

this language, but in its original and unſophiſticated ſtate, pure Hebrew. Of courſe it muſt unqueſtionably be one of the moſt ancient languages in the world. The Arabs, by whom it was ſpoken, having inhabited the country now poſſeſſed by their deſcendants almoſt from the deluge, without intermixing with other nations, or being ſubjugated by any foreign power, their language muſt have been formed ſoon after, if not at the confuſion of Babel. The Arabian writers aſcribe it to Joktan, the ſon of Eber, and its name to Yarab, the ſon of Joktan or Kahtan, ſuppoſed to be the ſame that is mentioned, Gen. x. 26. This opinion is adopted by many learned moderns. See Hunt. Orat. de Antiq. et Eleg. Ling. Arab. p. 1. Pococke Spec. Hiſt. Arab. p. 29. Bochart in Geog. Sacr. c. ii. c. 15. Golius, in Lex. Arab. Schultens, in Orig. Hebr. The two principal dialects of this language were, that ſpoken by the Hamyarites and other genuine Arabs, and that of the Koreiſh in which Mahomet wrote the Koran. The Hamyaritic dialect is ſuppoſed to have approached nearer to the purity of the Syriac, and conſequently to have been more remote from the true genius of the Arabic than that of any other tribe. The dialect of the Koreiſh, uſually termed the pure and ancient Arabic, and in the Koran the perſpicuous and clear Arabic, is referred to Iſhmael as its author, who, according to the oriental writers, firſt ſpoke it; and, as Dr. Pococke apprehends, after he had contracted a matrimonial alliance with the family of Jorham, formed it of their language and the original Hebrew. This latter dialect of the Koreiſh was conceived to conſiſt chiefly of the Hebrew; but its politeneſs and elegance ſhould rather be attributed to their having the cuſtody of the Caaba and dwelling in Mecca, the centre of Arabia; for by their ſituation, they had leſs intercourſe with foreigners, who might have corrupted the language, and were more frequented by the Arabs of the whole circumjacent country, who reſorted to Mecca on a religious account, and for the accommodation of their differences; from their diſcourſe and verſes the Koreiſh took the words and phraſes which they judged to be moſt pure and elegant, and thus the beauties of the whole tongue were transfuſed into this dialect. Other circumſtances alſo contributed to the improvement of this dialect. Of the pilgrims who reſorted to Mecca, many were of the firſt rank, and poſſeſſed all the ſcience of their country and age. In the great feaſts which were held during their ſtay in this city, a variety of amuſements occupied their attention, and literary compoſitions, which called forth an emulation to excel, formed ſome of their principal entertainments on theſe occaſions. Hence the dialect of the Koreiſh, the nobleſt and the moſt learned of all the weſtern Arabs, became the pureſt, the richeſt, and the moſt polite of all the Arabian idioms; and about the beginning of the ſeventh century, it was the grand language of Arabia; the other dialects being either gradually diſuſed, or incorporated with it. By this union, and by commercial intercourſe with Alexandria, the ſeat of learning, and with other places where they might obtain an acquaintance with Grecian literature, the Arabic language acquired a fecundity and alſo an elegance, in a great degree peculiar to itſelf.

The Arabs are ſo extravagant in the commendations of their language, that they not only repreſent it as peculiarly harmonious and expreſſive, but they alſo ſay, that it is ſo copious and comprehenſive, that no uninſpired perſon can be a perfect maſter of it in its whole extent. To this purpoſe it has been alleged, that this language has 500 names for a lion, 200 for a ſerpent, more than 80 for honey, and above 1000 for a ſword. Nevertheleſs, the Arabs believe that the greateſt part of their language has been loſt; and this opinion is not very improbable, when we conſider how lately the art of writing was introduced into Arabia. To this purpoſe Dr. Robertſon (ubi infra) has obſerved, that the genius of the Arabic language reſembles that of the Hebrew; as all its primary or radical words are compoſed of different combinations of conſonants by *triads*, ſo that the various combinations and copulations of three letters form more than 10,000 roots, without including thoſe which may ariſe from the concourſe of guttural letters. To this quality of the language he partly aſcribes that ſtability or permanence which this language poſſeſſes in common with the Hebrew, by reaſon of which it has retained its purity and integrity for ſo many thouſand years, without thoſe changes and fluctuations to which other tongues have been ſubject. Sir William Jones alſo obſerves (Aſiatic Reſearches, vol. ii. p. 61), that as the Arab roots are univerſally trilateral, the compoſition of the twenty-eight Arabian letters would give 22,000 elements of the language; and this circumſtance demonſtrates its ſurpriſing extent; for although great numbers of its roots are confeſſedly loſt, and ſome perhaps were never in uſe, yet if we ſuppoſe 10,000 of them, without reckoning quadriliterals, to exiſt, and each of them to admit only five variations, one with another, in forming derivative nouns, even then a perfect Arabic dictionary ought to contain 50,000 words, each of which may receive a multitude of changes by the rules of grammar. To this circumſtance it is probably owing, that the Arabic, and alſo all its ſiſter dialects, abhor the compoſitions of words, and invariably expreſs any complex ideas by circumlocution; and this genius of its language has been one ſource of its copiouſneſs and extent. And yet, notwithſtanding the variety of its words, in which it is far ſuperior to the Greek and Latin, and indeed to moſt other languages ancient and modern, it is equally diſtinguiſhed by its perſpicuity and preciſion. This excellence of the ancient Arabic, this union of brevity and variety, by which it is able to expreſs with clearneſs and energy what could not be deſcribed in other tongues without hideous circumlocutions, is particularly mentioned and illuſtrated, among other diſtinguiſhing qualities of this language, by the learned Pococke in his "Oration on the Arabic language."

Dr. Robertſon has cited an appoſite paſſage to this effect, which is here ſubjoined for the ſatisfaction of the curious and learned reader. "Neque in nullâ certè laudis parte, mira illa (inquit doctiſſimus Pocockius), quâ non ſolum verborum in ſignificando perſpicuitati, ſed in prolatione elegantiæ et dulcedini caverunt, ſedulitas; quâque non ſolum accuratâ inter literas et ſignificatâ proportione, ſenſus vel intenſioni vel remiſſioni, prout res poſtulaverit, literarum appoſitione, ſubductione, vel juxta organorum ratione, proſpexerunt; ſed et nè quid delicatulis auribus ingratum, nè quid horridum aut ασυμφωνον reperiatur, effecerunt. Hoc in genere eſt, quod nuſpiam in verbo aliquo, genuinæ apud Arabes originis, concurrant, non intercedente vocalis alicujus motione, conſonantes, cum vel tres vel plures, aliis in linguis frequenter collidantur. Immo neque, ſi adſint, quæ aſperitati remedio ſint, vocales, quaſlibet tamen temere committunt conſonantes: ſed ſi ita rei natura poſtulat, ut concurrere debeant illæ, quæ ſe invicem ſine aſperitatis alicujus inductione conſequi, et inter ſe connecti non poſſint, illi vel ſitus vel literarum mutatione, eas abjiciendo, inſerendo, emolliendo, aliiſve quibus poſſint modis, remedia quærunt; adeo ab omni, quod vel abſonum vel diſſonum eſt, abhorrent. Quod ſi nobis ſecus videatur, et aſperius ſonare ab Arabibus prolata, illud auribus noſtris et uſu, non linguæ imputandum; nec mollius illis ſonare noſtra, quam eorum nobis cenſendum. Quin et gutturalium, quæ nobis

nobis maxima aſperitatis cauſa videntur, abſentiam, ut magnum in linguâ Græcâ defectum, arguunt Arabes." The learned Dr. Hunt, late profeſſor of the Hebrew and Arabic languages at Oxford (in his Orat. de Ling. Arab. p. 17.), expreſſes his opinion of the excellencies of this language much to the ſame purpoſe: "Nuſquam mihi credite (inquit), auribus magis parcitur, quam in Arabiâ; nulla lingua a κακοφωνια omni alienior, quam Arabica. Quanquam enim nonnullæ ejus literæ minùs fortaſſe ſuavitèr, immo duriùs etiam ſonuerint, ita tamen Arabes eas temperârunt, ut aſperas cum lenibus, duras cum mollibus, graves cum acutis, miſcendo, voces inde non minùs auditu jucundas, quam pronunciatu faciles confecerint, totique ſermoni miram ſonorum tam dulcedinem quam varietatem addiderint. Quod quidem orationis modulandæ ſtudium in Corano adeo manifeſtum eſt, ut primi Iſlamiſmi oppugnatores eum librum magicâ ideò arte ſcriptum dixerint. Nec auribus tantum gratus eſt Arabiſmus, ſed et animi conceptibus exprimendis aptus, ſonos ſuos ſententiis ſemper accommodans, et felici verborum junctură ipſam rerum naturam depingens." It is needleſs to multiply teſtimonies of a ſimilar kind, extracted from the writings of Bochart, Erpenius, Golius, Schultens, &c.

Some have maintained that the Arabic tongue deſcended from the deluge to the time of Mahomet in its original purity; but that it ſhould remain altogether unſophiſticated for a period of more than 3000 years, is not very probable. Whatever care might have been taken of it, however tenacious the Arabs were of their ancient cuſtoms and inſtitutions, and however favourable their ſituation might have been for preſerving the language unmixed, it is not likely, nor indeed can we conceive it to be poſſible, that it ſhould have eſcaped a variety of changes in that long period; or that it ſhould have not acquired in its progreſs downwards from the mere lapſe of time, from neceſſary or voluntary intercourſe with diſtant and neighbouring nations, and from a variety of other cauſes, diminutions or additions, or intermixtures, which render the words, idioms, and phraſeology of the Koran very different from the Hebrew, Syriac, or Chaldaic, to either of which the ancient Arabic muſt have been nearly allied. But theſe changes affected merely or principally the dialects of the language, whilſt the ſubſtance or marrow of it, as Schultens calls it, remained untouched; and comprehended the letters, vowels, and pronunciation. Dr. Robertſon, profeſſor of oriental languages in the univerſity of Edinburgh, in an elaborate diſſertation, "De Origine, Antiquitate, Converſatione, Indole, et Utilitate Linguæ Arabicæ," prefixed to his "Clavis Pentateuchi," is an able and zealous advocate for the unſophiſticated purity of the ancient Arabic; inſomuch that it did not degenerate from its original purity in the ſame manner as the Spaniſh, Italian, and French dialects have degenerated from the Latin ſtock. This opinion is ſanctioned by the authority of the learned Schultens, in his Orig. Heb. vol. ii. p. 20, 21. Orat. Ling. Arab. p. 28. and by ſeveral others, who have been beſt acquainted with the ſtructure of the Arabic language, and with the hiſtory of the ancient Arabs. Without deviating into the unfounded extreme of Hutchinſon, who aſcribes a comparatively modern origin to this language, and traces it no higher than the age of Mahomet, we may allow that ſuch changes as have been already mentioned might have been introduced into it, without diſputing its antiquity, or upon the whole its uncorrupted ſtate for many ages previous to the time of Mahomet. This celebrated impoſtor indeed makes his boaſt, that the language of the Koran was the ſame, with reſpect to its purity and perfection, with that which was anciently uſed by Abraham and Iſhmael. Dr. Robertſon (ubi ſupra) maintains, that the Arabic language uſed by Mahomet was the ſame with that of the Joktanites and Iſhmaelites; and, in ſupport of this opinion, he refers to ſeven poems written before his time, and ſuſpended in the temple of Mecca, intitled "Moallekat," and ſtill extant at Paris and Leyden; and alſo to ancient monuments found near Aden in Arabia Felix, of which an account was publiſhed by Schultens in his "Monumenta Vetuſtiora Arabiæ," 4to. Leyden, 1740.

The learned Hyde is alſo an advocate for the affinity of the Arabic to the Hebrew, and alſo for its permanent purity. To this purpoſe he ſays (Diſſert. vol. ii. p. 454, &c.) that the Arabic is more pure and unmixed than any other, allowing merely for ſome Perſian medical terms, and for a few Latin words which it acquired by means of the wars and negotiations between the Arabians and Romans. In other reſpects, he ſays, it is pure and free from mixture; and this he aſcribes partly to the number of books and writers who preſerved it entire, partly to the cultivation of it by the Arabs, who were devoted to poetry and eloquence, and partly alſo to the deſert, inacceſſible, and unſubdued country which they inhabited.

Since the age of Mahomet, it is an acknowledged fact, that all the dialects of the Arabic have been greatly corrupted, ſo that the language in which the Koran was written is become a dead language, and ſtudied in the colleges of Arabia juſt as the European Chriſtians acquire the Hebrew, Greek, and Latin. It is not eaſy to conceive how the identity and purity of a language could be preſerved for many ages among a people who had no written characters. Among the Hamyarites or Homerites, who for many centuries had poſſeſſion of the principal part of Arabia, the art of writing ſeems, indeed, to have been known at a very early period. Their character was perplexed, the letters not being diſtinctly ſeparated; and from the mutual connection and dependence of the letters and their ſeveral parts, it was denominated "Al Moſnad." But this alphabet was neither publickly taught, nor ſuffered to be uſed without permiſſion. It correſponded in the number and order of the letters to the Hebrew alphabet, and was called "Abgad Hevez," from the firſt Hebrew letters in their natural order, viz. אבגדהון. According to Chardin (vol. iii. p. 54.), the firſt word is formed by the letters, A, B, G, D, which were formerly the firſt of the Arabic language, as they are ſtill of the Hebrew. Theſe, according to this learned traveller, were the ancient characters of the Arabs, and differed from the Cufic characters which were afterwards introduced; and he is of opinion that they were furniſhed with vowel points. Some ancient monuments are ſaid to be ſtill remaining of this character, which Pococke apprehends to have been the rude Chaldaic in its unimproved and unpoliſhed ſtate: To theſe Job is ſuppoſed to refer, ch. xix. v. 23, 24; and Ebn Haſhem relates that an inſcription in this old Arabic character was found in Yemen, as ancient as the time of Joſeph. Theſe traditions may have led ſome authors to conclude, that the Arabians were the inventors of letters; and Sir Iſaac Newton (Chronology, Oper. vol. v. p. 155. Ed. Horſley) ſuppoſes that Moſes learned the alphabet from the Midianites, who were Arabians.

The Koreiſhites and other Arabs, ſome Jews and Chriſtians excepted who were called the people of the book, were for many ages ignorant of the art of writing, and do not ſeem to have acquired it till the ſixth century. Moramer Ebn Morra of Anbar, a city of Irak, who lived not many years before Mahomet, was the inventor of the preſent Arabic character, which Baſhar the Kendian is ſaid to have learned from thoſe of Anbar, and to have introduced at Mecca among the Koreiſhites, a little while before the inſtitution of Mahometaniſm. The letters of Moramer

were different from the Hamyaritic; and though far from being either convenient or beautiful, they were long used by the Arabs. They were denominated Cufic from Cufa, a city of Irak; and in this character the Koran was firſt written. Theſe letters are alſo uſed occaſionally, at this day, by the Arabs for the titles of books and public inſcriptions. The more elegant and expeditious character that is now uſed, was firſt formed from the Cufic by Abuali Ebn Moklah, vizier to the caliph of Bagdad, about 300 years after Mahomet, and perfected by Ali Ebn Bowab, who died in the year of the Hegira 413, A. D. 1022. Herbelot, Sale, and Dr. Hunt inform us, that the perſon, who completed and reduced it to the form in which it now exiſts in ſome of the moſt beautiful copies of the Koran, was Yakut Al Moſtaſemi, the laſt of the caliphs of the family of Abbas, a little after the year of the Hegira 640, A. D. 1242; for which reaſon he obtained the appellation of "Al Khattat," or the ſcribe.

Concerning the æra of the invention of the Arabic vowel points, there has been a difference of opinion among the learned. Hottinger (Tract. Philolog. p. 400. 4to. Tiguri, 1659) maintains and adduces teſtimonies from the Arabian writers to prove, that vowels were in uſe from the moſt ancient times. But they are not now the ſame as they were formerly. A ſingle point, in the moſt ancient copies of the Koran, denoted different vowels, according to its poſition above, below, or within the letter. Schultens (Clav. Dialect. p. 323, &c.), ſpeaking of the improvement of the Arabian alphabet in the 10th century by Ebn Moklah, ſays, that its form, at this time, underwent a change; and that its former clumſy embarraſſed character was made to give way to the poliſhed, eaſy, and expeditious type. Regarding this expedition alone, the author of the invention left very few vowel characters; and as the Hebrew mode of writing admits five long ones and five ſhort ones, in different ſhapes, he taught how to expreſs all the vowels, both long and ſhort, agreeably to the genius of the language, by three, or rather by two, ſmall points, without any danger of miſtake; an abbreviation truly admirable, and worthy of being recorded! For by placing a ſmall line above ـَ he expreſſed the ſounds of *a* and *e*, and by placing the ſame below, ـِ he meant to expreſs *i* only. To the other ſhort ones *o* and *u*, he aſſigned a ſmall *waw* or *w* above, as ـُ For repreſenting the long ones, he uſed the "matres lectionis," or quieſcent letters, אוי, اوي. So that *phata* with *elif* expreſſed *a* and *o* long, that is *kametz* and *kholem*; and *jod* placed after *keſram* became *tzeri* and *chirek* long, and *waw* added to *damma* became *ſchurek*. From this ſtatement we may infer that, before the tenth century, the Arabians had no vowel points; and conſequently that they read without vowels, or contented themſelves with the "matres lectionis" above mentioned. Dr. Gregory Sharp, in his "Diſſertation upon the Origin, Conſtruction, &c. of Languages," p. 87, expreſſes his opinion, that the Arabians were the original authors of the vowel points; and that they invented three called *fatha (a)* and *(e)*, *damma (o)* and *(u)*, and *keſra (i)*. But theſe, he conceives, were not in uſe till ſeveral years after Mahomet; for the firſt copies of the Koran were without them. The rabbins, he adds, ſtole them from the Arabs. Capellus, Walton, Simon, and others are of opinion, that all the vowels were expreſſed by the three letters אוי, اوي, called "matres lectionis." But it has been alleged, that theſe three letters have, in the Koran and in other punctuated copies, various vowel points annexed to them: whence it is inferred, that they are conſonants. See Points.

The importance and utility of an acquaintance with the Arabic tongue cannot be diſputed. To the divine, ſuch is the affinity between this language and the Hebrew, it muſt be of great uſe in explaining and interpreting the ſcriptures of the Old Teſtament. How much Schultens has availed himſelf of his knowledge of this language in the illuſtration of the book of Job, and alſo of the Proverbs, thoſe will readily allow who have examined his learned commentaries on theſe books. There are alſo many valuable works to which the Arabic ſcholar may have acceſs. And to thoſe who travel for purpoſes of curioſity or commerce into thoſe parts of the eaſt, the knowledge of this language muſt be peculiarly uſeful. But the acquiſition of it, it may be juſtly ſaid, is attended with great difficulty. For the knowledge, ſays Sir William Jones (Aſiatic Reſearches, vol. ii. p. 4.), which any European may, at his pleaſure, obtain of the Arabic language, we are principally indebted to the univerſity of Leyden. Schultens, Erpenius, and Golius, to whom we may add Richardſon of our own country, will afford him all neceſſary aſſiſtance, and enable him to underſtand Arabic better than the moſt profound ſcholar at Conſtantinople or at Mecca. Niebuhr informs us, that the dialect ſpoken at Mecca in the days of Mahomet differs very widely from the modern language of Arabia. That of the highlands of Yemen has the ſtrongeſt analogy to the language of the Koran; becauſe thoſe highlanders have little intercourſe with ſtrangers. The old Arabian language is, through all the eaſt, a learned tongue, to be acquired only in colleges, or by the peruſal of the beſt authors. Perhaps there is no other language diverſified by ſo many dialects as that of Arabia; and the pronunciation of one province differs as much as the dialect from that of other provinces.

Arabic, or Arabian *learning*, is divided into two ſtates, or periods, viz. Ante Mahometan, and Mahometan.

The *Arab* learning in the firſt period, called the time of ignorance, conſiſted, according to Abulpharagius, in the knowledge of their language, the propriety of diſcourſe, the compoſition of verſe, and the ſcience of the ſtars: but their chief attention ſeems to have been directed to *oratory* and *poetry*. Hiſt. Dynaſt. Renaudot de Barbar. Ariſt. verſ. Fabricii Bibl. Græc. lib. vi. cap. 5. § 6.

The ſecond period is more diſtinguiſhed, at leaſt from the time of Al Mamon, the ſeventh caliph of the family of the Abbaſſides, who flouriſhed about the year 820, and has the honour of being the founder of the modern Arabian learning. Almanzor, about fifty years before Al Mamon, commenced the literary reform, when he moved the imperial ſeat from Damaſcus to Bagdad; and when he extended the Arabian literature, which had been confined to medicine and a few other branches, to ſciences of every denomination. His grandſon, Al Mamon, completed the work which was only begun, and ſent for all the beſt books out of Chaldea, Greece, Egypt, and Perſia, relating to phyſic, aſtronomy, coſmography, muſic, chronology, &c. and penſioned a number of learned men, ſkilled in the ſeveral languages and ſciences, to tranſlate them into Arabic. By this means, divers of the Greek authors, loſt in their own country and language, have been preſerved in Arabic. The eaſtern conquerors carried their empire from Aſia even into the remote regions of Spain; and letters followed them wherever they went. Elmac. Hiſt. Sar. lib. ii. cap. 8. Leo Africanus de Viris illuſt. ap. Arabes, cap. 1. Fabricii Bib. Græc. lib. vi. cap. 9. Græv. in Præf. ad. Tab. Geog. Voſſ. de Sect. Phil. cap. 3 § 17. See Al Mamon.

From that time Arabia became the chief ſeat of learning; and

and we find mention by Abulpharagius, Pococke, D'Herbelot, and Hottinger, of learned men, and books without number.

The revival of learning in the tenth century, by Gerbert, known after his elevation to the pontificate by the title of Silveſter II. and afterwards among the Europeans in general, may be aſcribed to the inſtructions and writings of the Arabian doctors and philoſophers, and to the ſchools which they founded in ſeveral parts of Spain and Italy. And in the twelfth century, the inquiſitive of different countries frequented the ſchools of the Saracens in Spain, and diſſeminated the knowledge which they obtained there, after their return. At this time, many of the learned productions of the Arabians were tranſlated into Latin, which facilitated the general progreſs of ſcience.

Arabic or Arabian *logic*, was that of Ariſtotle, as explained by Avicenna and Averrhoes. As the Arabians applied themſelves to this branch of ſcience, they became proficients in the knowledge of words rather than things. Whence they have been ſometimes denominated, "maſters of the wiſdom of words;" and ſometimes the talking ſect.

Arabic *marble*, *Arabicum marmor*, a name given by the ancient Greeks to a ſpecies of marble brought from Egypt and Arabia, and remarkable for its beautiful whiteneſs.

Arabian *muſic*. In the Encyclopedie Methodique, we have a long article on this ſubject, chiefly taken from the Eſſai on Muſic, by M. la Borde. If, in a careful peruſal of this article, we had been able to diſcover any eſſential qualities in this muſic that would improve our ſcale, intervals, melody, harmony, meaſures, or the tone of our voices or inſtruments, we ſhould ſedulouſly have ſtudied and adopted them. But notwithſtanding the inflated praiſes beſtowed on their muſic, by their own and the Perſian poets, and the parade with which the Arabian ſcale and muſical terms have been exhibited, we do not find ourſelves much enlightened by the peruſal. Indeed we are inclined to imagine that muſic in Europe has been cultivated with ſo much more ſucceſs than that of any other quarter of the globe; our inſtruments, our harmony, and our melody, are arrived at ſuch a ſuperior ſtate of perfection, that to abandon or neglect them for any refinements or properties which the muſic of Aſia, Africa, or America could furniſh, would indeed be letting our corn-fields lie fallow, and feeding on acorns; or throwing aſide the poetry of Milton, Dryden, and Pope, to read and imitate only Chaucer, Gower, and Lidgate.

As national tunes, the airs of the Arabians, Turks, and Perſians, would amuſe curious inquirers after exotics; but as to their theory, practice, and taſte, faith in their excellence is wanting to make us imagine them worth the time and labour neceſſary to their acquiſition. If, therefore, the article Arabian muſic has not been further extended, and ſhould diſappoint our readers by its brevity, the conceſſions made by M. Ginguené, who has compiled and digeſted the article in the new Encyclopedie, will a little abate their curioſity, and apologize for our want of time and zeal to inveſtigate this muſic.

After giving us the ſcale and technica of the Arabian muſic in the language of the country, but expreſſed in letters of the French alphabet, M. G. ſays; "The Arabians, like other oriental people, never paſs from one ſound to another, however diſtant, either in riſing or falling, without running through all the intermediate intervals. Theſe continual ſlides of the voice, which to us are inſupportable, conſtitute, according to them, the charm of their muſic, and grace of their melody." Now the difficulty and effects of ſuch miauling or mewing paſſages will be eaſily conceived by our readers, from what follows in the article of M. G. "From C to D they reckon four intervals; from D to E the ſame; and from E to F two." So that it is all done in quarter tones, or the enharmonic genus and ſcale. And where ſhall we find voices or inſtruments to furniſh theſe intervals? "They have no knowledge of harmony (continues M. G.), and in their concerts, all the parts are performed in unifons and octaves, and all on ſtringed inſtruments; of which they ſometimes ſweep the whole number, to produce more or leſs effect, or at leaſt more noiſe, which neceſſarily occaſions a diſcordance, to which, from their ignorance of harmonic chords, their ears are inſenſible." Their inſtruments are chiefly thoſe of percuſſion, or thrumbed with the fingers or nails; they have, indeed, a flute, called *Nai*, with ventages. The tube is a ſection of a reed, with a mouth-piece of horn. It is to the ſound of this flute that the derviſes dance. Two or three muſicians are placed in a gallery that ſurrounds the moſque. The Iman is ſtationed in the midſt of the derviſes; he gives the ſignal, the Nais begin to ſound, and the derviſes turn round with extreme rapidity. The Iman gives another ſignal, the flutes then ceaſe to ſound, and the derviſes ſtop, and throw themſelves into a particular attitude.

They have an inſtrument which reſembles a lute, to which they aſſign more marvellous effects than the Grecians did to the lyre of Apollo. "They tell you, with the utmoſt gravity, that each of the ſtrings of this inſtrument, four in number, has particular virtues: the firſt, for inſtance, acts as a ſpecific againſt bile and phlegm; the ſecond is a ſovereign cure for the moſt inveterate melancholy and vapours; the third gives health and vigour to young people of both ſexes; and, laſtly, the fourth ſtring affords relief the inſtant it is heard, to a ſanguine temper and diſpoſition."

But the power of theſe ſtrings depends much on the manner with which they are pinched or thrummed; which, like the power of the bow on the violin, is attained by long and laborious practice. "They have a particular *pizzicato*, or pinch, for every action and paſſion; courage, liberality, and noble ſentiments, by one mode of thrumming; love and pleaſure by a ſecond; the dance is inſpired by a third; ſleep and tranquillity by a fourth.

"At the diſtance which ſeparates us from Arabia, and the difference in our ideas and ſentiments (concludes M. G.), we can form no juſt conception of theſe fancied effects, from which we muſt doubtleſs abate much of the marvellous. What they aſcribe to each inſtrument, ſtring, and ſtroke of the fingers, and delicate ſhades of perfection, only convinces us, that they are a people endowed with a ſenſibility very different from ours."

Arabic or Arabian *oratory*, according to Renaudot, conſiſted in a luxuriancy of quaint, high-flown words, epithets, and deſcriptions. That the ancient Arabs were eloquent in a high degree, and that they poſſeſſed wonderful powers of ſpeaking, without preparation, in flowing and forcible periods, is evident from their whole hiſtory. Their eloquence was an harmonious and cadenced proſe, adapted to their ears, and accommodated to the genius of their language, and to the caſt of their character, but can never ſerve as a model for foreigners. Their orators, like their poets, were honoured and rewarded; and their orations were much the offſpring of the imagination, without concatenation in the arguments, but conſiſting of diſtinct ſentences following one another without connection, and remarkable for abrupt antitheſes, and for ſudden and unexpected tranſitions, rather dazzling than enlightening. See *Hiſtory of the* Arabs.

Arabic or Arabian *philoſophy* claims, according to ſome writers, and more particularly Ludwig, a very remote antiquity. On this ſubject the Greek writers are ſilent; but this, it is alleged, is a proof of their pride, and not of the barbariſm of the Arabs. The Saracens themſelves have

confeſſed, that before the riſe of Mahometaniſm, their country was in a low ſtate of civilization; and to this effect we have the teſtimony of Abulpharagius. Nevertheleſs, the advocates of the wiſdom of the ancient Arabians have alleged, that from them, according to the relation of Porphyry, Pythagoras acquired a great part of his knowledge; that Moſes fled out of Egypt into this country, and carried with him the wiſdom of the Egyptians; that the queen of the eaſt, who viſited Solomon, was of Saba, a region in Arabia; and that the wiſe men, who paid their homage to Jeſus, were from this country. Beſides, their origin leaves no doubt concerning the culture of their minds; for as they were deſcended from Abraham, it is pretended that they muſt have derived from their common father, not only a philoſophic ſpirit, but a conſiderable portion of ſcience. To all which is added the acknowledgment of Abulpharagius, that even before Iſlamiſm, to which, in that country, is owing the revival of letters, they thoroughly underſtood their language, that they knew its value, and the ſeveral properties of it; and that they were good poets, excellent orators, and able aſtronomers. It is very poſſible, that the Arabians might have poliſhed their language; that they were ſkilled in divination, and the interpretation of dreams; that they were ſucceſsful in the compoſition and ſolution of ænigmas; that they had even ſome knowledge of the courſes of the planets; and yet have no juſt title to the character of philoſophers: ſince all theſe arts, if they can deſerve the appellation, tend rather to nouriſh and foment ſuperſtition, than to diſſeminate truth, and purge the ſoul from the tyranny of the paſſions. As to Pythagoras, nothing is more uncertain than his journey to the eaſt; and if it were more unqueſtionable, we can only infer from this circumſtance, that he learned from the Arabians the arts of divination, with which they, in common with other eaſtern nations, were well acquainted. If Moſes went into Arabia, and ſettled there on marrying one of the daughters of Jethro, it could not be with the deſign of ſtudying among the Arabians, or of gratifying their idle curioſity with philoſophical ſyſtems. Providence permitted this retreat of Moſes, for conveying thither the knowledge of the true God, and his religion. With reſpect to the remaining arguments, if they be allowed their utmoſt force, they will give the Arabians a very ſmall ſhare of the credit ariſing from the ancient philoſophy of the eaſt. But it has been further ſaid, that there was in Arabia, at a very remote period, a ſect of philoſophers called Zabians or Sabians. But the exiſtence of this ſect is doubtful. No mention is made of it by Greek or Roman writers. We owe all our information concerning them to the Arabians, from whom Maimonides, the Jew, borrowed his account. The probable truth concerning them is, that they were a mixed body of Gentiles and Jews, who, to give the ſanction of antiquity to their inſtitutions, pretended to derive them from Sabi, the ſon of Seth. Their ſyſtem of opinions was an heterogeneous maſs, which muſt have been the produce of a period much later than that to which we now refer. See SABIANS. The Arabians, beſides what has been already ſaid of their ſcience, in this article, and that of the *Hiſtory of the* ARABIANS, ſeem, like the neighbouring Chaldeans and Perſians, to have had their wiſe men, by whom their knowledge, ſuch as they had, was taught, and their religious ceremonies and ſuperſtitious arts were practiſed. Pliny (H. N. l. xxx. c. 1.) mentions the Arabian magi, and ſpeaks of Hippocus, an Arabian, as belonging to their order. It can ſcarcely be ſuppoſed, that the Arabians were unacquainted with moral wiſdom. The fables of Lokman, mentioned in a preceding article, tranſlated from Arabic into Latin by Erpenius, afford no inelegant ſpecimen of the moral doctrines of the Arabians; better adapted, however, to popular inſtruction than to the improvement of philoſophy, which the Arabians do not appear to have cultivated, till the period when their government fell into the family of the Abbaſſides. Brucker's Hiſt. Phil. by Enfield, vol. i. p. 56. See the article ARABIAN *learning*. Sir William Jones (Aſiatic Reſearches, vol. ii. p. 9.) ſays, that he finds no trace among them, till their emigration, of any philoſophy but ethics; and even their ſyſtem of morals, generous and enlarged as it ſeems to have been in the minds of a few illuſtrious chieftains, was, on the whole, miſerably depraved for a century at leaſt before Mahomet; the diſtinguiſhing virtue which they boaſted of cultivating and practiſing, was a contempt of riches, and even of death.

ARABIC, or ARABIAN *phyſic* and *phyſicians*, ſucceeded the Grecian, and handed down the art to us, having made conſiderable improvements, chiefly in the pharmaceutical and chemical parts.

It is certain we owe to them moſt of our ſpices and aromatics, as nutmegs, cloves, mace, and other matters of the produce of India. We may add, that moſt of the gentler purgatives were unknown to the Greeks, and firſt introduced by the Arabs; as manna, ſena, rhubarb, tamarinds, caſſia, &c. They likewiſe brought ſugar into uſe in phyſic, in which, before, only honey was uſed. They alſo found the art of preparing waters and oils, of divers ſimples, by diſtillation and ſublimation.

The firſt notice of the ſmall-pox, and the meaſles, is likewiſe owing to them. Laſtly, the reſtoration of phyſic in Europe took its riſe from their writings.

M. Le Clerc has given a ſketch, and Dr. Freind an ample hiſtory of the Arabian phyſic. We have alſo a *notitia* of all the Arabian phyſicians by Fabricius.

Thoſe who now practiſe the art of medicine in Arabia, know little more than the technical terms as they find them in the writings of Avicenna, and the uſe of ſimples. All the phyſicians in Yemen, Niebuhr ſays, acted at the ſame time as chemiſts, apothecaries, ſurgeons, and horſe-doctors; and yet, by the practice of all theſe arts together, they could hardly earn a livelihood. A diſeaſe very common in Yemen, and aſcribed to the uſe of putrid waters, is occaſioned by the Guinea-worm; but it is not dangerous if the perſon that is attacked can extract the worm without breaking it. The leproſy ſeems to have been always an endemic diſeaſe in Arabia; and there is one ſpecies which authors diſtinguiſh by the character of Arabian. Three different variations of it are known there at preſent; of which two, named "bohak," and "barras," are rather diſguſting than dangerous; but the third, called "juddam," is very malignant, and apparently infectious. The laſt prince of Abuſhahkr uſed to ſend to the iſle of Bahrein all who were attacked with the leproſy, or with venereal complaints. At Baſra, all lepers are ſhut up in a houſe by themſelves; and in Bagdad there is a quarter ſurrounded with walls, and full of barracks, to which lepers are carried by force, if they retire not thither voluntarily; but government does not provide with due care for the maintenance of theſe lepers. Inoculation for the ſmall-pox has been in uſe from time immemorial among the Bedouins: mothers perform this operation on their children, by opening the ſkin of the arm with the prickle of a thorn.

ARABIC or ARABIAN *poetry*, may be divided into two ages. The ancient, according to Voſſius, was no other than rhiming; was a ſtranger to all meaſure, and rule; the verſes looſe and irregular, confined to no feet, number of ſyllables, or any thing elſe, ſo that they rhimed at the end; oftentimes all the verſes in the poem ended with the ſame rhime. It is in ſuch verſe that the ALCORAN is ſaid to be written.

Poetry

Poetry was in ſo great eſteem among the ancient Arabs, that it was a great accompliſhment, and a proof of ingenuous extraction, to be able to expreſs one's ſelf in verſe, with eaſe and elegance, on any extraordinary occurrence; and even in their common diſcourſes, they made frequent applications of celebrated paſſages of their famous poets. In their poems they preſerved the diſtinction of deſcents, the rights of tribes, the memory of great actions, and the propriety of their language; for which reaſons an excellent poet reflected an honour on his tribe. So that as ſoon as any one began to be admired for performances of this kind in a tribe, the other tribes ſent publicly to congratulate them on the occaſion; and made entertainments, at which the women aſſiſted, dreſſed in their nuptial ornaments, ſinging to the ſound of timbrels, the happineſs of their tribe, who had now one to protect their honour, to preſerve their genealogies, and the purity of their language, and to tranſmit their actions to poſterity; for this was wholly performed by their poems, to which they were ſolely obliged for their knowledge and inſtruction, moral and œconomical, and to which they recurred, as to an oracle, in all doubts and differences. It is no wonder then, that a public congratulation was made on this account; an honour ſo diſtinguiſhing, that it was conferred only on one of theſe three occaſions; namely, on the birth of a boy, the riſe of a poet, and the fall of a foal of generous breed. To keep up an emulation among their poets, the tribes had once a year, a general aſſembly at Ocadh, a place famous on this account, and where they kept a weekly mart or fair, held on our Sunday. This annual meeting laſted a whole month, during which time they employed themſelves, not only in trading, but in repeating their poetical compoſitions, contending and vying with each other for the prize; whence the place, it is ſaid, took its name. The poems that were judged to excel, were laid up in their king's treaſuries, as were the ſeven celebrated poems thence called "Al Moallahat," or "Moallekat," rather than from their being hung up in the Caaba, which honour they alſo had by public order, being written on Egyptian ſilk, and in letters of gold; for which reaſon they had alſo the name of "Al Modhahabat" or the golden verſes. Theſe poems, which have appeared in our own language, exhibit an exact picture of the virtues and vices of the Arabians, their wiſdom and their folly; and ſhew what may be conſtantly expected from men of open hearts and tumultuous paſſions, with no law to control, and little religion to reſtrain them. The fair and aſſembly at Ocadh was ſuppreſſed by Mahomet; in whoſe time, and for ſome years after, poetry ſeems to have been in ſome degree neglected by the Arabs, who were then employed in their conqueſts. When theſe were completed, and peace was eſtabliſhed, this ſtudy was revived; and almoſt all kinds of literature were encouraged and greatly improved by them. This interruption, however, occaſioned the loſs of moſt of their ancient pieces of poetry, which were then chiefly preſerved by memory; the uſe of writing being rare among them, in their time of ignorance. Though the Arabs were ſo early acquainted with poetry, they did not at firſt write poems of a juſt length, but only expreſſed themſelves in verſe occaſionally. Albert Schultens has preſerved, in his Ancient Memorials of Arabia, two little poems, in an elegiac ſtrain, which are ſaid to have been found about the middle of the ſeventh century, in ſome fragments of ruined edifices in Hadramaut, near Aden, and which are ſuppoſed to be of an indefinite, but very remote age. Sir W. Jones ſuggeſts, that theſe were modern compoſitions on the inſtability of human greatneſs, and the conſequences of irreligion; illuſtrated by the example of the Hamyaric princes; and to the ſame claſs of literary impoſtures belongs, as he ſuſpects, the firſt poem quoted by Schultens, and aſcribed by him to an Arab in the age of Solomon.

The modern Arabian poetry takes its date from the caliphate of Al Raſchid, who lived towards the cloſe of the eighth century. Their poetry then became an art, and rules of proſody were digeſted by Al Khalil Ahmed al Farahidi, who lived in the reign of this caliph. The Arabians ſtill cultivate poetry, and ſometimes reward thoſe who excel in it, though they have at preſent among them no great poets. The beſt are among the Bedouins of Dsjof. To this purpoſe it is mentioned by Niebuhr, that a ſheik of that country was impriſoned at Sana, and that obſerving a bird upon the roof of a houſe, he recollected the opinion of thoſe pious muſſulmans, who think it a meritorious action to deliver a bird from a cage. He thought that he himſelf had as good a right to liberty as any bird, and expreſſed this idea in a poem which he got by heart, and which becoming generally known, at length reached the monarch's ears, who was ſo pleaſed with it, that he ſet the ſheik at liberty, although he had been guilty of various acts of robbery. The exploits of their ſheiks are now frequently celebrated in the Arabian ſong.

Arabic, or Arabian *Religion* was, in the ſtate of ignorance, as they called the period before Mahomet, entirely Sabian; but the Sabian faith is not clearly and ſatisfactorily aſcertained. See Sabians.

It is generally allowed, that they admitted the exiſtence of one ſupreme God, the Creator and Lord of the univerſe, whom they denominated "Allah Taala," the moſt high God: and the religion of the noble and learned Arabs, as well as of the poets, was pure theiſm. We have Arabian verſes of unſuſpected antiquity, which contain pious and elevated ſentiments with reſpect to the goodneſs, and juſtice, and omnipotence of "Allah," or God. If an inſcription, ſaid to have been found on marble in Yemen, be authentic, the ancient inhabitants of that country preſerved the religion of Eber, and profeſſed a belief in miracles and a future ſtate. It is certain, however, that the people of Yemen very ſoon degenerated, and fell into the error of adoring the ſun and the firmament; for even the third in deſcent from Joktan, who was conſequently as old as Nahor, took the ſurname of "Abduſhanes," or ſervants of the ſun; and his family, we are aſſured, rendered particular honours to that luminary. Other tribes worſhipped the planets and fixed ſtars; and by degrees a ſtupid idolatry prevailed among the lower orders of the people. The idolatry of the Arabs, or Sabians, chiefly conſiſted in the worſhip of the fixed ſtars and planets, and the angels or intelligences which, as they ſuppoſed, reſided in them, and governed the world under the ſupreme Deity. Theſe they honoured as inferior deities, and as mediators with God, implored their interceſſion. To the worſhip of the heavenly bodies the Arabs were eaſily led, by obſerving the regularity of their motions, whence they thought them to be animated: and alſo that the changes of the weather happened at the riſing or ſetting of ſome of them for a conſiderable period; and hence they aſcribed to them a divine power, and conceived themſelves indebted to them for their rains, which were highly beneficial to their parched country. This kind of worſhip was proſcribed by Moſes, and is frequently alluded to in the book of Job, particularly ch. xxxi. 26—28. Accordingly they had ſeven celebrated temples dedicated to the ſeven planets; and this planetary worſhip has been ſuppoſed by ſome perſons to have been the firſt ſpecies of idolatry. To this purpoſe Pauſanias intimates (Laconic. Oper. lib. iii.), that the worſhip of the planets was earlier than the firſt arrival of the Pelaſgi in Greece; and that before this time they had ſtatues erected to their honour. Beſides thoſe ſtars, which were the general objects of worſhip throughout Arabia, there were ſome that were more peculiarly revered in particular provinces.

ces. Of the angels or intelligences which they worſhipped, the Koran mentions three, namely, Allat, Al-Uzzah, and Manah; theſe were called Goddeſſes, and the daughters of God; and this appellation they bellowed not only on angels, but on their images, which they believed to be animated by the angels. All religious addreſſes, they conceived, were made as effectually before the one as before the other; and to this practice ſome have traced the origin of image-worſhip. Allat, or Allah, was the idol of the tribe of Thakif, who dwelt at Tavef, and had a temple conſecrated to her in a place called Nakhlah. Al-Uzza was the idol of the tribes of Koreiſh and Kenanah, and part of the tribe of Salim, as ſome ſay; but according to others, it was a tree called the Acacia, worſhipped by the tribe of Ghatfan, and firſt conſecrated by Dhalem, who built a chapel over it. Manah was the object of worſhip of the tribes of Hodhail and Khozaah, poſſibly the Caſſanitæ of Ptolemy, who dwelt between Mecca and Medina; and as ſome ſay, of the tribes of Aws, Knazraj and Thakif alſo. Dr. Pococke ſuggeſts, that the Manah of the Arabs was the Meni of the prophet Iſaiah. This idol was a large ſtone, demoliſhed by Saad in the 8th year of the Hegira, a year ſo fatal to the idols of Arabia; and its name is ſuppoſed to be derived from "Manah," to flow, from the effuſion of the blood of the victims ſacrificed to the deity and intelligence repreſented by it: others ſay it was the name of a conſtellation. Beſides theſe, the Arabian writers deſcribe five antediluvian idols, who are ſaid to have been men of great piety and reputation, whoſe ſtatues the Arabs at firſt reverenced with a civil honour only, which in proceſs of time was heightened into religious worſhip. The Arabs had alſo a great number of other idols; and each country, and even each family, had its appropriate deity. There were, it is ſaid, no leſs than 360 idols, equal to the number of days in their year, in and about the Caaba of Mecca.

Some of the Pagan Arabs believed neither a creation paſt, nor reſurrection to come; but attributed the origin of things to nature, and their diſſolution to age. Others allowed both. Some adopted the opinion of a metempſychoſis, or tranſmigration of ſouls. The Arabs in general were ſtrongly prepoſſeſſed in favour of auguries and fatality. On perceiving any beaſt or bird of ill omen, they kept cloſe within their tents; and the moſt preſſing occaſions of buſineſs or curioſity would never have determined them to ſet out on a journey under ſuch unfavourable auſpices. The prieſthood among them gave no pre-eminence over the reſt of the people; every family had its altar, its idol, and its ſacrificer, who was not excuſed from bearing arms in defence of the common cauſe, nor from the other obligations impoſed on their fellow-citizens. They were ſelected from among the aged; and it ſeems probable that the prieſthood was a temporary dignity conferred on every miniſter employed in acts of religious worſhip; and when the ſervice ended, theſe ephemeral prieſts returned into the claſs of ordinary citizens; but whilſt they were in office, it was expected that they ſhould exhibit examples of moderation and ſobriety. The Sabian prieſts reſerved to themſelves no part of the ſacrificed victim, which was the caſe with the Pagan prieſts, but reduced it to aſhes; abhorring the preſumption and ſacrilege of ſitting down to the tables of the gods, and touching the viands that were offered to them. The ancient Arabs never imagined that tears and maceration could be grateful to the deity; and therefore they celebrated their religious feſtivals with dances and concerts, and the public jubilation was conſidered as the teſtimony of their gratitude towards the God who ſhowered his bounty upon them. It is true, however, that every tribe had its particular cuſtoms, and ſtamped its own character, jovial or gloomy, on its ceremonies of devotion. The Magian religion was introduced among ſome tribes of Arabia a long time before Mahomet, in conſequence of the vicinity of the Perſians, and their intercourſe with the Arabians; and hence this impoſtor borrowed many of his inſtitutions from it. Judaiſm alſo is ſaid to have been introduced among the idolatrous Hamyarites by Abu Carb Aſad, who was the ſovereign of Yemen about 700 years before Mahomet; and the Jews, who fled into Arabia in great numbers after the deſtruction of their country by the Romans, made proſelytes of ſeveral tribes, and particularly thoſe of Kenanah, Al Hareth Ebn Caaba, and Kendah; and in time they became very powerful, and obtained poſſeſſion of ſeveral towns and fortreſſes. At length Yuſef, king of Yemen, raiſed a dreadful perſecution againſt them, and put them to death by various tortures, one of which was throwing them into a glowing pit of fire, from which circumſtance the Arabs gave him the opprobrious title of the "Lord of the pit;" and Caleb, or Eleſbaan, king of Ethiopia, to revenge the maſſacre of the Chriſtians at Najran, put an end to Judaiſm and the kingdom of the Hamyarites in Yemen, at the ſame time. This event happened in the reign of the emperor Juſtin.

Chriſtianity had likewiſe made a great progreſs in Arabia before the time of Mahomet. Whether St. Paul preached in any part of Arabia, properly ſo called, it is not eaſy to determine; but that the Chriſtian religion was planted at a very early period in this country is an unqueſtionable fact. When the eaſtern church, ſoon after the beginning of the third century, was much haraſſed by diſorders and perſecutions, great numbers of them ſought ſhelter in Arabia; and as theſe were for the moſt part of the Jacobite communion, this ſect generally prevailed among the Arabs. The principal tribes that embraced Chriſtianity were Hamyar, Ghaſſan, Rabia, Taghlah, Bahra, Tomuh, part of thoſe of Tay and Kodaa, the inhabitants of Najran, and the Arabs of Hira. See JACOBITES.

Such as we have above recited were the principal religions which obtained among the ancient Arabs; but as freedom of thought, ſays Sale, was the natural conſequence of the political liberty and independence of the Arabs, ſome of them fell into other opinions. The Koreiſh, in particular, were infected with Zendiciſm, an error ſuppoſed to have a near affinity with that of the Sadducees among the Jews, and perhaps not much different from modern Deiſm; for ſeveral of that tribe, before the time of Mahomet, worſhipped one God, and were free from idolatry; though they embraced none of the other religions of the country.

Since the eſtabliſhment of Mahometaniſm in Arabia, there are ſeveral ſorts of this profeſſion in the country; ſuch as the Sonnites, Sciites, Zeidites, &c. of which an account will be given in the courſe of this work. In Arabia there are at this time many Jews, who are diſperſed through different cities, having their ſynagogues, and enjoying a conſiderable degree of freedom. As they are fond of living together, they commonly form a village near every principal town. In the neighbourhood of Kheibar, there are ſome Jewiſh tribes; who are not barely tolerated, but poſſeſs the ſovereign authority. Although the Chriſtians were once numerous in Arabia, Niebuhr ſays, that he knows no Chriſtian church remaining at preſent in this whole country. In the province of Lachſa were many Sabæans, or Chriſtians of St. John; but the Chriſtianity of this ſect is a kind of confuſed medley of the opinions and ceremonies of ſeveral different religions. In the commercial cities there are many Banians from India: at Mocha, however, they undergo many mortifications; but at Maſcat, among the tolerant ſect of the Beraſi, they are permitted to obſerve the laws and cultivate the worſhip of their own religion, without diſturbance. A conſiderable degree of religious toleration

is exercised among the Arabs. Their contempt, however, of those who differ from them is more chiefly manifested towards the Banians than the Jews, and least of all to the Christians; who, in return, express the least aversion for the Mussulmans. This progress towards general toleration among the Arabians preserves them from the rage of making proselytes. They seek neither to entice nor constrain any person, except sometimes their young slaves, whom they compel to embrace Mahometanism; but when a proselyte voluntarily enters himself, they are, by the laws of their religion, obliged to receive him, and to provide for his maintenance.

Arabic *Version*. See *Arabic* Bibles.

Arabic *Year*. See Arabic *Chronology*, and Year.

ARABICA, in *Conchology*, a species of Cypraea that is found in India. This shell is slightly turbinated; characterised with irregular letter-like marks; and has a simple longitudinal streak down the back of it. Lin. Gmel. &c. *Cypræa Arabica*, or Arabic cowry, is about three inches in length; its ground colour is whitish or bluish, and is covered with characters of a chesnut or dark brown, that somewhat resemble Arabic letters upon the back; the edges are thick and spotted with purple. When the outer coat is worn off, the back of the shell is pale, with dark transverse bars. The inside of the mouth is violet; lips reddish-grey; crenulations chesnut. It is called by Rumphius, Porcellana literata s. Arabica.

ARABICI, a sect which sprung up in Arabia, about the year 207, whose distinguishing tenet was, that the soul died with the body, and also rose again with it.

Eusebius, lib. 6. c. 38, relates that a council was called to stop the progress of this rising sect; and that Origen assisted at it; and convinced them so thoroughly of their error, that they abjured it.

ARABICUS *costus*. See Costus.

ARABIS, in *Botany*, Wall-cress (Ἀραβίς, Dioscor. from Arabia, Lin.), Lin. gen. 818. Schreb. 1094. Juss. 238. Class, *tetradynamia siliquosa*. Nat. Order, *siliquosæ*. *Cruciferæ*, Juss. Gen. char. *Cal.* perianth, four-leaved, deciduous: leaflets from parallel-converging; two opposite larger, ovate-oblong, acute, a little prominent at the base, gibbous, concave; the other two linear, erect. *Cor.* four-petalled cruciform, each ending in claws of the length of the calyx. *Nectaries*, four; each from a little scale within the bottom of the calycine leaflet, affixed to the receptacle, reflex, permanent. *Stam.* Filaments subulate, upright, two the length of the calyx, four twice as long; anthers cordate, erect. *Pist. Germ.* columnar, the length of the stamens. *Style*, none. *Stigma* obtuse, entire. *Per.* silique, compressed, very long, linear unequal, with swellings at the seeds; valves almost the length of the partition. *Seeds*, many, roundish, compressed. Ess. gen. char. Nectareous glands four, one within each leaflet of the calyx, like a reflex scale. Species 1. A. *Alpina*, alpine wall-cress; leaves clasping the stem, toothed; root perennial, creeping, from which proceed many leaves collected into heads, spreading circularly: they are whitish, oblong, and indented at the edges. From the centre of these arise the flowering stems, which grow nearly a foot high, with alternate leaves closely embracing the stem. The flowers are white, in bunches towards the top. Flor. Dan. t. 62. A native of the Alps and other mountains of Europe, on rocks, in caverns, and in woods. It was cultivated in the botanic garden at Oxford, in 1658, and is now common in gardens. 2. A. *lucida*, shining wall-cress, leaves embracing the stem, shining. Stem four inches high, simple, smooth, leaves entire; those at the bottom obovate, obtuse; those on the stem alternate, cordate, clasping the stem. Petals erect, white, linear, in corymbs, which become racemose. A native of Hungary, perennial. 3. A. *grandiflora*, great flowered wall-cress, stem naked; root-leaves many, two inches long, lanceolate, cut beyond the middle like pinnate leaves, with acuminate divisions. Corymb terminating with alternate flowers, on very short peduncles. A native of Siberia, perennial. There is one variety of this species with entire leaves, and another with white flowers. 4. A. *thaliana*, common wall-cress, leaves petiolate, lanceolate, perfectly entire. Curt. Lond. 2. 49. Eng. Bot. Root-leaves sometimes toothed near the base, stem-leaves sessile and toothed, hairy; stem upright, somewhat branched, round, crooked, hairy; the little branches alternate and drooping; petals white, entire, obtuse, twice the length of the calyx; silique half an inch long, containing several yellowish seeds. A common annual, growing in sandy grounds, and on old walls. 5. A. *bellidifolia*, daisy-leaved wall-cress, leaves subdentate; those of the root obovate, of the stem lanceolate. Jacq. Flor. Aust. 3. t. 280. Root perennial, producing tufts of leaves, and several stems, which are undivided, round, smooth, bending, lengthened out gradually at top, into a long raceme; flowers corymbed, inodorous, white, consisting of obovate petals; siliques parallel to the stem, linear, compressed, opening at both ends. A native of the foot of the Alps in Switzerland and Austria. Introduced into the Royal garden of Kew, by John earl of Bute, in 1773. A smaller variety of this species is described and figured by Jacquin; see l. c. A. *pumila*. 6. A. *lyrata*, lyrate-leaved wall-cress, leaves smooth; those at the root lyrate, on the stem linear; root annual; the flower-stalks nearly a foot high, terminated by white flowers. Linnæus observes, that this differs in no respect from the fourth species, except that the root-leaves are lyrate and smooth, and the flowers larger. A native of North America. 7. A. *hispida*, rough wall-cress: this, according to Professor Martyn, is the A. *stricta* of Hudson and Withering; leaves wedge-shaped, sublyrate, hispid; stem-leaves half embracing the stem, lanceolate; siliques stiff, ancipital; root annual; stems many, six inches high: root-leaves very many, toothed and gash-toothed, rough, hairy; stem leaves three or four, toothed, hispid: flowers white, in racemes, on short peduncles: siliques an inch and a half long, quadrangular at the base, striated. It grows wild in most parts of Europe; and was found on St. Vincent's rocks near Bristol, by Mr. Hudson, who describes it as a new species. 8. A. *Halleri*, Haller's wall-cress, stem-leaves sublyrate, those on the branches lanceolate, gashed; stem erect, six inches high; root-leaves on long petioles, obtuse, repand, a tooth or two at the base; stem-leaves petioled, oblong, sinuate-toothed; petals white, with green claws. This plant sends off runners from the root and base of the stem. A native of Germany, Carniola, and Piedmont. 9. A. *canadensis*, Canadian wall-cress; stem-leaves lanceolate, toothed, smooth; flowers pendulous. A native of North America, two feet high, with broad, lanceolate, irregular, serrate leaves; flowers in lateral racemes. 10. A. *pendula*, pendulous wall-cress; leaves stem-clasping; siliques ancipital, linear; calyces sub pilose; stem nearly a foot high, rough with scattered stiff hairs; leaves rough, partly embracing the stem, serrate; peduncles long, filiform, loose; flowers white; siliques smooth, nodding. A native of Siberia. Cultivated by Miller, in 1759. 11. A. *turrita*, tower wall-cress, Eng. Bot. Leaves stem-clasping; siliques bending down, flat, linear; calyces subrugose; root woody, biennial; stem usually simple, from nine inches to two feet in height, upright, downy, round; leaves hairy on both sides; root-leaves petioled, oblong, thick, hispid, waved, and toothed; stem-leaves similar, stem-clasping, tomentose, regularly decreasing as they approach the top; flowers upright, white or yellowish, on short peduncles; siliques

very

very long, linear, compreſſed, curved; ſeeds round, compreſſed: common on old walls, rocks, &c. 12. A. *ſaxatilis*, ſtem erect; leaves ſtem-claſping, lanceolate, toothed; ſiliques the length of the raceme; ſtem about ſix inches high, round, ſimple; leaves crowded, upright, cared at the baſe, deeply toothed, and as well as the whole plant covered with ſoft hairs; umbel of flowers terminating, nodding; petals white, ſmall, ſquarish; ſiliques in ſhort racemes, flat, compreſſed, annual. Allioni and Villars differ conſiderably in their deſcriptions of this plant. A native of the ſouth of Europe, on rocks. 13. A. *ſcabra*, root leaves roundiſh, rough, toothed; ſtem leaves embracing, hairy. This, in many reſpects, agrees with the 5th ſpecies. Its ſtem is ſmooth, erect, from four to ſix inches high; ſimple, furniſhed with one or two ovate-lanceolate leaves; flowers large, white; calyces whitiſh; ſiliques broadiſh, bowed at the end, upright, parallel to the ſtem. A native of the ſouth of Europe. 14. A. *ſerpyllifolia*, all the leaves elliptical entire; ſtem flexuoſe; ſtems filiform, bending, entangling one with another; leaves ſmall, ſeſſile, beſet with forked hairs; petals ſmall, white; ſiliques very thin, a little compreſſed. A native of Dauphiné. 15. A. *recta*, ſtem ſtraight, leaves rectangularly toothed, ſeſſile; ſiliques from erect ſpreading. This reſembles the 14th ſpecies, except that its ſtems are conſtantly ſtraight. It is annual or biennial, and found on walls or rocks about Grenoble.

Propagation and Culture. All the above are hardy plants, and will thrive in any ſituation. They may be eaſily propagated by ſeeds, which they produce in great plenty. The firſt ſpecies is moſt common in our gardens, and by multiplying faſt by its creeping roots, few perſons are at the trouble of ſowing its ſeeds. It flowers early, and having many ſtrong ſtems from one root, it makes a pretty variety in cold ſituations, where many finer plants will not thrive.

ARABIS. See CARDAMINE.

ARABIS, or ARBIS, in *Ancient Geography*, a river of Perſia, in the province of Gedroſia, which took its riſe on a ridge of mountains that ran acroſs the province, and after a ſhort courſe, diſcharged itſelf into the Indian ocean. The mouth of the Arabis is placed by Mr. Rennell in E. long. 65° 34′, and N. lat. 25° 26′, about 44′ Weſt from the weſtern mouth of the Indus. Arrian mentions an iſland at the mouth of the river; and there is ſtill a ſmall town, called Sommeany, at the entrance, and labouring under the ſame difficulty for water, which is noticed by Arrian; who ſays, that they were obliged to go up the country above two miles to find a well. From the Indus to the river Arabis, the Greeks, in the voyage of Nearchus, found the coaſt inhabited by an Indian tribe, whom they have named Arabies; and contiguous to them were the Oritæ, whoſe territory extended from the Arabis to Malana, or Cape Moran, which terminates a ridge of mountains ſhooting off from a chain which bounds this country on the north. *Ara*, the capital, now *Haur*, is placed by M. D'Anville on the Tomerus: the country appears to have been fully peopled; and the Oritæ are deſcribed as dreſſed and armed like the Indian tribes; but their cuſtoms, manners, and language, ſays Dr. Vincent, "On the Voyage of Nearchus," mark them as a different race. The modern inhabitants conſiſt chiefly of a predatory people, denominated "the Balluches."

ARABISM, ARABISMUS, an idiom, or manner of ſpeaking peculiar to the Arabs, or the Arabic language. R. Martin maintains that the ה ſometimes expreſſes an oath in the Hebrew as well as the Arabic.

ARABISSUS, in *Ancient Geography*, a town of Aſia, ſituate on a plain to the ſouth of the river Melas.

ARABIST, a perſon curious of, and ſkilled in the learning and language of the Arabians: ſuch were Erpenius and Golius. The ſurgeons of the 13th century are called *Arabiſts* by Severinus. Freind, Hiſt. Phyſ. tom. ii. p. 301.

ARABISTAN, in *Geography*, a name given by the Turks and Perſians to modern Arabia.

ARABKIR, a town of Aſia, in the province of Caramania, 105 miles ſouth-eaſt of Yurcup.

ARABLE FARM, in *Agriculture*, that ſort of farm which is either wholly or in a great part under the plough. See FARM.

ARABLE *Land*, that kind of land which is proper for being tilled or cultivated by means of the plough, with the view of producing grain or other crops. The dry and friable ſorts of ſoil are moſt adapted to this purpoſe. See LAND.

ARABS, in *Entomology*, a ſpecies of TENEBRIO that inhabits the eaſt. It is black; thorax ſerrated; antennæ and legs teſtaceous brown. Fabricius. Gmelin.

ARABS, a ſpecies of CIMEX found in South America. The thorax is ſpinous; body ovate, livid; end of the abdomen bidentated. Linn. Fab. Gmel. This is called by Sloane, Cimex ſylveſtris fœtens viridis triangularis.

ARABS, in *Ornithology*, a ſpecies of OTIS that inhabits Arabia Felix, and which Dr. Latham concludes muſt be the flying oſtrich of Le Maire and Adanſon; though Buffon ſuppoſes that bird to be the Linnæan OTIS ATRA. Its ſpecific character is very conciſe, "ears with erect creſts." Gmelin. Briſſon calls it *L'Outarde d'Arabie*; and Buffon, *Le Lobong, ou l'Outarde huſſpé d'Arabie*; and it is likewiſe the *Arabian Buſtard* of Edwards and Latham.

The ſize is that of the great buſtard, but the bill, neck, and legs are longer in proportion. The bill is pale horn colour; back of the head black and creſted; forehead whitiſh; a black mark on each ſide of the head, paſſing into the creſt behind; the reſt of the head, neck, and upper parts of the body, rufous, mixed with black, and ſomewhat reſembling the markings on the plumage of the woodcock; the throat, and fore-part of the neck, aſh-colour croſſed with brown lines; breaſt and belly white; quills black; ſecondaries black and white in ſpots, thoſe neareſt the body rufous, with duſky marks acroſs; tail white except the two middlemoſt feathers, which are blackiſh rufous; all of them are mottled and marked with a black band acroſs; the legs are pale brown.

ARABSCHAH, in *Biography*, a Mahometan writer of the fifteenth century, was a native of Damaſcus, where he died in the year 1450. He is the author of a hiſtory of Tamerlane, intitled, "The wonderful effects of the divine decrees in the affairs of Tamerlane," and of a theological treatiſe "On the unity of God." D'Herbelot Bibl. Orient.

ARABUM LEPRA. See LEPROSY.

ARABUM *ſandaracha*. See SANDARACHA.

ARAC, or ARRAC, a ſpirituous liquor, imported from the Eaſt Indies; chiefly uſed by way of dram, and in punch. The nature and compoſition of this celebrated liquor have been much controverted.—The name arac, Mr. Lockyer aſſures us, is an Indian word for ſtrong waters of all kinds; as they call our ſpirits and brandy, Engliſh arac.—But what we underſtand by the name arac, is really no other than a ſpirit procured by diſtillation from a vegetable juice called *toddy*, which flows by inciſion out of the cocoa nut tree, and ſome other trees, like the birch-juice procured among us.

The *toddy*, Mr. Lockyer adds, is a pleaſant drink of itſelf, when new, but purges thoſe not uſed to it; and when ſtale, is heady; and finally makes good vinegar. The Engliſh at Madras uſed it as leaven to raiſe their bread with.

Others are of opinion, that the arac, or arrac, is a vinous

ſpirit

ſpirit obtained by diſtillation, in the Eaſt Indies, from rice or ſugar fermented with the juice of cocoa nuts.

The Goa arac is made from the toddy, the Batavia arac from rice and ſugar. There is likewiſe a kind of ſhrub from which arac is made.

Goa and Batavia are the chief places for arac:—At Goa there are divers kinds; ſingle, double, and treble diſtilled. The double diſtilled, which is that commonly ſent abroad, is but a weak ſpirit in compariſon with Batavia arac; yet, on account of its peculiar and agreeable flavour, it is preferred to all the other aracs of India. This is attributed to the earthen veſſels which they uſe at Goa to draw the ſpirit; whereas at Batavia they uſe copper ſtills.

The Parier arac, made at Madras, and the Columbo and Quilone arac, at other places, being fiery hot ſpirits, are little valued by the Europeans, and therefore rarely imported: though highly prized among the natives. In the beſt Goa arac, the ſpirits of the cocoa juice do not make above a ſixth or eighth part: the manner of making the Goa arac is this. The juice of the trees is not procured in the way of tapping, as we do; but the operator provides himſelf with a parcel of earthen pots, with bellies and necks like our ordinary bird-bottles: he makes faſt a number of theſe to his girdle, and any way elſe that he commodiouſly can about him. Thus equipped, he climbs up the trunk of a cocoa-tree; and when he comes to the boughs, he takes out his knife, and cutting off one of the ſmall knots or buttons, he applies the mouth of the bottle to the wound, faſtening it to the bough with a bandage; in the ſame manner he cuts off other buttons, and faſtens on his pots, till the whole number is uſed: this is done in the evening, and deſcending from the tree, he leaves them till the next morning; when he takes off the bottles, which are moſtly filled, and empties the juice into the proper receptacle. This is repeated every night, till a ſufficient quantity is procured, and the whole being then put together, is left to ferment, which it ſoon does.

When the fermentation is over, and the liquor or waſh is become a little tart, it is put into a ſtill, and a fire being made, the ſtill is ſuffered to work as long as that which comes over has any conſiderable taſte of ſpirit.

The liquor thus procured is the low wine of arac, and this is ſo poor a liquor, that it will ſoon corrupt and ſpoil, if not diſtilled again, to ſeparate ſome of its phlegm; they therefore immediately after pour back this low wine into the ſtill, and rectify it to that very weak kind of proof ſpirit, in which ſtate we find it. The arac we meet with, notwithſtanding its being of a proof teſt, according to the way of judging by the crown of bubbles, holds but a ſixth, and ſometimes but an eighth part of alcohol, or pure ſpirit: whereas our other ſpirits, when they ſhew that proof, are generally eſteemed to hold one half pure ſpirit. Shaw's Eſſays on Diſtilling.

There is a paper of obſervations on arac, in the Melanges d'Hiſtoire Natur. tom. v. p. 302. By fermenting, diſtilling, and rectifying the juice of the American maple, which has much the ſame taſte as that of the cocoa, the author ſays he made arac not in the leaſt inferior to any that comes from the Eaſt Indies; and he thinks the juice of the ſycamore and of the birch trees would equally anſwer the end.

Beſide the common ſorts of Goa and Batavia arac, there are two others leſs generally known; theſe are the bitter arac, and the black arac.

By ſtat. 11 Geo. I. c. 30. arac on board a ſhip within the limits of any port of Great Britain, may be ſearched for and ſeized, together with the package; or if found unſhipping or unſhipped before entry, may be ſeized by the officers of exciſe, in like manner as by the officers of the cuſtoms. 33 Geo. II. c. 9. 9 Geo. III. c. 6.

Upon an exciſe officer's ſuſpicion of the concealment of arac, and oath made of the grounds of ſuch ſuſpicion, before the commiſſioners or a juſtice of the peace; they may empower him to enter into ſuch ſuſpected places, and ſeize the liquors, with the caſks, &c. If the officers are obſtructed, the penalty is 100 l.

Arac is not to be ſold but in warehouſes, entered as directed in the 6th of Geo. I. c. 21. upon forfeiture, and the caſks, &c. If permits are not returned, which are granted for the removal of arac, or if the goods are not ſent away within the time limited, the penalty is treble the value. If the permits are not returned, and the decreaſe is not found to be ſufficient, the like quantity is forfeited. Permits are not to be taken out but by direction in writing to the proprietor of the ſtock, or his known ſervant, upon forfeiture of 50 l. or three months' impriſonment.

By ſtatute 9 Geo. II. c. 35. if arac is offered to ſale without a permit, or by any hawker, pedlar, &c. with a permit, the perſon to whom it is offered, may ſeize and carry it to the next warehouſe belonging to the cuſtoms or exciſe, and bring the perſon offering the ſame before any juſtice of the peace, to be committed to priſon, and proſecuted for the penalties incurred by ſuch offence. The perſon ſeizing ſuch goods may proſecute in his own name; and on recovery is entitled to one-third part of the groſs produce of the ſale; and the commiſſioners are, if deſired, upon a certificate from the juſtice of the offender's being committed to priſon, to advance to the ſeizer 15 s. per gallon for the arac ſo ſeized.

Arac (except for the uſe of ſeamen, two gallons each) found in any ſhip or veſſel arrived from foreign parts, at anchor, or hovering within the limits of any port, or within two leagues of the ſhore, and not proceeding on her voyage (unleſs in caſe of unavoidable neceſſity and diſtreſs of weather, notice whereof muſt be given to the collector or chief officer of the port, upon the ſhip's arrival), is forfeited; with the boxes, caſks, or other package, or the value thereof. 5 G. III. c. 43. 19 G. III. c. 69. 21 G. III. c. 39. 24 G. III. c. 47.

Arac is alſo the name of a ſpirituous liquor made by the tartars of Tunguſia, of mares' milk, allowed to become ſour, and afterwards diſtilled twice or thrice between two earthen pots cloſely ſtopped, whence the liquor runs through a ſmall wooden pipe. It is ſaid to be more intoxicating than brandy.

ARACA-Puda, in *Botany*. See Drosera.

ARACÆI, Araceans, or Arkites, in *Ancient Geography*, a people ſuppoſed to be deſcended from Arak the ſon of Canaan, who inhabited a diſtrict in the vicinity of Sidon, which afterwards fell to the lot of the tribe of Aſher, where Joſephus places a town called Arce or Arca. From hence they removed farther north to a town of the ſame name between Aradus and Tripolis. The Arce mentioned by Joſephus, and belonging to the tribe of Aſher, was otherwiſe called Antipas. The Jewiſh hiſtorian ſays, that Baanah, mentioned, 1 Kings, iv. 16. as ſuperintendant of the tribe of Aſher, was governor of the country round about the city of Arce, which lies upon the ſea. In the latter times of the Jewiſh commonwealth, this city was a part of Agrippa's kingdom.

ARACAN, in *Geography*. See Arracan.

ARACANGA, in *Ornithology*, a ſpecies of Psittacus, or parrot, in the Linnæan ſyſtem; the *Aracanga* of Marcgrave, the *Aracanga Maccaw* of Willughby, *Ara Jamaicenſis* of Briſſon, *Petit Ara Rouge* of Buffon, *Jamaica Maccaw* of Albinus and Brown, *red and yellow Maccaw* of Bancroft and Latham. It is of a pale ſcarlet colour, with

naked wrinkly cheeks; the ſcapular feathers are yellow, and tipt with green; the wing quills are blue above, and red beneath. Mr. Latham ſuſpects, that this may be a younger bird of the ſpecies called ARA, which is ſomewhat bigger. It inhabits Guiana, Braſil, and Jamaica.

ARACARI, a ſpecies of RAMPHASTOS. It is green; abdominal band, vent, and rump red; belly yellow. Gmel. &c. Ramphaſtos with a black beak, the upper mandible white on the ſides, and three-lobed at the baſe. Linn. Syſt. Nat. Marcgrave calls this bird *Araçari*; Briſſon, *Tucana Braſilienſis Viridis*; and Buffon, *Grigri*, and *Toucan Vert du Breſil*.

The length of this bird is ſixteen inches, of which the bill meaſures four inches and a quarter; it is hooked at the tip; the upper mandible white, marked above with a black ſtripe the whole length: the lower mandible is wholly black, and deeply ſerrated at the edges. The head, throat, and neck black; on each ſide of the head is a ſmall cheſnut ſpot juſt above the ears; the upper part of the back, ſcapulars, and wing-coverts are dull green; lower part of the back, rump, and upper tail-coverts, bright red. Breaſt, belly, and ſides brimſtone, with a bright red band acroſs the belly. Tail wedge-ſhaped; legs blackiſh green; claws black. Inhabits South America.

ARACCA, in *Ancient Geography*, a town of Aſia, in Suſiana, on the eaſtern branch of the Tigris, according to Ptolemy. This is probably the city of Chaldæa, built by Nimrod the grandſon of Cuſh, and mentioned under the name of Erach, Gen. x. 10. Ammian calls it Arecha; hence originates the name of Arechæan plains, deſcribed by Tibullus (l. iv. p. 403. ed. varior.):

"Ardet Arecteis aut unda per hoſpita campis."

And this city might probably have led the Arabians to call the large province of Aſia, Iraca or Irak, the capital of which was formerly Babylon, and now Bagdad.

ARACENA, in *Geography*, a town of Spain, in the province of Andaluſia, ſituate near the Sierra Morena, in the country of Seville, with a caſtle on an eminence; 10 leagues N. N. W. from Seville.

ARAC-GELERAN, a ſmall diſtrict of Chuſiſtan, a province of Perſia.

ARACH, or ERACH, a name now given to the ancient PARTHIA.

ARACH, in *Botany*. See ATRIPLEX.

ARACHIDNA, and ARACHIDNOIDES. See ARACHIS, GLYCINE, and LATHYRUS.

ARACHIS (from ἀ privative, *damnum, vel noxa*), in *Botany*, *earth-nut*. Lin. gen. 876. Schreb. 1177. Gærtn. t. 144. Juſſ. 354. Arachidna, Plum. 37. Arachidnoides, Niſſ. act. gall. 1723. t. 19. Claſs, *diadelphia decandria*. Nat. Order, *Papilionaceæ* or *leguminoſæ*. Gen. Char. *Cal.* perianth two-parted, gaping; upper lip ovate, ſemitrifid; the intermediate diviſion the largeſt, emarginate; under lip lanceolate, concave, acute, rather longer than the upper. *Cor.* papilionaceous, reſupine; banner roundiſh, flat-deflex, very large, emarginate, longer than the calyx; wings free, ſubovate, ſhorter than the banner; keel ſubulate, incurved, the length of the calyx, very ſlightly bifid at the baſe. *Stam.* filaments ten, all united at bottom, ſubulate; anthers alternately roundiſh and oblong. *Piſt.* germ oblong; ſtyle ſubulate, the length of the germ; ſtigma ſimple. *Per.* a legume, ovate-oblong, columnar, valveleſs, gibbous, one-celled. *Seeds* two, oblong, obtuſe, gibbous, truncate. *Obſ.* Moſt of the flowers have a piſtil without a germ.

Eſſ. Gen. Char. *Cal.* bilabiate. *Cor.* reſupine. *Fil.* connected. *Legume* gibbous, toruloſe, veined, coriaceous.

Species, 1. A. *hypogæa*, common earth or ground nut. Stem herbaceous, procumbent. The ſtem is annual, three feet high, round, very hairy, reddiſh, ſubercét, with ſpreading procumbent branches; leaves ſcattered, abruptly pinnate; leaflets two pairs, ovate, hairy, entire; ſtipules ſharp, bifid, oppoſite, half ſtem claſping; flowers gold-coloured, growing ſingly on long axillary pedicles; the legumes contain three or four ſeeds. Native of the Eaſt Indies, and cultivated very abundantly in China and Cochin-China. β. The African ground nut differs from the Aſiatic in having the leaflets ſmooth, the ſtipules entire, the flowers uſually in pairs, and only two or three ſeeds in each legume. All the European ſettlements in America now abound with the ground nut, but it is generally ſuppoſed that it was originally brought by the ſlaves from Africa. In South Carolina there is great plenty of this plant; the inhabitants roaſt the nuts, as they are commonly called, and make uſe of them as chocolate. In the eaſtern countries, they are a ſubſtitute for almonds, and like them afford a limpid oil, which in Cochin-China is very much uſed for lamps. It is alſo uſed at table, but not ſo much eſteemed as the oil of olives. The ground nut was cultivated in the Chelſea garden ſo early as the year 1712. 2. A. *fruticoſa*, ſhrubby earth or ground nut; ſtem ſhrubby, upright; the whole plant is viſcid; ſtems ſlender, many, filiform; leaves reſembling thoſe of myrtle, of different ſizes, oblong, ternate, hirſute, partly ſheathing the ſtem at the foot-ſtalks; flowers at the end of the branches, yellow, collected into ſolitary heads with bractes under them. A native of the Eaſt Indies, in Tranquebar and the iſland of Ceylon.

Propagation and Culture. In England, the ſeeds of the earth nut muſt be ſown on a hot-bed in the ſpring, and the glaſſes kept over the plants till towards the end of June; after which, if the weather proves warm, they may be expoſed to the open air by degrees. The branches trail upon the ground, and as ſoon as the flower begins to decay, the germ thruſts itſelf under ground, and the pod is formed and ripened.

ARACHNE, in *Entomology*, a ſpecies of PAPILIO (Nymp. G. Linn.). The wings are entire, black; a rufous band with two eye-ſhaped ſpots on both ſides of the anterior pair; poſterior pair marked with a cinereous jagged band on the under ſide. Inhabits Auſtria. Fabr. Gmel. *Obſ.* This is not PAPILIO *Arachne* of Cramer, deſcribed by Fabricius and Gmelin under the ſpecific name *Morvus*.

ARACHNE, in *Fabulous Hiſtory*, a Lydian damſel, the daughter of Idmon, of the town of Colophon, who conteſted with Minerva the honour of pre-eminence in the arts of ſpinning linen and manufacture of tapeſtry. Minerva was ſo incenſed by her preſumption, that perceiving the peculiar excellence of her rival's performance, ſhe flung the ſhuttle at her head: this inſult ſo offended the diſtreſſed Arachne, that ſhe hung herſelf in deſpair. Minerva, it is ſaid, reſtored her to life under the form of a ſpider, which employs itſelf in ſpinning. The fable is undoubtedly derived from ἀραχνη, the Greek name of the ſpider.

ARACHNOIDEA TUNICA, or *Arachnoides*, from ἀραχνη, *a ſpider*, and εἰδος, *a form*, in *Anatomy*, is a ſemitranſparent thin membrane which is ſpread over the brain and pia mater, and for the moſt part cloſely connected with the latter membrane. See the article BRAIN.

The ſame term, or *Tunica Aranea*, has been alſo applied to that capſule of the cryſtalline lens, which is a continuation of the membrana hyaloidea. See EYE.

ARACHNOIDES, in *Natural Hiſtory*, a genus of the ECHINI *marini*, in Klein's arrangement of teſtaceous and cruſtaceous animals. There is only one ſhell of the Echinus genus that ſtrictly agrees with the character of Arachnoides,

which is *Placenta*; it therefore forms a ſubdiviſion of the genus in the Linnæan ſyſtem, and is thus defined; circular mouth central; vent ſquare, and placed on the ſurface: *Arachnoides Kleinii.*

ARACHNOIDES is alſo a ſpecies of MADREPORA found foſſil. The ſtars are very ſmall, crowded, and flattened; rays ſomewhat undulated, ſhort, and equal. Gmel. &c.

ARACHNOIDEUS, in *Botany*, denotes cobwebbed.

ARACHOSIA, in *Ancient Geography*, a province of Perſia, bounded on the weſt by Drangiana, on the north by Paropamiſus, on the eaſt by the river Indus, and on the ſouth by Gedroſia. It was anciently inhabited by the Arimaſpi. Ptolemy enumerates thirteen cities in this province; the principal of which were Arachotus, Alexandria, and Arbaca. The ancient Arachoſia is traced by major Rennell in the preſent AROKHAGE. Captain Wilford ſays (ſee Aſiatic Reſearches, vol. vi. p. 517.) that *Roh Coi*, according to the Balluch pronunciation, denoting the mountains of Coi, or *Row-Coz* as ſoftened by the Pattans, is the Arachoſia of the Greeks; and that it includes the diſtricts of Gazni and Candahar. Arachoſia is now called Cawer or Caweran; but even this appellation is becoming obſolete. By a ſtrange miſtake, ſays this ingenious writer, the country of Arachoſia, and the river which flows through it, have been placed by the learned D'Anville to the ſouth of Candahar. He adds, that if this famous geographer had recognized Gazni in the Shakeni-Couze of Tavernier, this miſtake would not have happened. Mr. Wilford having converſed often with natives of Candahar, of Kálá-at-Náſir-Khàn, and Cojhur, as well as other intermediate places, obtained ſufficient local knowledge of that country to rectify this error.

ARACHOTI, an ancient people of India, ſuppoſed by Bryant (Anal. of Anc. Mythol. v. III. p. 199) to be the ſame with the CATHAIANS, and ſo denominated from their city Ar-Chota, the ſame as Cothopolis, or city of Cutha. The Arachotians are ſtyled Ἀραχλαῶι from their particular habit which was of linen; and were a branch of the Amonians, who, wherever they ſettled, were famous for this manufacture.

ARACHOTUS, a town of Aſia in Arachoſia, built on a lake of the ſame name by the famous Semiramis, who is ſaid to have given it the name of Cophes. This city, ſays captain Wilford, (ubi ſupra), was probably Coj-vara or Cojhar, Cojwar, and Cajhur, the Kodzar and Kozdar of Perſian authors; and literally the habitation of Coj, and by implication, the capital city of Coj. The river Arachotus, called alſo Choaſpes and Cophes, is now called Abeh-Tarnic, or the river Tarnic. It riſes in the hills north-eaſt of Gazni, and after having watered the whole valley of Arachoſia, loſes itſelf in a marſh about four miles to the ſouth of Candahar, which marſh was the Arachoſian marſh of the ancient geographers. The preſent river Arachotus is formed by a ſmall ſtream, which riſes a little above Mucur in this marſh, and hence it is often called the water of Mucur.

ARACHTHUS, a town of Ætolia, according to Ptolemy

ARACHTHUS, a river of Epirus, which ran into the gulf of AMBRACIA.

ARACHUS, in *Botany*. See ERVUM.

ARACIA, in *Ancient Geography*, an iſland of the Perſian gulf, ſituated on the Perſian ſide; and placed by Nearchus between the iſle of Caïcandros and the mountain Ochus.

ARACIANA, a town of Parthia, mentioned by Ptolemy.

ARACILLUM, an ancient town of Spain, taken and deſtroyed by Auguſtus.

ARACINTHUS, in *Entomology*, a ſpecies of PAPILIO (Hef. Urb. Linn.). The wings are rounded, entire, and brown; poſterior pair beneath grey, with white eye-ſhaped ſpots. Fabr. Sp. Inſ. This butterfly inhabits France, Germany, and Siberia: it is *Papilio morpheus* of Pallas, and *Papilio ſteropes* of Eſper.

ARACLEA, in *Geography*, a ſea-port town of European Turkey, in Romania, on the north-weſt coaſt of the ſea of Marmora, called by the Turks Erekli, 15 leagues weſt of Conſtantinople.

ARACNÆUS MONS, in *Ancient Geography*, a mountain of the Argolidæ, part of a chain which ſeparated the peninſula of Morea on the ſouth-eaſt. It lay to the north-weſt of Epidaurus.

ARACOUA, or ARAGHOVA, in *Geography*, a borough of Greece in Livadia, near the gulf of Lepanto; ſuppoſed to be the ancient *Ambriſſa*.

ARACUITES, a people of South America in Braſil, in the vicinity of the prefecturate of Pernambuco.

ARACUS, in *Botany*. See OROBUS.

ARACUS *Aromaticus*, in the *Materia Medica*, a name given by ſome authors to the *Vanilla* uſed in making chocolate.

ARACYNTHUS, in *Ancient Geography*, a mountain of Greece in Bœotia, whence, according to Steph. Byz. Minerva was denominated *Aracynthis*. Strabo places this mountain in Ætolia, and Pliny in Carmania.

ARAD, ARADUS, a town in an iſland of the ſame name on the coaſt of Phœnicia, over againſt Antaradus Strabo ſays that this town was built by the exiles of Sidon: and Joſephus informs us, that it had at firſt its own kings, in common with the other cities of Phœnicia; but, in progreſs of time, it was ſubdued by the Tyrians. After the Perſians took poſſeſſion of Phœnicia, the kings of Aradus were tributary to Perſia. Arrian ſays, that Strato, the ſon of Geroſtratus, obtained of Alexander the Great, for himſelf and his father, the eſtabliſhed poſſeſſion of this kingdom. It afterwards, as a part of Phœnicia, was ſubject to the Lagidæ, to whom Egypt was aſſigned under the ſucceſſors of Alexander. During the war carried on by Antiochus the Great againſt Ptolemy Philopator, the Aradians were governed by their own laws, and Antiochus did not moleſt this privilege: but they were deprived of it by Antiochus Epiphanes, who, on his return from Egypt, took their city, and ravaged the whole province. When Pompey made a conqueſt of Syria and Phœnicia, the Aradians became ſubject to the dominion of the Romans. The city of Arad, though it had no harbour in the iſland, became powerful at ſea by means of a port which it had on the continent at the mouth of the river Eleutherus. Its inhabitants deteſted piracy, and ſeparated from the Cilicians, who were addicted to it. Strabo, l. xvi. The iſland Aradus, the Arpad of the Scriptures, and the ſeat of the Arvadite or Aradite (ſee Gen. xi. 17.), is at preſent called *Rou-Wadde*: and this iſland, and alſo El-Hammah, the ancient Hamath, the ſeat of the Hamathite, lying over againſt it (Ezek. xlvii. 29.), ten leagues to the eaſtward, are the moſt northern ſettlements of the ſons of Canaan. The proſpect of Rou-wadde from the continent is very magnificent, and furniſhes at a diſtance a continued train of fine buildings and impregnable fortifications. But this is altogether owing to the height of its ſituation, and the rocks that abound in it. Its whole ſtrength and beauty, though it was called Rou-wadde, or Arpad, probably from the Hebrew רִיד, *firmus fuit*, conſiſts of a weak unfortified caſtle, defended by a few ſmall cannon. Formerly, however, it was ſurrounded by a ſtrong wall, conſtructed with ſtones of an immenſe ſize adapted to each other without cramps and mortar, ſo as to withſtand the violence of the ſea, and the battering engines of an enemy. In the time of its proſperity, art and nature had conſpired to render it a place of ſuch ſtrength and im-

portance, as ſufficiently to juſtify the boaſt, "Where is the king of Arpad?" (II Kings, xix. 13.) which Sennacherib made in the conqueſt of it. This iſland is now deſerted, nor has tradition retained the memory of a ſpring of freſh water in its vicinity, which the people of Arados are ſaid to have diſcovered at the bottom of the ſea; and from which they drew water in time of war, by means of a leaden bell and a leathern pipe fixed to its bottom.

ARAD, or *Arada*, a city of Paleſtine, ſituate in Arabia Petræa, ſouth of the tribe of Judah, and of the land of Canaan. The Iſraelites, in their progreſs towards Canaan, were oppoſed and defeated by the king of Arad; but as ſoon as they became maſters of Canaan, they deſtroyed all its cities. Numb, xxi. 1. ch. xxxiii. Arad was afterwards rebuilt; for Euſebius places it in the neighbourhood of Kades, four miles diſtant from Malethis, and twenty from Hebron. See ARED.

ARAD, in *Geography*, a town of Upper Hungary on the river Mariſch, twenty-four miles north of Temeſwar.

ARADA, in *Ornithology*, a name given by Buffon to the Gmelinian TURDUS *cantans*; which ſee.

ARADI, in *Geography*, a town of Aſiatic Turkey in the province of Natolia, ſixteen miles north-weſt of Kaſtamemi.

ARADIS, in *Ancient Geography*, the name of a town in the iſland of Sardinia, which, according to Dion, was taken by Menas.

ARADITA, an epiſcopal city of Africa, in the proconſular province.

ARADOS, in *Medicine*, ſignifies, according to Hippocrates, that perturbation which is excited in the ſtomach by concocting meats of different qualities. It alſo ſignifies any internal perturbation, occaſioned by purging medicines, vehement exerciſe, or other cauſes.

ARADRIPHE, in *Ancient Geography*, a town of Media according to Ptolemy.

ARADUCA, a town of Hiſpania Tarragonenſis.

ARADUCTA, a town of Luſitania, according to Ptolemy.

ARADUS. See ARAD.

ARADUS, an iſland of the Red Sea, mentioned by Steph. Byz.—Alſo, the name of an iſland in the Perſian gulf, mentioned by Euſtathius, and alſo by Strabo.

ARÆ. Athenæus mentions three iſlands of this name on the coaſt of Ionia. There are ſeveral places under this denomination, derived from the altars that were erected in them, on various occaſions and for different purpoſes.

ARÆ *Philænorum*. See PHILÆNI.

ARÆGENUS, a town of ancient Gaul, ſuppoſed by M. D'Anville to have been Bayeaux; formed of Bajocaſſos, whoſe capital was this city.

ARÆOMETER, formed of αραιος, *thin*, and μετρον, *meaſure*, an inſtrument wherewith to meaſure the denſity or gravity of fluids.

The invention of the aræometer has been commonly aſcribed to Hypatia, the daughter of Theo, about the end of the fourth century; but this account, ſays Salverte (Annales de Chemie, xxvii. 13.), is not accurate, if the poem, "de ponderibus et menſuris," annexed to the works of Priſcian, and written by Rhemnius Fannius Palæmon, be truly aſcribed to him. Rhemnius has given a perſpicuous and exact deſcription of aræometry; and he lived under Tiberius, Caligula, and Claudius Cæſar, three centuries before Hypatia; and he attributes the invention to Archimedes. However, if it be conſidered that valuable inventions are forgotten and diſcovered again during the lapſe of a ſhorter period than three centuries, Hypatia may be allowed the honour of a ſecond invention.

The aræometer, or water-poiſe, is uſually made of glaſs; conſiſting of a round hollow ball, which terminates in a long ſlender neck, hermetically ſealed at top; there being firſt as much running mercury put into it as will ſerve to balance or keep it ſwimming in an erect poſition.

The ſtem is divided into degrees (as repreſented *Plate* IX. *Pneumatics*, *fig.* 70.); and by the depth of its deſcent into any liquor, the lightneſs of that liquor is concluded; for that fluid in which it ſinks leaſt muſt be heavieſt; and that in which it ſinks loweſt, lighteſt.

M. Homberg has invented a new aræometer, deſcribed in Philoſ. Tranſact. N° 262. thus: *A* (*fig.* 71.) is a glaſs bottle or mattraſs, with ſo ſlender a neck, that a drop of water takes up in it about five or ſix lines, or half of an inch. Near that neck is a ſmall capillary tube *D*, about ſix inches long, and parallel to the neck.—To fill the veſſel, the liquor is poured in at the mouth *B* (which is widened to receive a tunnel), till it run out at *D*; that is, till it riſe in the neck to the mark *C*, by which means you have always the ſame quantity of liquor; and conſequently by means of the balance, can eaſily tell, when different liquors fill it, which weighs moſt, or is moſt intenſely heavy.

Some regard, however, is to be had in theſe trials to the ſeaſon of the year, and the degree of heat and cold in the weather; becauſe ſome liquors rarefy with heat, and condenſe with cold, more than others; and accordingly take up more or leſs room.

By means of this inſtrument, the ingenious author has made a table to ſhew the different weights of the ſame bulk of the moſt conſiderable chemical liquors, both in ſummer and winter, as follows:

The aræometer full of	Weighed in ſummer. oz. dr. gr.	In winter. oz. dr. gr.
Quickſilver,	11 00 06	11 00 32
Oil of tartar,	01 03 08	01 03 31
Spirit of urine,	01 00 32	01 00 43
Oil of vitriol,	01 03 58	01 04 03
Spirit of nitre,	01 01 40	01 01 70
——— ſalt,	01 00 39	01 00 47
Aquafortis,	01 01 38	01 01 55
Vinegar,	00 07 55	00 07 60
Spirit of wine,	00 06 47	00 06 61
River water,	00 07 53	00 07 57
Diſtilled water,	00 07 50	00 07 54

The inſtrument itſelf weighed, when empty, one dram twenty-eight grains. See HYDROMETER.

ARÆOPAGUS. See AREOPAGUS.

ARÆOSTYLE, ARÆOSTYLOS, in the *Ancient Architecture*, a ſort of intercolumniation, wherein the columns were placed at the diſtance of eight, or, as ſome ſay, ten modules from one another.

In the aræoſtyle, the columns were the wideſt and openeſt they were ever planted at; whence the name—from the Greek αραιος, *rarus*, and στυλος, *column*.

The aræoſtyle is chiefly uſed in the Tuſcan order, at the gates of great cities and fortreſſes.

ARÆOTICS, in *Medicine*, ſuch remedies as tend to open the pores of the ſkin, and render them large enough for the morbific matter's being carried off by ſweat, or inſenſible perſpiration.

To the claſs of aræotics belong diaphoretics, ſudorifics, &c.

ARÆTHUS, in *Ancient Geography*, the name of a river in Epirus.

ARAF, or AL-ARAF, in the *Mahometan Theology*. See AL-ARAF.

ARAFA. See CORBAN.

ARAFAT, in *Geography*, a mountain of Arabia, near Mecca, ſo called, as ſome ſay, becauſe Adam there met and knew his wife, after a ſeparation of 200 years: or, according to others, becauſe Gabriel, after he had inſtructed Abraham in all the ſacred ceremonies, coming to Arafat, there aſked him if he *knew* the ceremonies which had been ſhewn him; to which Abraham replying in the affirmative, the mountain thence had its name, and was called "the mountain of knowledge." To this mountain the Mahometan pilgrims proceed in a tumultuous manner on the ninth day of the month Dhulhajja, after morning prayer; and here they continue performing their devotions till after ſun ſet. When their devotion is finiſhed on this mountain, they depart to Mozdalifa, an oratory between Arafat and Mina, and there ſpend the night in prayer and reading the Koran.

ARAGON. See ARRAGON.

ARAGON, a town of Arabia, 100 miles E. S. E. of Sanaa.

ARAGUA, a town of South America, in the country of Terra Firma, and province of Cumana.

ARAGUAGUA, in *Ichthyology*, a name given by Marcgrave to a ſpecies of ſhark, ſince called by Linnæus SQUALUS PRISTIS, which ſee.

ARAGUS, in *Ancient Geography*, a river of Aſiatic Iberia, which, according to Strabo, joins the Cyrus; but Pliny calls it Alazon, and ſays that it deſcends from mount Caucaſus, ſeparates Iberia from Albania, and diſcharges itſelf into the Cyrus.

ARAHUM, or HARAHUM, in *Ancient Writers*, denotes a place conſecrated or ſet apart for holy purpoſes. Du-Cange.

Hence the phraſe, *in arabo jurare*, or *conjurare*, to make oath in the church; becauſe by the Ripuarian laws, all oaths were to be taken in the church on the relics of the ſaints.

ARAIA, FRANCINO, in *Biography*. See FRANCINO.

ARAIGNEE, in *Fortification*, ſometimes denotes a branch, return, or gallery of a mine.

ARAIRE, the name of a ſmall plough uſed in Provence and Languedoc, in France.

ARAL, in *Geography*, the name of a lake or ſea of Great Bucharia, in Independent Tartary, about 100 miles to the eaſt of the Caſpian ſea. It is about 200 miles long, and about 70 broad: and receives the river anciently called Jaxartes, and more recently the Sirr or Sihon, and the Oxus of antiquity, now called the Gihon. It is very probable that the Caſpian ſea and the Aral formerly conſtituted one lake, though they are now ſeparated by an elevated plane, occaſioned, perhaps, by the ſand rolled down by the Gihon, the Sirr, and other rivers which now flow into the ſea of Aral. The waters of this lake are ſaline, like thoſe of the Caſpian, and the fiſh found in both are of the ſame ſpecies. N. lat. 42° 45′ to 46° 40′. E. long. 57° 4′ to 61° 14′.

ARALIA, in *Botany*, *angelica tree*. Linn. gen. 386. Schreb. 525. Juſſ. 218. Claſs. *pentandria pentagynia*. Nat. Ord. *hederaceæ: araliæ*. Juſſ. Gen. Char. *Cal.* involucre very ſmall, of a globular umbellule. *Perianth.* five-toothed, very ſmall; ſuperior. *Cor.* petals five, ovate, acute, ſeſſile, reflex. *Stam.* filaments five, ſubulate, of the length of the corolla; anthers roundiſh. *Piſt.* germ roundiſh, inferior; ſtyles very ſhort, permanent; ſtigmas ſimple. *Per.* a berry roundiſh, ſtriated, crowned, five-celled. *Seeds* ſolitary, hard, oblong.

Eſſ. Gen. Char. Flowers in an umbellule, with an involucre; *Cal.* five-toothed, ſuperior. *Cor.* five-petalled. Berry five-ſeeded.

Species, 1. A. *ſpinoſa*; thorny aralia, or angelica-tree; angelica arboreſcens, &c. Comm. hort. 1. t. 47. chriſtophoriana, &c. Pluk. phyt. t. 20. Sp. char. arboreſcent. Stem and leaves prickly. This riſes with a woody ſtem to the height of eight or ten feet, dividing into ſeveral branches, with branching leaves, compoſed of many divaricating wings. The ribs of the leaves, as alſo the branches and ſtem, are armed with ſtrong crooked ſpines, rendering the place where the plants grow in plenty, very difficult to paſs through. The flowers are produced in large looſe umbels, at the extremities of the branches, and are of an herbaceous colour. The berry is three-cornered and three-celled. A native of Virginia, whence it was ſent to England in 1688, and cultivated by biſhop Compton at Fulham. 2. A. *pentaphylla*; five-leaved aralia; arboreous, prickly; leaves quinate. The branches of this tree are prickly, round, flexuoſe, aſh-coloured; prickles axillary, ſolitary, horizontal; leaves petioled, from one bud, to three, four, or more; leaflets ovate-acute, ſerrate at top, ſmooth; flowers in umbels, which are peduncled; ſtamens longer than the corolla. A native of Japan. 3. A. *chinenſis*; Chineſe aralia; frutex aquoſus mas, Rumph. amb. 4. t. 44. Nalugu, Rheed. mal. 2. t. 26. ſhrubby; ſtem and petioles prickly; leaflets unarmed, villoſe; ſtem ſimple, cloſely beſet with prickles; leaves confined to the top of the plant, on three-parted prickly villoſe petioles; partial leaves pinnate; leaflets ovate-ſerrate, villoſe, large; panicle branching, with numerous umbellules. It was found in China by Oſbeck, alſo in Cochin-China by Loureiro. It is a native of Malabar, and of Amboina; but Rumphius ſpeaks of it as a large tree growing in the woods; whereas Loureiro deſcribes it in Cochin-China as procumbent or ſcandent. See his Fl. Cochin. 187. 4. A. *japonica*; Japaneſe aralia; Kæmp. ic. ſel. t. 10.; ſhrubby, leaves lobate: ſtem unarmed, upright, ſix feet high; leaves towards the top cloſe, alternate, petioled, ſeven-lobed, young leaves five-lobed; bractes many, involving the whole panicle of flowers, which are terminal in compound panicles, with alternate umbelled peduncles; umbels ſimple; no involucre. A native of Japan. 5. A. *racemoſa*; berry-bearing aralia; ſtem leafy, herbaceous, ſmooth. This grows three or four feet high, dividing into many irregular branches; leaves ramoſe, alternate; peduncles axillary, terminated by round umbels of ſmall four-leaved flowers, of a whitiſh colour, ſucceeded by round channelled berries. A native of Canada, where the berries are eaten, and the leaves and roots uſed as ſallads and pot-herbs, by the Indians and French. 6. A. *nudicaulis*; naked-ſtalked aralia; ſtem naked; leaves in pairs, ternate; ſtem ſo very ſhort, as to ſcarcely deſerve the name: leaves decompound; leaflets pinnate, with five ſerrate pinnas; ſcape long, ſupporting about three umbellules, in ſhape and colour like thoſe of the preceding ſpecies. This, and alſo the fifth ſort, were cultivated by Miller in 1731. It is a native of Canada and Virginia. See Pluk. alm. 98. t. 238. f. 5. The roots of this plant have been ſold for thoſe of ſarſaparilla, and are ſtill uſed as ſuch by ſome of the inhabitants of Canada, though very different from the true ſarſaparilla. 7. A. *cordata*; heart-leaved aralia; herbaceous; ſtem angular, unarmed; leaves ſimple, heart-ſhaped: ſtem ſuffruticoſe, aſcending, villoſe, branching but little; leaves alternate, petioled, ovate-acute, toothed, rough on both ſides; pale and ribbed beneath, unequal; flowers axillary, umbelled; peduncles trichotomous. A native of Japan. 8. A. *octophylla*; digitate-leaved aralia; ſtem arboreous, unarmed; leaves digitate, with eight leaflets; panicle umbelled. A tree, ten feet high; leaves on long footſtalks; leaflets oblong, obtuſe, entire, ſmooth, unequal, diſpoſed in a ring; flowers yellow, ſprinkled with red, in a vaſt terminating panicle, ending in umbels; no involucre; calyx truncate; petals oblong ſpreading.

ſpreading. It is a native of Cochin-China, where it is alſo cultivated, and uſed as a medicine in dropſies. Near Canton there is a ſpecies or variety of aralia with ten ſtamens, and a ten cleft ſtigma. 9. *A. palmata*; palmate-leaved arabo; ſtem ſcandent, prickly; leaves five-lobed; umbels ſimple, lateral: ſtem ſhrubby; leaves large, ſcattered, on long foot-ſtalks; flower white, without an involucre; petioles and pedunicles unarmed; prickles on the ſtem, ſcattered, bowed back. A native of China. The bark of this is alſo uſed in dropſies, and in cutaneous diſorders. Poſſibly ſome of the above ſpecies may, on more accurate examination, be found to belong more properly to the genus HEDERA, which ſeems nearly allied to the aralia.

Propagation and Culture. The firſt ſort is propagated by ſeeds, which are eaſily procured from North America, and which ſhould be ſown in pots filled with light earth, and placed in a ſhady ſituation till autumn, when the pots ſhould either be plunged into an old bed of tan, or planted in a warm border, ſheltered by a hedge or wall; and if the winter prove ſevere, it will be proper to cover the pots with ſtraw or peas-haulm, to prevent the froſt from penetrating deep into the ground. In March the pots ſhould be plunged into a temperate hot-bed, which will bring up the plants early, ſo that they will have more time to get ſtrength before the following winter. The pots ſhould be conſtantly kept clean from weeds, and when the plants come up, they ought to be frequently refreſhed with water; in May they ſhould be inured to the open air; and when they are removed out of the bed they ought to have a ſhady ſituation. In mild weather theſe plants ſhould be always expoſed to the open air; but great care muſt be taken to guard them againſt froſt; therefore the frames under which they ought again to be placed in October, are to be conſtantly opened when the weather is not ſevere. In the ſpring, before the plants begin to puſh, they ſhould be carefully ſhaken out of the pots and ſeparated; part of them ſhould be planted ſingly in ſmall pots, and the other may be planted in a bed of light earth, in a warm ſituation. If thoſe which are planted in ſmall pots, be placed in a moderate hot-bed, it will greatly forward their growth; but they muſt be early inured to bear the open air, otherwiſe they will draw up weak. In the following ſummer, they muſt have a ſhady ſituation, and next winter ſheltered again; the ſpring following they may be ſhaken out of the pots, and planted where they are deſigned to remain. Thoſe plants which were planted in the beds will require protection from the froſt the firſt winter; but if the ſurface of the ground be covered with old tanner's bark, it will prevent the froſt from penetrating to the roots; and in hard froſts ſome ſtraw, peas-haulm, or any light covering, will ſecure the ſtems from being injured; and after they have remained in the beds two years, they will be ſtrong enough to be tranſplanted in the places where they are intended to grow. This plant may be alſo propagated by its roots. The fifth and ſixth ſpecies are hardly enough to be propagated with very little trouble. Their ſeeds ſhould be ſown in autumn. See Miller's Dict. by Martyn.

ARALIA *arborea & capitata.* See HEDERA.

ARALIA, in *Ancient Law Writers*, denotes arable, or ploughing lands.

This is otherwiſe denominated *aratoria, araturia.*

In Domeſday for Eſſex, we meet with *decem acras prati, duos runcal. quatuor aralia*—Where *aralia* ſeems to denote land fit for ploughing and tillage, by way of contradiſtinction to *runcalia*, which was over-run with briars and thorns. Du-Cange.

ARALIASTRUM, in *Botany.* See PANAX.

ARALUCUS, in *Ancient Geography*, a place of Gallia Narbonenſis, north-north-eaſt of Forum Julii. Venus had in this place a temple, which was deſtroyed in the year 427.

ARAM, a name given in ſcripture to Syria, from Aram the fifth ſon of Shem, by whoſe deſcendants, called Aramæans, Syria was peopled.

ARAM, a town of Judæa, in the half tribe of Manaſſeh, on the other ſide of Jordan.

ARAM, in *Geography*, a town of Arabia, 38 miles N. E. of Chamir.

ARAM *Beth-Rehob*, that part of Syria which lay N. of Paleſtine, and was the territory of the city of Beth-Rehob, belonging to the tribe of Aſher.

ARAM *Damaſk.* or Syria Damaſcena, a principal and moſt powerful part of Syria, of which Damaſcus was the capital.

ARAM-*Maacha*, a diſtrict of Syria at the foot of mount Hermon, on the borders of the half tribe of Manaſſeh, on the other ſide of Jordan, called the coaſt of Maachathi.

ARAM *Naharaim*, or Syria of the rivers, or Meſopotamia, ſituate between the Euphrates and Tigris, whence the name.

ARAM-*Zoba*, a country of Syria, near the Euphrates, conquered by David, and afterwards the ſite of Palmyra; bounded on the E. by the Euphrates, and on the W. by the land of Canaan and Syria Damaſcena.

ARAMACA, in *Ichthyology*, a name given by ſome naturaliſts to the ſpecies of PLEURONECTES, called by Linnæus maculatus. Vide Ruyſch. theatr. anim. Marcgrave, &c.

ARAMAGARA, in *Ancient Geography*, a town of India, on this ſide of the Ganges, according to Ptolemy.

ARAMASCHEVA, in *Geography*, a town of Siberia, 30 leagues S. of Tobolſk.

ARAMATHA, in *Ancient Geography*, a metropolitan city of the Ammonites, according to Joſephus.

ARAMAVA, the name of a town of Arabia Felix, according to Ptolemy.

ARAMBYS, the name of the five factories eſtabliſhed by Hannon, the Carthaginian admiral, on the weſtern coaſt of Africa, between the river Lixus and the promontory of Solöe.

ARAMEI, ARAMÆANS, a name given by the Jewiſh lawgiver Moſes, to the inhabitants of Syria and Meſopotamia. See ARAM. Pliny places a people of this appellation among the Scythians.

ARAMITS, in *Geography*, a town of France, in the department of the Lower Pyrenées, and chief place of a canton in the diſtrict of Oleron, on the Vert, ſeven miles S. W. of Oleron. The place contains 1050 and the canton 5,883 inhabitants: the territory includes 262½ kiliometres, and 6 communes.

ARAMO, a town and fortreſs of South America, in the kingdom of Chili, near the Pacific Ocean.

ARAMONT, a town of France, in the department of the Gard, and chief place of a canton in the diſtrict of Nimes, on the weſt ſide of the Rhone; 8 miles below Avignon. The place contains 2200 and the canton 10,577 inhabitants: the territory comprehends 120 kiliometres, and 10 communes.

ARAMPO, or MAN-EATER, in *Zoology*, a name given by the negroes on the gold coaſt of Africa, to a long ſlender animal, in ſhape reſembling a weaſel, with a long tail, and large bruſh at its extremity, of a pale brown colour, and long thin hair. It is ſo called becauſe it digs up graves, and is eager for human fleſh. See ADIVE.

ARAMROY, in *Geography*, one of the principal ports of the diſtrict inhabited by a piratical tribe named Sangarians, and ſituated on the ſouth coaſt of the gulph of CUTCH, between the mouth of the river Indus or Sinde, and the river Puddar.

ARAN, a town of Perſia, in the province of Irak, 35 leagues north of Iſpahan.

ARANAS,

ARANAS, a town of Sweden, in the province of Weſt Gothland. Alſo, a river of Spain, which runs into the Agra, one league below Pampeluna.

ARANCE, a town of France, in the department of the Ain, and chief place of a canton in the diſtrict of St. Rambert; 8 miles E. of Ambronay.

ARANDA, a town of Spain, in Arragon, 19 miles N. W. of Calalaiud.

Aranda *de Duero*, a ſmall town of Spain, in Old Caſtile, on the Ducro; 30 leagues north of Madrid, and 11 ſouth of Burgos.

ARANDON, a town of France, in the department of the Iſere, and chief place of a canton in the diſtrict of la Tour du Pin, 10 miles S. of St. Sorian.

ARANE, in *Ancient Geography*, a town of the Leſſer Armenia, according to Ptolemy.

ARANEA, in *Entomology*, a genus of apterous inſects, well known by the common Engliſh name, Spider. The mouth is furniſhed with ſhort horny jaws; lip rounded at the apex; feelers two, incurved, jointed, very acute at the tip, clubbed, with the genitalia in the male; no antennæ; eyes eight, or rarely ſix; feet eight; anus furniſhed with papillæ, or teats for ſpinning. Gmel. Linn. &c.

Schæffer adds to the Linnæan character, that the feet are made for running; the head united to the thorax and the abdomen, which is of an oval form, and joined to the thorax by a ſhort pedicle or ſtalk. He divides them into different families, according to the various ſituations of the eyes, in which he followed Friſch, Geoffroy, and others. The eyes of ſpiders are immoveable, and their ſtructure is different from thoſe of moſt other inſects; conſiſting each of only one lens, which deprives them of the faculty of multiplying objects, as their immobility does that of ſeeing them if placed otherwiſe than exactly before either of them. Geoffroy had obſerved before, that all ſpiders have eight eyes, and that the eye at each extremity of the line, in the ſpecies which Linnæus believed to have only ſix, is double.

Fabricius and Gmelin have attended, in the ſubdiviſions of the genus, very carefully to the ſituation of the eyes, which differs greatly in different ſpecies: in ſome, for example, they form a quadrangle on the back of the head, two looking in front, two behind, and two on each ſide; the diſpoſition of them in the ſpecies globoſa is altogether different; five of them form a ſemicircle in front, and three lie parallel to each other behind; in argentata, the order is preciſely reverſed, three parallel eyes are in front, and the ſemicircle of five are behind them; in extenſa, they form two parallel lines acroſs, of four eyes each; again, in pulchra, two are in front, and ſix in a tranſverſe ſtreak; three of which incline to one ſide, and three to the other; in goezii, they form two ſomewhat oblique longitudinal ſtreaks, having four eyes in each; in avicularia, four are contiguous in the centre, and form a quadrangle, and the four others are diſpoſed in the ſame order, one at each angle; in conica, according to Gmelin, are two more than uſual; three being placed in front, three behind, and two on each ſide; and in albifrons, all the eyes are diſpoſed in one line, which bends a little in the middle.

The ſpecies are numerous; Gmelin deſcribes the following: faſciata, diadema, marmorea, reticulata, cucurbitina, calycina, octopunctata, bipunctata, arundinacea, angulata, riparia, labyrinthica, quadrilineta, redemita, corollata, montana, ſanguinolenta, nigra, notata, rufipes, nocturna, ſexpunctata, carnifex, flaviſſima, bimaculata, quadri punctata, militaris, truncorum, rupeſtris, aquatica, paluſtris, triguttata, ſcorpiformis, vireſcens, fornicata, hexacantha, tetracantha, aculeata, ſpinoſa, ſpinipes, fuſcata, opilionoides, Oſbeckii, Wilkii, ſpecioſa, horrida, latro, domeſtica, trilineata, dorſata, impreſſa, viatica, laevipes, tricuſpidata, globoſa, argentata, fumigata, clavipes, faccata, extenſa, lobata, longimana, cancriformis, nidulans, latens, fignata, mactans, nigrita, cornuta, fimbriata, dorſalis, tarantula, cinerea, pubeſcens, fulvata, ſcenica, pulchra, goezii, avicularia, truncata, conica, albifrons, myops, longipes, ſcrofa, ſenoculata, ſcopulorum, luca, bicornis caſpia, argentea, holoſericea, ſpinimobilis, cruentata, hirtipes, venatoria, ocellata, tribullus, alba. Which ſee reſpectively.

Spiders have uſually five teats or nipples at the extremity of the abdomen, whoſe apertures they can enlarge or contract at pleaſure. It is through theſe apertures that they ſpin a gluey ſubſtance, with which their bellies are full. They fix the end of their threads by applying theſe nipples to any ſubſtance, and the threads lengthen as the animal recedes from it. They can ſtop the iſſuing of the threads by contracting the nipples, and re-aſcend by means of the claws on their feet, much in the ſame manner as men warp up a rope. When the common houſe-ſpider begins her web, ſhe generally chooſes a place where there is a cavity, ſuch as the corner of a room, that ſhe may have a free paſſage on each ſide, to make her eſcape in caſe of danger. Then ſhe fixes one end of her thread to the wall, and paſſes on to the other ſide, dragging the thread along with her, (or rather the thread follows her as ſhe proceeds), till ſhe arrives at the other ſide, and there fixes the other end of it. Thus ſhe paſſes and repaſſes, till ſhe has made as many parallel threads as ſhe thinks neceſſary for the purpoſe. After this, ſhe begins again, and croſſes theſe by other parallel threads. Theſe are the toils or ſnares which ſhe prepares for entangling flies, and other ſmall inſects. But beſides this large web, ſhe generally weaves a ſmall cell for herſelf, where ſhe lies concealed, watching for her prey. Betwixt this cell and the large web ſhe has a bridge of threads, which, by communicating with the threads of the large one, both give her early intelligence when any thing touches the web, and enables her to paſs quickly in order to lay hold of it. There are many other methods of weaving, peculiar to different ſpecies of ſpiders, and ſome that deſerve particular notice. Aranea venatoria forms a large cylindrical web under ground, with a lid connected by a kind of hinge, which ſhe can open or ſhut at pleaſure; ſhe watches for her prey at the entrance of her den, which is level with the ſurface of the ground, and at the leaſt approach of danger retreats into it and ſhuts the lid, by which means ſhe is completely ſecure; this is a native of the hotter parts of South America. An European ſpecies, labyrinthica, ſpins an horizontal web on the ground, with a cylindrical cavity below the ſurface, in which ſhe watches her prey: marmorea ſpins on the ground nearly in the ſame manner: ſome live in trees, and ſpin long perpendicular webs, as angulata: latens, horrida, and others, ſpin little webs on the underſide of the leaves of plants: and one kind, calycina, will ſecrete itſelf in the calyx of a flower, after the corolla has fallen off, and faſten on flies and other inſects that may come to extract its juices.

The darting of long threads, by means of which ſome ſpecies alſo can convey themſelves to a vaſt diſtance, is remarkable; and ſome have aſſerted, on that account, that ſpiders have the power of flight; though unqueſtionably no one will believe that a ſpider can have wings, as it could no longer be an apterous inſect. Dr. Liſter ſays, that attending cloſely to a ſpider weaving a net, he obſerved it ſuddenly to deſiſt in the mid-work; and turning its tail to the wind, it darted out a thread with the violence and ſtream with which we ſee water ſpout out of a jet; this thread taken up by the wind

wind was immediately carried to ſome fathoms length, ſtill iſſuing out of the belly of the animal. Some time after, the ſpider leaped into the air, and the thread mounted her up ſwiftly. Upon this diſcovery, he made the ſame obſervation on near thirty different ſorts of ſpiders, and found the air filled with young and old, ſailing on their threads, and doubtleſs ſeizing gnats and other inſects in their paſſage, there being often manifeſt ſigns of ſlaughter, legs and wings of flies, &c. on theſe threads, as well as in their webs below. Dr. Huiſe made the like diſcovery about the ſame time.

Dr. Liſter thinks there is a fair hint of the darting of ſpiders, in Ariſtotle, Hiſt. An. lib. ix. cap. 39.; and in Pliny, lib. x. cap. 74. But with regard to their ſailing the ancients are ſilent, and he thinks it was firſt ſeen by him. He alſo obſerves of thoſe ſailing ſpiders, that they will often dart, not a ſingle thread only, but a whole ſheaf at once, conſiſting of many filaments, yet all of one length, all divided each from the other, and diſtinct, until ſome chance either ſnap them off, or entangle them: but for the moſt part it may be obſerved, that the longer they become the more they ſpread, and appear like the numerous rays of a blazing ſtar. As for that which carries them away in the air ſo ſwiftly, it is partly their ſudden leap, partly the length and number of the threads projected, and partly the poſture and management of their feet. Dr. Liſter obſerved ſome ſorts to uſe their legs, very like wings or oars; theſe being ſometimes cloſe joined, at others opened, and again bent and extended as neceſſity required. To fly they cannot be ſtrictly ſaid, becauſe they are carried into the air by external force; but they can, when the wind will ſuffer them, ſteer their courſe, and perhaps mount or deſcend at pleaſure; and in rowing themſelves along the air, it is obſervable that they ever take their flight backwards. It is ſcarcely credible to what height they will mount; which yet is preciſely true, and may be eaſily obſerved by any one that ſhall fix his eye ſome time on any part of the heavens, the white webs at a vaſt diſtance very diſtinctly appearing from the azure ſky; but this is in autumn only, and in very fair and calm weather. Such are briefly the remarks of Dr. Liſter, to which may be added part of his letter to Mr. Ray on the ſame ſubject: "Laſt October, &c. I took notice that the air was very full of webs; I forthwith mounted to the top of the higheſt ſteeple on the Minſter (in York), and could there diſcern them exceeding high above me." He further obſerves, that they not only thus ſhoot their threads upward, and mount with them in a line almoſt perpendicularly; they alſo project them in a line parallel to the horizon, as may be ſeen by their threads running from one wall to another in a houſe, or from one tree to another in a field, and even from wall to wall acroſs gardens of conſiderable extent.

The matter of which the ſpider's web is formed, as before obſerved, is a viſcid juice prepared in the body of the creature, and emitted from the teats at the extremity of the abdomen. The apertures in theſe are numerous, and according to Reaumur, there are enough even in the compaſs of a pin's head to yield an amazing number of diſtinct threads. The holes are perceived by their effects: take a garden ſpider ready to lay its eggs, and apply the finger on a part of the papillæ, and as you withdraw the finger a vaſt number of diſtinct threads will appear. Reaumur has often counted ſeventy or eighty with a microſcope; but has perceived that there were infinitely more than he could tell. In effect, if he ſhould ſay that each tip of a papilla furniſhed a thouſand, he is perſuaded he would ſay much too little. The part is divided into an infinity of little prominences, like the eyes of a butterfly. Each prominence, no doubt, makes its ſeveral threads; or rather between its ſeveral protuberances, there are holes that give vent to threads; the uſe of the protuberances, in all probability, being to keep the threads aſunder, at their firſt exit before they are yet hardened by the air. In ſome ſpiders theſe protuberances are not ſo ſenſible; but in lieu thereof there are tufts of hairs which may ſerve the ſame purpoſe, viz. to keep the threads at a proper diſtance from each other. Be this as it will, there may threads come out at above a thouſand different places in every papilla; conſequently the ſpider having five papillæ, has holes for above five thouſand threads.

Such is the tenuity of the threads in the larger ſort of ſpiders. But if we examine the young produced by thoſe, we ſhall find that they no ſooner quit their egg than they begin to ſpin. Indeed their threads can ſcarcely be perceived, but the webs may: they are frequently as thick and cloſe as thoſe of the houſe-ſpiders; and no wonder, there being four or five hundred little ſpiders concurring to the ſame work. How minute muſt the apertures in the papillæ of theſe ſpiders be! The whole ſpider is perhaps leſs than a papilla of the parent which produced it. But there are even ſome kinds of ſpiders ſo ſmall at their birth, that they are not viſible without a microſcope. There are uſually found an infinity of theſe in a cluſter: they only appear like a number of red points; and yet there are webs found under them, though well nigh imperceptible. What muſt be the tenuity of one of theſe threads? Leeuwenhoek has computed that one hundred of the ſingle threads of a full grown ſpider are not equal to the diameter of the hair of his beard; and conſequently, if the threads and hair be both round, ten thouſand ſuch threads are not bigger than ſuch a hair. He calculates further, that when young ſpiders firſt begin to ſpin, four hundred of them are not larger than one which is of a full growth; allowing which, four millions of a young ſpider's thread are not ſo thick as the ſingle hair of a man's beard.

Some experiments have been made to manufacture the threads of ſpiders into a kind of ſilk; and it is ſaid that a *ſhort-legged* ſpecies of garden-ſpider yields a ſilk ſcarcely inferior to that of the ſilk-worm. The webs of ſome foreign ſpecies might even be employed with ſtill greater propriety for this purpoſe, than thoſe which inhabit Europe. A later writer, Sir G. Staunton, in "the Embaſſy to China," alludes to this when ſpeaking of the Java foreſts. "In ſome open ſpots (ſays that author) were found webs of ſpiders, woven with threads of ſo ſtrong a texture, as not eaſily to be divided without a cutting inſtrument; they ſeemed to render feaſible the idea of him who, in the ſouthern provinces of Europe, propoſed a manufactory of ſpiders' threads, which was ſo ridiculous to the eyes of thoſe who have only viewed the flimſy webs ſuch inſects ſpin in England."

M. Bon, of Languedoc, about ſeventy years ago, contrived to manufacture a pair of ſtockings and mittens from the ſilk of the ſpider already mentioned: they were of a beautiful natural grey colour, and were almoſt as ſtrong as thoſe of common ſilk; and he publiſhed a diſſertation concerning his diſcovery. M. Reaumur being appointed by the Royal Academy to make farther inquiry into this new ſilk-work, raiſed ſeveral objections and difficulties againſt it, which appeared in the Memoirs of the Academy for the year 1710. His arguments againſt it are chiefly theſe: the natural fierceneſs of the ſpiders renders them unfit to be bred and kept together. Four or five thouſand being diſtributed into cells, fifty in ſome, one or two hundred in others, the big ones ſoon killed and eat thoſe which were leaſt, ſo that in a ſhort time there were ſcarcely above one

or

or two left in each cell; and to this inclination of devouring their own ſpecies in common with any other inſect they can overcome, Reaumur aſcribes the ſcarcity of ſpiders, conſidering the vaſt number of eggs they lay.

But this is not all; he affirms, and it is well known ſince, that the ſpider's bag is inferior to that of the ſilk-worm, both in ſtrength and luſtre, and produces leſs of the material proper to be manufactured. The thread of the ſpider's web, he ſays, can only bear a weight of two grains without breaking; and that of the bag bears thirty-ſix. The latter therefore, in all probability, is eighteen times thicker than the former; yet it is weaker than that of the ſilk-worm, which bears a weight of two drams and an half. So that five threads of the ſpider's bag muſt be put together to equal one thread of the ſilk-worm's bag. Now it is impoſſible theſe ſhould be applied ſo juſtly over one another as not to leave little vacant ſpaces between them, whence the light will not be reflected; and of conſequence, a thread thus compounded muſt fall ſhort of the luſtre of a ſolid thread. Add to this, that the ſpider's thread cannot be wound off as that of the ſilk-worm may, but muſt of neceſſity be carded; by which means being torn in pieces, its evenneſs, which contributes to its luſtre, is deſtroyed. In effect, this want of luſtre was taken notice of by M. de la Hire, when the ſtockings were preſented to the Academy. Again, ſpiders furniſh much leſs ſilk than the worms: the largeſt bags of theſe latter weigh four grains, the ſmaller three grains; ſo that 2304 worms produce a pound of ſilk. The ſpiders' bags do not weigh above one grain; and when cleared of their duſt and filth, loſe two-thirds of that weight. The work of twelve ſpiders, therefore, only equals that of one ſilk-worm; and a pound of ſilk will require at leaſt 27,648 ſpiders. But as the bags are wholly the work of the females, who ſpin them to depoſit their eggs in, there muſt be kept 55,296 ſpiders to yield a pound of ſilk: yet this will only hold good of the beſt ſpiders; thoſe large ones ordinarily found in gardens, &c. ſcarcely yielding a twelfth part of the ſilk of the others. Two hundred and eighty, it ſeems, of theſe would not yield more than one ſilk-worm; 663,552 of them would ſcarcely yield a pound.

The act of generation among ſpiders varies in different ſpecies. As theſe inſects prey upon each other, except during the time of their amours, they dare not come within reach of one another but with the utmoſt caution. They may be ſometimes ſeen ſtretching out their legs, ſhaking the web, and tampering with each other by a ſlight touch with the extremity of their feet; then, in a fright, dropping haſtily down their thread, and returning in a few moments to make a freſh trial by feeling. When once both parties are well aſſured of the ſex they have to deal with, the approaches of their feet in order to feel are more frequent, confidence takes place, and amorous dalliance enſues. "We cannot," ſays Lyonnet, "but admire how careful they are not to give themſelves up blindly to a paſſion, or venture on an imprudent ſtep, that might become fatal to them." A caveat this to the human kind. Liſter and Lyonnet, two accurate obſervers, ſay, that the extremity of thoſe arms or claws, which the ſpider uſes to graſp his prey with, ſuddenly opens, as it were by a ſpring, and lets out a white body, the ſexual organs in the male; thoſe of the female are beneath the abdomen; a fact which later naturaliſts have aſcertained.

Theſe diſguſting animals, in every ſtage of their exiſtence, prey with the moſt ſavage ferocity upon all inſects they can overcome, and alſo upon one another, as already obſerved. They caſt their ſkins once in a year, and this they perform by ſuſpending themſelves in ſome corner, and creeping out of it. In reſpect of colour, they vary greatly in individuals of the ſame ſpecies. The ſphex and ichneumon are their mortal enemies.

The weapon wherewith the ſpiders ſeize and kill their prey is a pair of ſharp crooked claws, or forceps, placed in the fore-part of the head. They can open or extend theſe pincers as occaſion may require; when undiſturbed, they ſuffer theſe to lie one upon another. Leeuwenhoek ſays, that each of theſe claws has a ſmall aperture, or ſlit, through which he ſuppoſes a poiſonous juice is injected into the wound it makes. Dr. Mead, in his Eſſay on Poiſons, diſſents from this opinion altogether, having never been able, on repeated examinations, to diſcover any ſuch opening, not even in the claws of the largeſt ſpiders; which being above fifty times larger than any of the European ſpiders, would have more eaſily afforded a view of the opening, if nature had allotted any to this part of the animal. Beſides, repeated obſervations alſo convinced him that nothing dropped out of the claws of the living ſpider when he bit any thing, becauſe they were always perfectly dry; but that a *ſhort proboſcis* was at the ſame time thruſt out of the mouth, which inſtilled a liquor into the wound. And the ſame writer obſerves, that the quantity of liquor emitted by the common ſpiders when they kill their prey is viſibly ſo great, and theſe wounding inſtruments (the claws) ſo minute, that they could contain but a very inconſiderable portion thereof, if it were to be diſcharged through them. In juſtice to this remark of Dr. Mead, it may be added, that though there is an apparent groove or indentation viſible on theſe fangs, in ſome very gigantic ſpecies, they do not appear to be perforated; and in general they are ſmooth without even this apparent indent. The form of the fang may be compared in ſome reſpects to thoſe of a poiſonous ſnake: the latter, beſide the aperture at the baſe, has a linear opening near the tip; and through this, and perhaps the other alſo, it diſcharges a mortally poiſonous fluid into the wound it inflicts, in the ſame manner as the ſpider is ſuppoſed to do: now, in ſome great ſpiders, theſe fangs are nearly, if not quite, as large as thoſe of a rattleſnake of a moderate ſize; and yet, in ſuch, this aperture, if it does really exiſt, is not only inviſible to the naked eye, at the ſame time that they are ſufficiently obvious in the fang of the ſnake, but appears even doubtful under the deepeſt glaſſes with which the claw can be examined. There is, as before ſaid, a kind of grooved indent in the claws of ſome ſpecies; but whether they anſwer the above purpoſe, or are even perforated, is a point on which the naturaliſt muſt decide with caution.

The ſkins that have been ſhed, and are found in the webs, being dry and tranſparent, have alſo the claws attached to them; and theſe may be more eaſily examined than in the living ſpider.

ARANEA, in *Mineralogy*, a ſilver ore found only in the mines of Potoſi, or in the ſingle mine there of Catamito. It owes its name to ſome reſemblance it bears to a cobweb, being compoſed of threads of pure ſilver, which to the ſight appear like a ſilver lace when burned to ſeparate the ſilk from it. It is the richeſt of all kinds of ſilver ore.

ARANEA *Tunica*. See ARACHNOIDES.

ARANEIFORMIS, in *Entomology*, a ſpecies of CERAMBYX. The thorax is ſpinous and tuberculated; wing-caſes porous; antennæ long, with a ſingle tooth on the fifth joint. Fabr. Spec. Inſ. *Obſ.* Gmelin miſquotes the Fabrician character, "articulo quinto unidentato," for "articulo quinto barbato," p. 1819. This inſect inhabits South America.

ARANEIFORMIS, in *Natural Hiſtory*, a ſpecies of ECHINUS. It is orbicular, grey, with ſhining greyiſh-purple ſpines,

ſpines, which are thickeſt in the middle. This is *Echinometra multipes ſ. ſpinoſiſſima Americana* of Seba; and *Spinekopf*. Pnelf. Zee-egel. Inhabits the American ſeas. Gmelin.

ARANEOIDES, in *Entomology*, a ſpecies of CIMEX, in the ſection "oblongus." It is yellow, with very long legs, and inhabits Germany. Schæff. Gmelin.

ARANEUS, a ſpecies of CANCER, found in the European ſeas. The thorax is ovate, tuberculated, and hairy; front bifid; claws ovated. Linn. Fabr. Gmel.

ARANGAS, in *Ancient Geography*, a mountain placed by Ptolemy in the interior Libya.

ARANGHERA, in *Geography*, one of the Biſſagos iſlands in the Atlantic, at the mouth of the river Grande, near the coaſt of Africa.

ARANIMEGIES, a ſmall but beautiful town of Hungary, in the country of Zatmar, ſituate in the middle of a plain between the rivers Samos and Tur; three leagues north-eaſt of Zatmar.

ARANIOS, a river of Tranſylvania, which riſes near Clauſemburg, and joins the Mariſch.

ARANJUEZ, a village and royal palace of Spain, in New Caſtile, ſituate on the Tagus, ſix leagues north-eaſt of Toledo, and ten ſouth of Madrid.

ARANJUEZ, a town of South America, in Mexico, in the province of Coſta Rica.

ARANNOS, a town of Spain, in Navarre, three leagues from St. Eſtevan.

ARANTA, a ſea-port town of South America, in Peru, and juriſdiction of Arequipa, with a deep harbour and narrow entrance; ten leagues ſouth-weſt of Arequipa.

ARANTIA, in *Ancient Geography*, a country of Peloponneſus, according to Pauſanias; and alſo a town of the ſame country, ſituate on a hill, called "Arantinus Collis."

ARANTIUS, JULIUS CÆSAR, in *Biography*, a celebrated anatomiſt and phyſician, born at Bologna, about the year 1530; ſtudied under his uncle Bartholomew Maggius, and under Veſalius; and took his degree of Doctor in Medicine, and was afterwards made profeſſor of medicine, anatomy, and ſurgery, in the ſame univerſity; in which ſituation he continued to the time of his death, in 1589. He was indefatigable in his reſearches into the ſtructure of the human body, which he took every opportunity of diſſecting and examining. In his firſt work, "De humano fœtu," publiſhed at Rome, in 1564, he corrected many miſtakes of former anatomiſts, in their deſcription of the uterus, which they had generally taken from brutes. He properly deſcribes the veſſels of the uterus as derived from the ſpermatics and hypogaſtrics. He deſcribed the foramen ovale, and ductus anterioſus in the fœtus; and denies the exiſtence of urachus, or of allantoid membrane, in the human ſubject. This book has been frequently republiſhed. In 1579, he publiſhed "In Hippocratem de vulneribus capitis brevis commentarius;" and in 1581, "De tumoribus præter naturam liber," 4to.; in which he deſcribes a pair of forceps he had contrived to extract polypi from the noſtrils. He ſhewed there was no paſſage from the right to the left ventricle of the heart, but that the blood was carried from the heart, through the lungs, by the pulmonary artery; thus making one ſtep towards the diſcovery of the circulation of the blood, which was afterwards completed by Harvey. Haller Biblioth. Anat. et Bib. Chirurg.

ARANYVAN, in *Geography*, a fortreſs of Tranſylvania, in the county of Weiſſemburg, on the north ſide of the Mariſch, ſix miles north of Millenbach.

ARAPABACA, in *Botany*. See SPIGELIA.

ARAPHIA, in *Ancient Geography*, an iſland which belonged to Caria. Steph. Byz.

ARAPUS, the name of a river of Carmania, according to Ptolemy.

ARAQUES, in *Geography*, a town of Spain, in Arragon, four leagues north-north-weſt of Jaca.

ARAQUIL, a town of Spain, in Navarre, five leagues weſt of Pampeluna; ſuppoſed to be the ancient Aracillum, or Arocellis.

ARAR, in *Ancient Geography*, the *Saone*, a river of Celtic Gaul, which, according to Cæſar, ſeparated the territory of the Sequani from that of the Ædui; and the courſe of which is ſo ſlow, that its motion cannot be perceived; whence Pliny calls it "the ſluggiſh river;" and Silius Italicus deſcribes it (lib. xv. v. 504. p. 773. ed. Drakenb.) to the ſame purpoſe:

"Quorum ſerpit Arar per rura pigerrimus undæ."

Over this river the ſoldiers of Cæſar built a bridge in one day.

ARARAT, a mountain of Aſia, in Armenia, on which the ark of Noah reſted after the ceſſation of the deluge. Concerning the etymology of the name, Dr. Bryant obſerves (Anc. Myth. v. iii. p. 2.), that it is a compound of *Ar-Arat*, and ſignifies "the mountain of deſcent," being equivalent to הר-ירד, Har-irad, of the Hebrews.

Of the preciſe ſituation of this mountain different accounts have been given. Some have ſuppoſed that it was one of the mountains which divide Armenia on the ſouth from Meſopotamia and that part of Aſſyria inhabited by the Curds, from whom thoſe mountains took the name of Curdue, or Cardu; by the Greeks denominated Gordyæi. It is called by the Arabs Al-Judi, and alſo Thamanin. In confirmation of this opinion, it is alleged that the remains of the ark were to be ſeen on theſe mountains; and it is ſaid, that Beroſus and Abydenus both declare, that ſuch a report exiſted in their time. Epiphanius pretends, if we may credit his aſſertion, that the relics of the ark were to be ſeen in his time; and we are further told, that the emperor Heraclius went from the town of Thamanin, up the mountain Al-Judi, and ſaw the place of the ark. Others maintain, that mount Ararat was ſituated towards the middle of Armenia, near the river Araxes, or Aras, about twelve miles from it, according to Tournefort, above 280 miles diſtant from Al-Judi, to the north-eaſt. This mountain is called "Maſis" by the Armenians, and by the Turks "Agridagh," or the heavy and great mountain; and ſtands about twelve leagues to the ſouth-eaſt of Erivan, and of Ejmiadzin, from which it is diſtant about two ſhort days' journey; four leagues from the Aras, and ten to the ſouth-weſt of Naxuan, or Nachidſhevan, or Nactſhevan, of M. D'Anville, and the Naxuana of Ptolemy. Near this city is another ſmall town, mentioned by William de Rubruquis, who travelled through Armenia in 1253, and called Cemainum, which is by interpretation eight, and as he ſays, ſo called from the eight perſons who came out of the ark and built it. This is ſuppoſed to be the ſame with Shemainum or Shemanum, formed of the Hebrew שמנה, eight, or the Themanim and Thamanim of Elmacieri and others, which was ſaid to have been built by Noah. Ararat ſeems to be a part of that vaſt chain of mountains called Caucaſus and Taurus; and upon theſe mountains and in the adjacent country, were preſerved more authentic accounts of the ark than in almoſt any other part of the world. The region about Ararat, called Araratia, was eſteemed among the ancients as nearly a central part of the earth; and it is certainly as well calculated as any other for the accommodation of its firſt inhabitants, and for the migration of

of colonies, upon the increaſe of mankind. The ſoil of the country was very fruitful, and eſpecially of that part where the patriarch made his firſt deſcent. The country alſo was very high, though it had fine plains and valleys between the mountains. Such a country, therefore, muſt, after the flood, have been the ſooneſt exſiccated, and conſequently the ſooneſt habitable.

Some have objected to the Moſaic account of the dove and olive, and will not allow that the ark reſted in Armenia, becauſe travellers of late have diſcovered no olives in that country. Thus alſo it might be ſaid, that becauſe there are in theſe days no balſam at Jericho, nor date trees in Babylonia, there were none in ancient times; but the inference with regard to Armenia would be as falſe as it is frivolous. Strabo, who was a native of Aſia Minor, ſpeaks expreſsly of the fertility of Armenia, and eſpecially (lib. xi. t. ii. p. 800.) of the region Gogarene, which he particularly mentions as productive of the olive.

It is not certain when the deſcendants of Noah quitted this country. Many of the fathers were of opinion, that they did not leave it for ſome ages. According to Epiphanius (Hær. lib. i. p. 5.), they remained in the vicinity of Ararat for five generations, during the ſpace of 659 years. Probably Noah might never depart from it; nor have we any account of his ſons leaving it till the general migration.

The mountain has ſtill the name of Ararat, which it has retained through all ages. Tournefort (vol. ii. 267, &c.) has particularly deſcribed it, and from his account it ſeems to conſiſt chiefly of free-ſtone, or calcareous ſand-ſtone. It is a detached mountain in form of a ſugar-loaf, in the midſt of a very extenſive plain, conſiſting of two ſummits; the leſſer more ſharp and pointed, the higher, which is that of the ark, lies north weſt of it, and raiſes its head far above the neighbouring mountains, and is covered with perpetual ſnow. When the air is clear, it does not appear to be above two leagues from Erivan, and may be ſeen at the diſtance of four or five days journey. Its being viſible at ſuch a diſtance, however, is aſcribed not ſo much to its height, as to its lonely ſituation, in a large plain, and upon the moſt elevated part of the country. The aſcent is difficult and fatiguing. Tournefort attempted it; and after a whole day's toil, he was obliged, by the ſnow and intenſe cold, to return without accompliſhing his deſign, though in the middle of ſummer. On the ſide of the mountain that looks towards Erivan, is a prodigious precipice, very deep with perpendicular ſides, and of a rough black appearance, as if tinged with ſmoke.

ARARAT, *Mount*, or the *ſtone head*, is the name of a ſhort range of mountains on the north frontier of North Carolina, in a north-eaſt direction from Ararat river, which is a north-weſt branch of Yadkin river.

ARARAUNA, in *Ornithology*, a ſpecies of PSITTACUS. Above blue, beneath yellow; cheeks naked, with feathered lineations. Gmelin, &c. The length of this bird is two feet ſeven inches. Its bill is black; forehead to the crown and ſides of the head dull green, the reſt of the body above fine blue to the coverts of the tail; cheeks and throat covered with a bare white ſkin; each cheek marked with black lines compoſed of very ſhort feathers, which ariſe at the angles of the mouth, and paſs beneath the eyes towards the back of the head; the eye-lids are edged with black; irides pale yellow; beneath, the body is of a pale ſaffron colour, and in ſome there is an intermixture of this colour on the wing coverts; the tail is blue above, and the inner margins of the feathers violet, except the two in the middle; it is wedge-ſhaped; the legs cinereous, and the claws black.

This bird inhabits Jamaica, Guiana, Braſil, and Surinam.

Another parrot, nearly reſembling this, is deſcribed by different authors; it has not the feathered lines on the cheeks which are ſo conſpicuous in this ſpecies, and the top of the head is blue inſtead of green. Gmelin calls it a variety (β), though he gives it a ſpecific name *cæruleus*; blue parrot, or maccaw; pſittacus maximus cæruleus varius, cauda producta, Brown. Jam. & Gmel. This bird inhabits the ſame places as the other, but is more uncommon. The natives know the two birds by their cry, and they ſay the latter does not pronounce the word *ara* ſo diſtinctly as the blue and red maccaw, or parrot.

ARARI, in *Geography*, a river of South America, in Braſil, which runs into the Northern Sea, in the prefecture of Tamaraca.

ARAS, the ancient ARAXES, a river of Aſia, which riſes in the Caucaſian mountains, and after traverſing Armenia and part of Perſia, diſcharges itſelf into the Kur, or Cyrus.

ARASENG, a town of Perſia, in the province of Irak, ten leagues ſouth of Caſbin.

ARASSI, a maritime town of Italy in the ſtate of Genoa. It is a place of ſome trade, and well peopled; and here veſſels may be hired for Genoa or any part of Italy. N. lat. 44° 4'. E. long. 7° 20'.

ARATEIA, in *Antiquity*, a yearly feſtival celebrated at Sicyon, on the birth-day of Aratus, wherein divers honours were paid by a prieſt conſecrated to this ſervice, who for diſtinction's ſake wore a ribband beſpangled with white and purple ſpots.

The arateia were ſolemnized with much pomp of muſic, the choriſters of Bacchus attending. Potter, Archæol. lib. ii. cap. 20.

ARATHAPESCOW, in *Geography*, an Indian tribe, inhabiting the ſhores of the lake and river of that name, in the north-weſt part of North America, between N. lat. 57° and 59°. North of the abode of this nation, and near the Arctic circle, is lake Edlande, around which live the dog-ribbed Indians.

ARATO-BAFABEN, in *Aſtronomy*, a fixed ſtar of the ſecond magnitude in the head of the DRAGON.

ARATUM *terræ*, in our *Ancient Law Books*, as much land as can be yearly tilled with one plough.—"Hoc manorium eſt 30 aratrorum."

ARATURA *terræ*, an ancient ſervice which the tenant was to do his lord, by ploughing his land.

ARATUS, in *Biography* and *Ancient Hiſtory*, a famous general of the Achæans, was the ſon of Clinias of Sicyon, and born about the year before Chriſt 273. When his father and ſeveral of his kindred and friends were either maſſacred or baniſhed by the tyrant Abantidas; Aratus, being then about ſeven years of age, made his eſcape, and found an aſylum in the houſe of the tyrant's ſiſter: after concealing him for ſome time, ſhe ſent him privately to his friends at Argos. Here he received a liberal education, and diſtinguiſhed himſelf by his ſkill and ſtrength in athletic exerciſes. Having conceived betimes a deteſtation of tyrants, he had ſcarcely attained his 20th year before he formed a plan of reſcuing Sicyon, his native place, from Nicocles, who was then its tyrant. With his view he ſcaled the walls by night, and at day-break invited the citizens, by the voice of a herald, to reſume their ancient liberty. The ſummons was joyfully obeyed, and the city regained its freedom by a revolution, which did not coſt a ſingle life. For its future ſecurity againſt the partiſans of Nicocles, he found it neceſſary to unite this city with the confederacy, called the Achæan league; and having been entruſted with ſupreme conſtitutional power in Sicyon, he exerciſed it in a manner which gained him univerſal eſteem, and contributed

to the eſtabliſhment of order and tranquillity. In the office of prætor, or general of this league, to which he was afterwards advanced, he recovered the citadel of Corinth from a Macedonian garriſon, by a military ſtratagem that has been highly applauded, and thus induced other cities to join the confederacy. Aratus alſo reſcued Argos from its tyrant Ariſtippus, by perſevering ſkill and valour. In the mean time the Ætolians, jealous of the growing power of the Achæans, purſued hoſtilities which were injurious to the reputation of Aratus, and reduced the league to great extremities; and for ſuppreſſing parties which were formed againſt him both in Sicyon and in Corinth, he was under the neceſſity of recurring to ſevere meaſures. In order to obtain effectual aſſiſtance, he was conſtrained, againſt his own principles and inclinations, to adviſe the Achæans to engage the ſupport of Antigonus Doſon, king of Macedon; who, entering the Peloponneſus with a large army, afforded them ſeaſonable relief. When, on a ſubſequent occaſion, the Achæans took part with the Meſſenians againſt the Ætolians, Aratus marched againſt the invaders, and avoided an action. But, during their retreat, and perceiving that they were laden with plunder, he made an unexpected attack upon them, by which they were completely defeated. For this conduct he was publicly accuſed, and eſcaped a cenſure by his ſubmiſſion. The Achæans were then obliged to have recourſe to Philip, the ſucceſſor of Antigonus: and in the war that enſued, the king of Macedon conceived a diſlike to Aratus, which induced him to retire to Sicyon, where he reflected with regret on the imprudence of ever calling the Macedonians into Peloponneſus. This diſlike on the part of Philip was gradually heightened into an invincible hatred: and he determined to ſacrifice the object of his reſentment and averſion. For this purpoſe he employed Taurion, one of his officers, to diſpatch him ſecretly, and it is ſaid that the charge was executed by means of poiſon, which was adminiſtered at an entertainment to which Aratus was invited. The conſequence was a lingering diſorder, which the Achæan general bore with patience and without complaint, though he was not ignorant of its cauſe. Happening one day to ſpit blood before one Cephalion, who was his intimate friend, and who ſeemed ſurpriſed, he ſaid, "Behold, my dear Cephalion, the effect of friendſhip with kings." Aratus died at Ægium in the year before Chriſt 216, in the 57th year of his age; being then prætor of the Achæans for the 17th time. The Sicyonians claimed the honour of burying him; and brought his body in triumphal proceſſion from Ægium to Sicyon, dancing before it, and ſinging hymns and odes in commendation of his eminent virtues. They then buried him in the moſt elevated and conſpicuous part of the city, which was long after called "Aratium," and where they offered two annual ſacrifices, one on his birth-day, and the other on the day when he delivered the city from its tyrants. A prieſt was appointed for performing the rites that were inſtituted in honour of him by the Achæans.

Aratus was regarded as one of the greateſt men of his time, and may be juſtly denominated one of the founders of the Achæan republic. As a military commander, he excelled more in forming and projecting extraordinary enterpriſes, than in executing them. In his adminiſtration, he adopted meaſures of policy which his judgment condemned, and which proved detrimental in the iſſue both to the Achæans and to himſelf; ſuch eſpecially was that of calling in the kings of Macedon to the aſſiſtance of the republic. He was leſs ſuperſtitious than moſt of the Greeks, and acted from the ſuggeſtions of his own mind rather than from omens and oracles. His temper was amiable, and his manners virtuous. As an hiſtorian, he wrote "Commentaries" of his own actions, and the affairs of the Achæans. Plutarch de Arato, apud op. t. i. p. 1027—1052. Polybius, l. viii. p. 518, &c. Anc. Un. Hiſt. vol. vi. p. 81—89.

Aratus, a Greek poet and aſtronomer, was born, according to Strabo, at Soli or Solæ, afterwards called Pompeiopolis, in Cilicia, according to others at Tarſus; and flouriſhed about the 125th Olympiad, or about 278 years before Chriſt. Having received inſtructions from Menecrates the Epheſian grammarian, and the philoſophers Timon and Menedemus, Dionyſius Heraclcotes, and Perſeus the ſtoic, he was patronized by Antigonus Gonatas king of Macedon, who encouraged him in his ſtudies and appointed him his phyſician. He went to Macedon at the time of the celebration of the nuptials of Antigonus and Phila the daughter of Antipater, and continued at his court during the remainder of his life. Of his poetical works, which were his chief productions, the only piece extant is an aſtronomical heroic poem, in Greek, entitled "Phænomena." In this poem he treats of the nature and motions of the heavenly bodies, the figures of the conſtellations, their relative ſituations in the ſphere, their riſing and ſetting, and the fables connected with their names. Cicero, when young, tranſlated this poem into Latin verſe, and highly commended the poetry, though he does not allow that he underſtood aſtronomy. De Orat. lib. i. For the materials of this poem, it is ſaid, that he was indebted to Eudoxus. Grotius thinks, that he transferred into his poem the obſervations of various authors in different climates, and for want of aſtronomical knowledge, confounded them. Among the ancients this poem had many admirers, and it has had numerous commentators: Virgil has copied it in his "Georgics;" and St. Paul has made a quotation from it. Acts, xvii. 28. The words "Του γαρ και γενος εσμεν," for we are alſo his offſpring, are a part of the fifth line of this poem: and other paſſages, to which this citation hath been referred, in Cleanthes's hymn to Jupiter, Pythagoras's golden verſes, and Oppian's Halieutica, though they agree in ſentiment, vary in expreſſion. Quinctilian (Inſtit. Orat. l. x. c. 1.) obſerves, that the ſubject of this poem has nothing of the pathos, no variety, no fictitious perſons introduced ſpeaking, with the other ornaments which have ſo great an effect in other kinds of poetry; however that the author was very capable of executing the deſign he undertook. Beſides Cicero's tranſlation of Aratus, of which a few fragments remain, we have an entire verſion in Latin hexameters, by Cæſar Germanicus, and another by Avienus. In later times, the poem of Aratus has been tranſlated into Latin by Alenus, printed in 4to. at Paris, in 1651; and in 4to. by Grotius at Leyden, in 1600; and alſo into various modern languages. The principal editions of the Greek original are in 4to. by Morell, at Paris, 1559: in folio, by H. Stephens, at Paris, in 1566; in 8vo. at Oxford, by biſhop Fell, in 1672; in Greek and Latin, with the ancient verſions, &c. at Paris, in 4to. 1540; at Baſil, in 1649; in 8vo. by Salvinus, in Greek, Latin, and Italian, at Florence in 1765. It is alſo contained in the editions of the ancient aſtronomers. Fabr. Bib. Græc. l. iii. c. 18. t. 2. p. 490, &c. Gen. Dict.

ARAVA, in *Geography*, a fortreſs of Upper Hungary, in a country and upon a river of the ſame name. N. lat. 49° 20′. E. long. 20°.

ARAVACOURCHY, a town of Hindoſtan, in the Myſore country, 17 miles ſouth-weſt of Carroor, and 23 north of Dindigul. N. lat. 10° 45′. E. long. 78° 1′.

ARAUCO, a fortreſs and town of Chili in S. America, ſituate in a fine valley on a river of the ſame name, north by weſt from Baldivia. The native Indians, called Arauques

or

or Araucéans, are ſo brave that they drove the Spaniards out of their country, though deſtitute of fire-arms. A peace was concluded between them and the Spaniards in 1659, which was celebrated in a poem by Alonzo de Ercilla. S. lat. 37° 30. W. long. 73° 20'.

ARAVITA, a town of Spain, in the country of Cordova, 16 leagues from Cordova.

ARAURIS, now *Eraut*, in *Ancient Geography*, a river of Gallia Narbonnenſis, called by Strabo, Araura.

ARAUSA, a town of Iſtria, placed in the itinerary of Antonine, 20 miles from Blandona, in the way to Salona.

ARAUSIO, *Civitas Arauſienſis*, or *Arauſicorum*, called *Colonia Secundanorum*, becauſe the veterans of the ſecond legion were ſettled there, the capital of the Cavares in Gallia Narbonnenſis. This is now Orange in the weſt of Provence, on an arm of the River Egue, which ſoon after falls into the Rhone, from which it is diſtant about a league to the eaſt, at the foot of a mountain. An ancient amphitheatre is ſtill to be ſeen in this place. N. lat. 44° 10'. E. long. 4° 46'.

ARAUZONA, a town of Illyria, according to Ptolemy.

ARAW, or ARAU, in *Geography*, a town of Swiſſerland, in the Argow, and canton of Berne, ſituate on the river Aar, in a fertile country, and containing about 1700 inhabitants. The principal manufactures are cotton, cotton ſtuffs, printed linens, cutlery, and tanning. It is a large and handſome town; 21 miles ſouth-eaſt of Baſle. The treaty of peace concluded in 1712, at Arau, between the proteſtant and catholic cantons, is one of the fundamental principles of the Helvetic union, or of the code of public law between the combined republics of Swiſſerland. N. lat. 47° 23'. E. long. 4° 46'.

ARAXA, a river of Spain, which runs into the Orio at Toloſa.

ARAXA, in *Ancient Geography*, a town of Aſia, in Lycia, according to Ptolemy and Stephan. Byz.

ARAXAI, in *Geography*, a river of South America, in Braſil; its courſe was towards the prefecture of Paraiba, where it diſcharged itſelf into the river Mongaguaca

ARAXES, in *Ancient Geography*, now ARAS, a river of Armenia Major, which roſe in a mountain called by Strabo Abus (ſee ABA), and by others Capotes and Achos, a part of the Caucaſus; continued its courſe eaſtward to the city of Atropatane, and thence inclining north-weſtward, flowed near Azara and Artaz, and fell at length, as Strabo and other geographers ſay, into the Caſpian ſea, near the mouth of the Cyrus; but according to Plutarch, Pliny, and Arrian, with whom our modern geographers agree, into the Cyrus. Ptolemy, indeed, divides the Araxes into two branches, and repreſents one as falling into the Cyrus and the other into the Caſpian ſea. Its impetuous courſe, which would not admit of a bridge, is deſcribed by Virgil, Æn. viii.

"——pontem indignatus Araxes."

On the banks of this river have appeared, at different times, the moſt renowned warriors of antiquity, Xerxes, Alexander, Lucullus, Pompey, and Mithridates. See ABORAS. Reland and Calmet are of opinion, that the Araxes is the Gihon of Geneſis; and the name of Gihon ſignifying, according to its Hebrew etymology, the *impetuous, eruptive* river, confirms this opinion. However, the Gihon of the Arabians was the Oxus, and not the Araxes of the ancients. There are two rivers which bear the name of Araxes, one in Media and the other in Perſia, which have been ſometimes confounded. The firſt is that above deſcribed; the other runs through Perſia, waſhes the walls of Schiras, and is now diſtinguiſhed by the name of Bend-Emir, or BUNDAMIR.

ARAXUM, a promontory of Achaia, bearing towards the north-weſt.

ARAYA, in *Geography*, a celebrated cape of South America, in S. lat. 11° 2', ſituate in Terra Firma and New Andaluſia, and forming the gulph called by the Spaniards "Golfo di Cariaco."

ARAZ, a mountain of Africa, within the province of Gigeri or Jigel, bordering on the Numidian deſerts; which ſtretches between 25 and 30 leagues in length from north to ſouth, and is every where very difficult of acceſs. The inhabitants are a race of Arabs, called Cabeyl zen; a warlike people, who made this ridge the laſt refuge of their liberty, and have preſerved it ever ſince by the natural ſtrength of their precipices. Before the year 1664, they uſed to traffic with the French factory at Gigeri, and carried thither hides, corn, and wax; but upon the breaking out of a war between France and Algiers, a fort was built on the ſea-coaſt to be a check on theſe Arabs. The French admiral was attacked during the work, and the fort demoliſhed; and ſince this time they have occaſionally plundered all ſtrangers that are wrecked upon their coaſts, and indiſcriminately made ſlaves of their priſoners, though they have belonged to nations in amity with Algiers and the Porte; the Mahometans only are diſcharged, and ſent home with a ſmall viaticum.

ARBA, in *Ancient Geography*, a name given to Hebron, firſt poſſeſſed by giants of the race of Anak; and afterwards given to the tribe of Judah, and the property of it to Caleb. The rabbins pretend that Hebron had the name *Arba*, ſignifying *four*, becauſe the four moſt illuſtrious patriarchs, Adam, Abraham, Iſaac, and Jacob, were buried there; or, as others ſay, with as little reaſon, becauſe four of the moſt celebrated matrons of antiquity were interred there; viz. Eve, Sarah, Rebecca, and Leah.

ARBA, now *Arbe*, an iſland and city of Illyria, now belonging to the ſtates of Venice, and ſituate in the gulf of Quarnaro on the coaſt of Dalmatia. The city is a biſhop's ſee. Although this iſland is not larger in circumference than about 30 miles, wholly uncultivated, and in ſome parts uninhabitable, the city has always, from the time of the Romans, maintained its reputation. In the eleventh century, gold and ſilk were not rare among the inhabitants. It became ſubject to the kings of Hungary, and afterwards dependent on Venetian feudatories, and at length it was reduced under the dominion of the republic, which appoints a governor with the title of count and captain. The whole number of people in the iſland does not exceed 3000, who are nevertheleſs obliged to maintain three convents of friars, and as many of nuns, and near 60 prieſts. The climate is very variable, and ſubject to tremendous and deſtructive ſtorms, which are very fatal to the ſheep that are kept in the paſtures of the mountain; and no leſs injurious, when they occur, to the plants and corn. The air, however, is upon the whole ſalubrious; and the aſpect of the iſland is very pleaſant. On the eaſt it has a high mountain, at the foot of which, towards the weſt, are fruitful plains interſperſed with little hills which are very productive. At the northern extremity is a delightful promontory called Loparo, that ſtretches into the ſea, and that incloſes a cultivated plain; near which are two ſmall iſlands called S. Gregorio and Goli, very uſeful to ſhepherds and fiſhermen. The coaſt that faces the Morlacca mountains is ſteep and inacceſſible, and the channel between them is very dangerous. The long and narrow iſland, called Dolin, lying parallel to Arbe, along the coaſt of Barbado, forms a channel leſs dangerous. In the vicinity of the city of Arbe there are ſeveral harbours, by which the trade of the beſt part of the iſland is facilitated. The city ſtands on an eminence between two harbours, which form a peninſula, and contains about a thouſand inhabitants.

inhabitants. At the foot of the Morlacca, the ſoil towards the ſhore is nothing but marble; but in the diſtrict of Barbado it is gravelly and fit for vines, which yield a wine that is much eſteemed. Below the ruins of Colento, the land bears vines, olives, mulberry, and other fruit-trees; and alſo in the lower parts, corn. The iſland is well ſupplied with ſprings of water, and would furniſh its inhabitants with ample ſubſiſtence, if they were not in the extreme ſtupid and indolent. It produces, however, fire-wood, of which quantities are annually conveyed to Venice; corn, oil, wine, brandy, and ſilk; and alſo hides, wool, ſheep, hogs, and horſes of a good breed. It has likewiſe abundance of good ſalt; and the fiſheries of tunny and mackerel ſupply no inconſiderable articles of trade. The iſland, notwithſtanding theſe advantages, is poor, becauſe much of the land remains uncultivated, and the peaſants are lazy.

Arba, *Aſitab*, a river of Aſia in Perſia. Its ſource is in about 34° 30′ N. lat., and after flowing in a ſouth-weſt direction, it diſcharges itſelf into the Delas, a little above its mouth. It was near this river that the Perſian army aſſembled to protect Cteſiphon, when it was threatened by Heraclius.

Arba, a town of Peloponneſus, in Achaia.

ARBACA, a town of Perſia, in Arachoſia, ſuppoſed to have derived its name from ſome of the kings of Parthia named Arbaces.

ARBACE, the name of a town of Celtiberia, mentioned by Steph. Byz.

ARBACES, in *Ancient Hiſtory*, was general of the Medes and governor of Media under Sardanapalus, king of Aſſyria. Diſguſted by the effeminate manners of Sardanapalus, he took up arms in conjunction with ſome of the principal officers of the Median army; and having formed an alliance with Beleſis, governor of Babylon, attacked Sardanapalus, with an army of 400,000 men. After three ſucceſſive defeats, Arbaces was joined by the Bactrians, and falling ſuddenly in the night on Sardanapalus, drove him from his camp; upon which this prince retired to Nineveh, and entruſted the command of his army with Salamanus, his wife's brother, who was overpowered by the conſpirators, and loſt almoſt the whole of it. The conſpirators proceeded to beſiege Nineveh, and after ineffectual efforts, during two years, for reducing it, a conſiderable breach was made in the wall by the inundation of the river Tigris, and thus they were enabled to enter and take poſſeſſion of the city. Upon this ſucceſs, Sardanapalus retired into his palace, and placed himſelf, his companions, and his treaſures, on a pile of wood, to which he ſet fire, and they were thus all deſtroyed. This event terminated the Aſſyrian empire about the year 820 before Chriſt, according to Euſebius; but according to Juſtin and others, in the year 900 before Chriſt; and Arbaces was declared king. With him commenced the monarchy of the Medes, and he reigned 28 years. He is repreſented as a prince of great generoſity and gratitude; and Dr. Prideaux ſuppoſes that Tiglath-Pileſer and Arbaces are the ſame perſon, under different names; whereas archbiſhop Uſher diſtinguiſhes them, and aſſigns to the one the poſſeſſion of Media, and to the other that of Aſſyria. Prid. Conn. pt. i. b. 1. See Media.

ARBAEJN, in *Geography*, a town of Arabia, 12 miles north of Zebid.

ARBALET. See *Croſs* Bow, and Ballista.

ARBALI, in *Ancient Geography*, a Sarmatian nation, according to Ptolemy, and ſuppoſed to have inhabited the part of Aſia which is near the Wolga.

ARBANA, the name of an iſland in the vicinity of Taprobana, according to Ptolemy.

ARBANIUM, a town placed by Stephan. Byz. in the neighbourhood of the Euxine ſea.

ARBASERA, a town of Aſia Minor, towards Galatia.

ARBATTIS, a town of Paleſtine in Galilee, taken and deſtroyed by Simon Maccabæus. 1 Mac. v. 23.

ARBECA, in *Geography*, a town and caſtle of Spain in Catalonia, 10 miles eaſt of Lerida.

ARBEGEN, a town of Tranſylvania, ſeven miles north of Stoltzenburg.

ARBELA, now called *Erbil* or *Irbil*, in *Ancient Geography*, a city of Aſſyria, in the province of Adiabene, and diſtrict of Arbelis, famous for the complete victory gained by Alexander the Great in the battle with Darius Codomannus, which was fought at the village of Gaugamela in its neighbourhood. Ptolemy places it on the river Capros; but Strabo at an equal diſtance from that river and the Lycus, near mount Nicatorius, ſo called by Alexander, from the above-mentioned victory. Diodorus Siculus and Curtius call it a village; but Arrian (l. vi. p. 391.) dignifies it with the name of a city; and from this the adjacent country was denominated Arbelis and Arbelitis. This battle was fought in the month of October, in the ſecond year of the 112th Olympiad, or 331 years before Chriſt. According to Arrian (De Exped. Alex. l. iii. p. 115. ed. Gronov.), the army of Darius conſiſted of a million of foot, and 40,000 horſe; but according to Diodorus (l. xvii. vol. ii. p. 202. ed. Weſſeling.) of 200,000 horſe, and 800,000 foot. Plutarch (Oper. t. i. p. 682.) ſays that the whole army conſiſted of a million; and Juſtin (l. xi. c. 13.) ſtates the number at half that of Diodorus. The Macedonian army conſiſted of 40,000 foot, and 7000 horſe. Arrian (ubi ſupra) and Curtius (l. iv. c. 25, &c.) have given a particular deſcription of this famous battle. We ſhall here ſubjoin the account of it given by Dr. Gillies, in his "Hiſtory of Greece." Alexander, when apprized of the great ſtrength of the enemy, expreſſed neither ſurpriſe nor apprehenſion. When adviſed by Parmenio to attack Darius's camp in the night, he replied, that it did not become Alexander to ſteal a victory, and therefore he was reſolved to fight and conquer in broad day-light. Darius, he alſo ſaid, by bringing all his forces into one place, had freed him from the trouble of thinking how he might purſue them into different countries. "Having commanded a halt (ſays Dr. Gillies), he encamped four days, to give his men reſt and refreſhment. His camp being fortified by a good intrenchment, he left in it the ſick and infirm, together with all the baggage; and, on the evening of the fourth day, prepared to march againſt the enemy with the effective part of his army, which was ſaid to conſiſt of 40,000 infantry and 7000 horſe, unincumbered with any thing but their proviſions and armour. The march was undertaken at the ſecond watch of the night, that the Macedonians, by joining battle in the morning, might enjoy the important advantage of having an entire day before them to reap the full fruits of their expected victory. About half way between the hoſtile camps, ſome eminences intercepted the view of either army. Having aſcended the riſing ground, Alexander firſt beheld the Barbarians drawn up in battle array, and perhaps more ſkilfully marſhalled than he had reaſon to apprehend. Their appearance, at leaſt, immediately determined him to change his firſt reſolution. He again commanded a halt, ſummoned a council of war; and different meaſures being propoſed, acceded to the ſingle opinion of Parmenio, who adviſed that the foot ſhould remain ſtationary until a detachment of horſe had explored the field of battle, and carefully examined the diſpoſition of the enemy. Alexander, whoſe conduct was equalled by his courage, and both ſurpaſſed by his

his activity, performed theſe important duties in perſon at the head of his light horſe and royal cohort. Having returned with unexampled celerity, he again aſſembled his captains, and encouraged them by a ſhort ſpeech. Their ardour correſponded with his own; and the ſoldiers, confident of victory, were commanded to take reſt and refreſhment.

"Meanwhile Darius, perceiving the enemy's approach, kept his men prepared for action. Notwithſtanding the great length of the plain, he was obliged to contract his front, and form in two lines, each of which was extremely deep. According to the Perſian cuſtom, the king occupied the centre of the firſt line, ſurrounded by the princes of the blood and the great officers of his court, and defended by his horſe and foot guards, amounting to 15,000 choſen men. Theſe ſplendid troops, who ſeemed fitter for parade than battle, were flanked on either ſide by the Greek mercenaries and other warlike battalions, carefully ſelected from the whole army. The right wing conſiſted of the Medes, Parthians, Hyrcanians, and Sacæ; the left was chiefly occupied by the Bactrians, Perſians, and Carduſians. The various nations compoſing this immenſe hoſt were differently armed, with ſwords, ſpears, clubs, and hatchets; while the horſe and foot of each diviſion were promiſcuouſly blended, rather from the reſult of accident than by the direction of deſign. The armed chariots fronted the firſt line, whoſe centre was farther defended by the elephants. Choſen ſquadrons of Scythian, Bactrian, and Cappadocian cavalry advanced before either wing, prepared to bring on the action, or, after it began, to attack the enemy in flank and rear. The unexpected approach of Alexander within ſight of his tents prevented Darius from fortifying the wide extent of his camp; and, as he dreaded a nocturnal aſſault from enemies who often veiled their deſigns in darkneſs, he commanded his men to remain all night under arms. This unuſual meaſure, the gloomy ſilence, the long and anxious expectation, together with the fatigue of a reſtleſs night, diſcouraged the whole army, but inſpired double terror into thoſe who had witneſſed the miſerable diſaſters on the banks of the Granicus and the Iſſus.

"At day-break, Alexander diſpoſed his troops in a manner ſuggeſted by the ſuperior numbers and deep order of the enemy. His main body conſiſted in two heavy-armed phalanxes, each amounting to above 16,000 men. Of theſe the greater part formed into one line; behind which he placed the heavy-armed men, reinforced by his targeteers, with orders that when the out-ſpreading wings of the enemy prepared to attack the flanks and rear of his firſt line, the ſecond ſhould immediately wheel to receive them. The cavalry and light infantry were ſo diſpoſed on the wings, that while one part reſiſted the ſhock of the Perſians in front, another, by only facing to the right or left, might take them in flank. Skilful archers and darters were poſted at proper intervals, as affording the beſt defence againſt the armed chariots, which (as Alexander well knew) muſt immediately become uſeleſs whenever their conductors or horſes were wounded.

"Having thus arranged the ſeveral parts, Alexander with equal judgment led the whole in an oblique direction towards the enemy's left; a manœuvre which enabled the Macedonians to avoid contending at once with ſuperior numbers. When his advanced battalions, notwithſtanding their nearneſs to the enemy, ſtill ſtretched towards the right, Darius alſo extended his left, till, fearing that by continuing this movement his men ſhould be drawn gradually off the plain, he commanded the Scythian ſquadrons to advance, and prevent the farther extenſion of the hoſtile line. Alexander immediately detached a body of horſe to oppoſe them. An equeſtrian combat enſued, in which both parties were reinforced, and the barbarians finally repelled. The armed chariots then iſſued forth with impetuous violence; but their appearance only was formidable; for the precautions taken by Alexander rendered their aſſault harmleſs. Darius next moved his main body, but with ſo little order, that the horſe, mixed with the infantry, advanced, and left a vacuity in the line, which his generals wanted time or vigilance to ſupply. Alexander ſeized the deciſive moment, and penetrated into the void with a wedge of ſquadrons. He was followed by the neareſt ſections of the phalanx, who ruſhed forward with loud ſhouts, as if they had already purſued the enemy. In this part of the field, the victory was not long doubtful: after a feeble reſiſtance, the barbarians gave way; and the puſillanimous Darius was foremoſt in the flight.

"The battle, however, was not yet decided. The more remote diviſions of the phalanx, upon receiving intelligence that the left wing, commanded by Parmenio, was in danger, had not immediately followed Alexander. A vacant ſpace was thus left in the Macedonian line, through which ſome ſquadrons of Perſian and Indian horſe penetrated with celerity, and advanced to the hoſtile camp. It was then that Alexander derived ſignal and well-earned advantages from his judicious order of battle. The heavy-armed troops and targeteers, which he had ſkilfully poſted behind the phalanx, ſpeedily faced about, advanced with a rapid ſtep, and attacked the barbarian cavalry, already entangled among the baggage. The enemy, thus ſurpriſed, were deſtroyed or put to flight. Meanwhile, the danger of his left wing recalled Alexander from the purſuit of Darius. In advancing againſt the enemy's right, he was met by the Parthian, Indian, and Perſian horſe, who maintained a ſharp conflict. Sixty of the *Companions* fell; Hephæſtion, Cœnus, and Menidas were wounded. Having at length diſſipated this cloud of cavalry, Alexander prepared to attack the foot in that wing. But the buſineſs was already effected, chiefly by the Theſſalian horſe; and nothing remained to be done, but to purſue the fugitives, and to render the victory as deciſive as poſſible.

"According to the leaſt extravagant accounts, with the loſs of 500 men he deſtroyed 40,000 of the barbarians, who never thenceforth aſſembled in ſufficient numbers to diſpute his dominion in the Eaſt. The invaluable provinces of Babylonia, Suſiana, and Perſis, with their reſpective capitals of Babylon, Suſa, and Perſepolis, formed the prize of his ſkill and valour. The gold and ſilver found in thoſe cities amounted to thirty millions ſterling; the jewels and other precious ſpoil, belonging to Darius, ſufficed, according to Plutarch, to load 20,000 mules and 5000 camels."

ARBELA, a town of Sicily mentioned by Steph. Byz. and alſo by Suidas.

ARBELA, a village of Paleſtine on the other ſide of Jordan, dependent upon Pella, according to Euſebius.—Alſo a place of Galilee, in the vicinity of Sephoris, according to Joſephus, Antiq. l. 12.—Alſo, a village of Upper Galilee, near which were caverns, where thieves retired for concealment.

ARBENGIAN, in *Geography*, a town of Tartary, in the country of Zagatai, and territory of Samarcand.

ARBERG, a town of Swiſſerland, in the canton of Berne, ſituate on the river Aar, which almoſt encompaſſes it. N. lat. 47°. E. long. 17° 15'.

ARBEROUE, the name of one of the ſeven diſtricts that compoſe lower Navarre, containing ſeven pariſhes.

ARBESPACH, a town of Germany, in the archduchy of Auſtria, ſix miles ſouth-weſt of Zwetl.

ARBESTAAL, a town of Germany, in the archduchy of Auſtria, five miles north of Brugg.

ARBI, a ſmall country of South America, near the Andes, between Popayan and New Granada.

ARBIA, a ſmall river of Italy, which riſes in the territory of Florence, paſſes through that of Sienne, and diſcharges itſelf into the Ombrona.

ARBICA, a town of Spain, in Navarre, ten leagues W. N. W. of Pampeluna.

ARBII, in *Ancient Geography*, a people of Aſia, in Gedroſia, mentioned by Pliny (H. N. l. vi. c. 23.), being the ſame that are placed by Strabo near the mouth of the Indus.

ARBIS, a river of Aſia, which ran, according to Pliny, between the Orita and Indians, and after watering a town of the ſame name, fell at a ſmall diſtance from it into the Indian Ocean.—Alſo, the name of a town of Gedroſia, belonging to the Arbii, and ſituate on a river of the ſame name.

ARBIS, in *Geography*, a town of France, in the department of the Gironde, and chief place of a canton, in the diſtrict of Cadillac, ſeventeen miles ſouth-eaſt of Bourdeaux.

ARBITER, in the *Civil Law*, a judge nominated by the magiſtrate, or choſen voluntarily by two contending parties, on whom they confer a power, by compromiſe, of deciding their differences according to law.

The Romans ſometimes ſubmitted to a ſingle arbiter; but ordinarily they choſe ſeveral, and thoſe always of an uneven number.

In matters wherein the public was concerned, as crimes, marriages, affairs of ſtate, &c. it was not allowed to have recourſe to arbiters: nor was it permitted to appeal from an arbitral ſentence; the effect of an appeal being to ſuſpend the authority of a juriſdiction, not of a compact.

The arbiter, among the Romans, judged in thoſe cauſes which were called "bonæ fidei," and arbitrary, and was not reſtricted by any law or form; hence he was called "honorarius." A perſon choſen by two parties by compromiſe to determine a difference, without the appointment of the prætor, was alſo called arbiter, but more properly "compromiſſarius."

Among the moderns, there are properly divers kinds of arbiters; ſome obliged to decide by the rigour of the law; and others are authorized by the contending parties to relax, or give way to natural equity: theſe are properly called ARBITRATORS.

The ancient Romans, at their feaſts, appointed a perſon to preſide, by throwing the dice, whom they called "arbiter bibendi," and who directed every thing at his pleaſure. Vid. Hor. Od. I. 4. 18. II. 7. 25.

ARBITRARY, in a general ſenſe, that which is not defined or limited by any certain expreſs law or conſtitution, but is left ſolely to the judgment and diſcretion of another. Thus arbitrary puniſhments denote ſuch as are left by the ſtatute to the diſcretion of the judges. Arbitrary fines or mulcts are uſually called *amercements*.

The word is formed from *arbitrium*, *will*; whence alſo *arbiter*, *arbitrator*.

ARBITRARY *power*. See DESPOTISM, MONARCHY, &c.

ARBITRATION, or ARBITRAGE, the referring of a cauſe or diſpute concerning any perſonal chattels or perſonal wrong, to the deciſion of two or more indifferent perſons, under the quality and denomination of arbiters or arbitrators.

If in deciding the controverſy, theſe do not agree, it is uſual to add that another perſon be called in as umpire (*imperator*, or *impar*), to whoſe ſole judgment it is then referred: or frequently there is only one arbitrator originally appointed. This deciſion, in any of these cases, is called an *award*. Thus the queſtion is finally determined, and the right transferred or ſettled, as it could have been by the agreement of the parties, or the judgment of a court of juſtice. But the right of real property cannot paſs by a mere award: yet, doubtleſs, an arbitrator may now award a conveyance or a releaſe of land; and it will be a breach of the arbitration bond to refuſe compliance. For, though originally the ſubmiſſion to arbitration uſed to be by word, or by deed, yet both of theſe being revocable in their nature, it is now become the practice to enter into mutual bonds, with condition to ſtand to the award or arbitration of the arbitrators or umpire therein named. And experience having ſhewn the great uſe of theſe peaceable and domeſtic tribunals, eſpecially in ſetting matters of account and other mercantile tranſactions, which are difficult and almoſt impoſſible to be adjuſted on a trial at law; the legiſlature has now eſtabliſhed the uſe of them, as well in controverſies where cauſes are depending, as in thoſe where no action is brought, enacting by ſtatute 9 & 10 W. III. c. 15., that all merchants and others, who deſire to end any controverſy, ſuit, or quarrel, for which there is no other remedy but by perſonal action or ſuit in equity, may agree, that their ſubmiſſion of the ſuit to arbitration or umpirage ſhall be made a rule of any of the king's courts of record, and may inſert ſuch agreement in their ſubmiſſion, or promiſe, or condition of the arbitration bond; which agreement being proved upon oath by one of the witneſſes thereto, the court ſhall make a rule that ſuch ſubmiſſion and award ſhall be concluſive: and, after ſuch rule made, the parties diſobeying the award ſhall be liable to be puniſhed, as for contempt of the court; unleſs ſuch award ſhall be ſet aſide for corruption or other miſbehaviour in the arbitrators or umpire, proved on oath to the court, within one term after the award is made. And, in conſequence of this ſtatute, it is now become a conſiderable part of the buſineſs of the ſuperior courts, to ſet aſide ſuch awards when partially or illegally made; or to enforce their execution when legal, by the ſame proceſs of contempt as is awarded for diſobedience to thoſe rules and orders which are iſſued by the courts themſelves. Blackſt. Comm. b. iii. vol. iii. p. 16.

The power of arbitrators is to be regulated by the compromiſe between the parties, as to what concerns the differences they are to determine; and whatever they decree beyond that is of no effect.

Among the Athenians, any one who ſubmitted his cauſe to arbitration, was to abide by its ſentence. Arbitrators were to ſwear before verdict was given. If the plaintiff did not appear before ſun ſet, he might be fined; and appeal might be made from arbitrators choſen by lot to other courts of juſtice. The office of arbitrators was annual, and if they were found guilty of corruption, they were puniſhed with ἀτιμία, infamy.

ARBITRATOR, an extraordinary judge or commiſſioner, in one or more cauſes between party and party, choſen by their mutual conſent.

The civilians make a difference between arbiter and arbitrator: though both ground their power on the compromiſe of the parties, yet their liberty is diverſe; for an arbiter is tied to proceed and judge according to the forms of law; whereas an arbitrator is permitted wholly to uſe his own diſcretion, without ſolemnity of proceſs, or courſe of judgment, to hear and accommodate the controverſy committed to him; ſo it be *juxta arbitrium boni viri*. See EPITROPUS.

ARBITRIO, in *Muſic*, is equivalent to *ad libitum*, *al ſuo arbitrio*, at your pleaſure, *al ſuo commodo*, at your convenience. In leſſons and ſolos, and in the ſolo parts of concertos, where all the other parts wait at a pauſe or cloſe on the pleaſure of the principal performer, theſe notices are given. See AD *libitum*.

ARBOGA, or ARBOGEN, in *Geography*, a town of Sweden, in the province of Weſtmanland, ſituate on the river Stora. Within a quarter of a mile is the canal of Arboga, begun in the reign of Chriſtina, widened and deepened by Charles XI. and finiſhed under the reign of his ſon Charles XII. which joins the lake of Hielmar with that of Mælar. In this place a ſynod was held in 1297, under Nicholas, archbiſhop of Upſal.

ARBOIS, a town of France, in the department of Jura, and principal town of the diſtrict of Poligny, celebrated for the excellent wine made in its environs. The place contains 6414, and the canton 12,888 inhabitants: the territory includes 150 kiliometres and 14 communes. N. lat. 46° 55′, E. long. 5° 40′.

ARBON, a town of Swiſſerland, in the Turgow, ſituate on the ſouth ſide of the lake of Conſtance. The inhabitants are chiefly proteſtants. N. lat. 47° 38′, E. long. 9° 30′.

ARBOR, in *Botany*, *Gardening*, &c. ſignifies a tree or perennial plant that has the property of riſing with a ſimple woody and durable ſtem or trunk to a conſiderable height and thickneſs. Theſe laſt circumſtances, in ſome meaſure, form a diſtinction between trees and ſhrubs, which laſt are ſuppoſed to be of a ſmaller growth, and to have generally ſeveral ſtems proceeding from the root, or the ſame ſtem dividing near to it, into different ſmaller ones; and alſo from herbaceous plants, whoſe ſtems are ſoft, often ſucculent, and moſtly riſe in ſpring, and periſh in autumn. This is not, however, general.

It has, indeed, been obſerved by Linnæus, that this diſtinction between trees and ſhrubs is by no means univerſally obvious. Nature, ſays he, has put no limits betwixt trees and ſhrubs; for to ſay that trees are taller than ſhrubs is, in fact, ſaying nothing; unleſs a certain immutable ſtandard were previouſly eſtabliſhed. Beſides, every thing reſpecting dimenſions is ſo variable in its nature, and depends ſo much upon the difference of climate, ſoil, and culture, that no certain ſtandard or boundary can, with propriety, be fixed between them, ſince the ſame plant, in different countries, often aſſumes very different growths: thus the *arbutus* and *laurel*, in warm climates, grow to large trees; while in this country they are generally conſidered as ſhrubs. See FRUTEX.

ARBOR *Camphorifera*. See LAURUS.

ARBOR *crepitans*. See HURA.

ARBOR *Judæ*. See CERCIS.

ARBOR, in *Chemiſtry*.—ARBOR *philoſophica* is a name common to ſeveral metalline cryſtallizations; thus called from their ramifications reſembling a tree.

ARBOR *Dianæ*.—*Arbor mineralis philoſophica*.—*Arbre de Diane*.—*Dianenbaum*, *Silberbaum*. It is the property of ſilver, lead, and tin, when combined with an acid into a readily ſoluble ſalt, to be eaſily ſeparable in the reguline ſtate from ſuch acid by the ſuperior affinity of zinc, mercury, &c.; and while precipitating, to arrange themſelves in a branching filamentous maſs. Hence they were called by the ancient chemiſts *arbores*, trees. Silver being denoted in alchemical language by the moon, Luna, or Diana, the term Arbor Dianæ means therefore metallic ſilver brought by art into an arboreſcent form. As this is a very beautiful preparation, and ſuſceptible of great varieties of figure, a multitude of receipts are to be found in different writers, all of which, however, may be reduced to two. The firſt conſiſts in the decompoſition of a ſolution of pure *nitrat of ſilver* by mercury: the ſecond varies from the firſt in the ſilver being amalgamated with mercury previouſly to ſolution in nitrous acid. The latter of theſe methods is the moſt ancient, being deſcribed by Homberg (Mem. de l'Acad. de Paris, 1692) in the following terms: "Make an amalgam without heat of four drams of ſilver filings, or ſtill better of ſilver leaf, and of two drams of mercury (ſee MERCURY, *Alloys of*,); diſſolve this amalgam in four ounces or a ſufficient quantity of nitrous acid, pure and moderately ſtrong; dilute this ſolution with about a pint and a half of diſtilled water, ſhake the mixture, and preſerve it in a bottle with a glaſs ſtopper. When this preparation is to be uſed, an ounce of it is to be put into a vial together with about the ſize of a pea of an amalgam of gold or ſilver about as ſoft as butter, and the whole is to remain at reſt: ſoon afterwards ſmall filaments will be ſeen iſſuing from the amalgam, which quickly increaſe, branch out on both ſides, and take the form of ſhrubs."

The ſimpler method appears to have been firſt mentioned by Lemery (Cours de Chymie, 1726). He adviſes to diſſolve an ounce of fine ſilver in a ſufficient quantity of pure nitrous acid, and afterwards to mix the ſolution in a flaſk with about twenty ounces of diſtilled water: add to this mixture two ounces of mercury, and let the whole remain at reſt. In about forty days a kind of ſilver tree will be formed upon the mercury with branches reſembling vegetable ramifications.

The two eſſential conditions for the complete ſucceſs of this experiment are, firſt, that the nitrat of ſilver ſhould be free from any exceſs of acid; and ſecondly, that the ſilver ſhould have a firm baſe to adhere to as ſoon as it begins to be precipitated. To enſure the firſt, it is adviſable ſo to proportion the acid to the ſilver, that a very minute portion be left undiſſolved, and then by concentrating the ſolution to diſpoſe it to cryſtallize. The cryſtals thus obtained, being dried on blotting paper, ſhould be diſſolved in diſtilled water, the proportions of which may be varied at pleaſure, provided the ſolution is not, on the one hand, ſo ſtrong as to depoſit cryſtals by ſtanding, and, on the other hand, ſo dilute as to require many days before the experiment is completed: from five to twelve times as much water as nitrat of ſilver is upon the whole the moſt convenient proportion. The fibres of the precipitate will be crowded and ſhort, when the proceſs is brought about rapidly; but long and branched, if a greater time is allowed.

The mercury that is added to effect the precipitation ſhould be mixed with ſilver ſo as to deſtroy its fluidity; for when pure mercury is poured in, the firſt portions of ſilver that are depoſited unite with and diſſolve in the mercury till it is thus brought to a proper conſiſtence.

The tree or arboreſcent precipitate thus obtained is an amalgam of ſilver, the proportions of which appear ſubject to ſome variations. For the theory of this and ſimilar phænomena, ſee PRECIPITATION, and *Metallic* PRECIPITATES. Macquer's Chemiſches Worterbuch, art. Dianenbaum. Encyclopedie Method. art. Arbre de Diane, &c.

ARBOR *plumbi*, is the reſult of a beautiful vegetation of lead. For producing it, two drams of acetite of lead are diſſolved in ſix ounces of diſtilled water; the filtered ſolution is poured into a cylindrical glaſs, and a thin roll of zinc being hung in it, the whole is left ſtanding at reſt. The lead precipitates, adhering to the zinc in metallic leaves, in the form of a tree. Gren's Chem. vol. ii. p. 382.

ARBOR *Genealogica*, tree of conſanguinity, ſignifies a li-

neage drawn out under the figure or reſemblance of root, ſtock, branches, &c.

Arbor *Porphyriana*, among the ſchoolmen, denotes a ſcale of beings; or a figure conſiſting of three rows or columns of words; the middlemoſt whereof contains the ſeries of genera and ſpecies, and bears ſome analogy to the trunk; and the extremes, containing the differences, to the branches of a tree.

	SUBSTANCE	
Thinking		Extended
	BODY	
Inanimate		Animate
	ANIMAL	
Irrational		Rational
	MAN	
This		That
	PLATO	

The *arbor porphyriana* is otherwiſe called *ſcala prædicamentalis*.

Arbor *Vitæ*, in *Botany*. See Thuya.

Arbor is alſo figuratively uſed in *Mechanics*, for the principal part of a machine, which ſerves to ſuſtain the reſt.—It is alſo uſed for a ſpindle, or axis, whereon a machine turns; thus, *arbor* of a crane, a mill, windmill, &c.

ARBOREA, in *Entomology*, a ſpecies of Podura deſcribed by Scopoli and others. It inhabits trees in Europe; is oblong and black; legs and fork white. Linnæus. Gmelin.

Arborea, in *Ornithology*, a ſpecies of Anas, that inhabits Jamaica, and is called by Ray, Sloane, and Edwards, the black-billed whiſtling duck. It is brown; the head ſlightly creſted; and the abdomen ſpotted with black and white. Gmelin. This is alſo *Anas fiſtularis Jamaicenſis* of Briſſon; *Canard ſiffleur de la Jamaique* of Buffon Pl. Enl.; and *Siffleur à bec noir*. Nat. Hiſt. Oiſ. of the ſame author.

The moſt remarkable circumſtances of this duck are, that it builds its neſt in trees, and makes a whiſtling noiſe. It is ſuppoſed to frequent Carolina in winter, at leaſt one of the ſame name is ſaid to be found on thoſe coaſts at that time by Lawſon and Cateſby. A bird of this kind is in the Britiſh Muſeum, and is called the Opano Duck, which is the name it bears at Guiana.

In ſize it is leſs than the Mallard, and ſtands high upon its legs; the neck is alſo long and ſlender. The bill is black; irides hazel; crown of the head duſky, ſomewhat creſted behind, and of a rufous brown; hind part of the neck brown; back and ſcapulars the ſame, but the feathers margined with rufous; rump and upper tail-coverts darker; ſides of the head and throat white; fore-part of the neck white ſpotted with black; the breaſt pale rufous ſpotted alſo with black; belly, thighs, and vent much like the forepart of the neck, but the ſpots are ſmaller and moſt numerous on the ſides; the wing-coverts rufous ſpotted with black; quills and tail duſky; legs lead-colour; claws black.

Arborea, a ſpecies of the Alauda genus. See Alauda.

Arborea, in *Zoology*, a ſpecies of Rana, called the tree frog, and thus defined by Gmelin: body granulated beneath, and the feet cleft. Linnæus deſcribes it as having the body ſmooth; the underpart beſet with contiguous tuberculations; the feet cleft, and the toes terminated in orbicular dilated tips. Gmelin enumerates eight ſuppoſed varieties of this ſpecies, which are as follows:

β. Hyla *fuſca* of Laurent. Amph.—Rana pedibus fiſſis, palmis tetradactylis, plantis pentadactylis; geniculis ſubtus tuberoſis. Amoen. Acad. I. p. 135. (Frog with cleft feet, four toes on the anterior, and five on the poſterior feet; and the knees warted beneath.)

γ. Hyla *viridis*, linea flava utrinque recta. Laurent. and Cateſby. (Green, with a ſtraight yellow line on each ſide.)

δ. Hyla *ranæformis*. Laurent. Amph. p. 33. n. 25.

ε. Rana *americana rubra*. Seb. Muſ. 2. t. 7[illegible]. f. 4.

ζ. Hyla *viridi fuſca*. Laurent. Amph. p. 34. n. 29.

η. Hyla *fuſcina*. Laurent. Amph. p. 34. n. 30.

θ. Hyla *rubra*. Laurent. Amph. p. 35. n. 32.

ι. Hyla *ſceleton*. Laurent. Amph. p. 35. n. 33.—Rana braſilienſis gracilis of Seba.

Dr. Shaw gives a new ſpecific character to this creature; Rana *arborea*; viridis, ſubtus albida, linea laterali nigricante, abdomine granulato, pedibus fiſſis. (Green frog, whitiſh beneath, with blackiſh lateral line, granulated abdomen, and unwebbed feet.

"In the beauty of its colours, as well as in the elegance of its form, and the agility of its movements, the tree frog exceeds every other European ſpecies. It is a native of France, Germany, Italy, and many other European regions, but is not found in the Britiſh iſlands. Its principal reſidence, during the ſummer months, is on the upper parts of trees, where it wanders among the foliage in queſt of inſects, which it catches with extreme celerity, ſtealing ſoftly towards its prey in the manner of a cat towards a mouſe, and when at a proper diſtance ſeizing it with a ſudden ſpring, frequently of more than a foot in height. It often ſuſpends itſelf by its feet or abdomen to the under parts of the leaves, thus continuing concealed beneath their ſhade. Its ſize is ſmaller than any other European frog, except the fire frog. Its colour, on the upper parts, is green, more or leſs bright in different individuals; the abdomen is whitiſh, and marked by numerous granules; the under ſurface of the limbs is reddiſh; and the body is marked on each ſide by a longitudinal blackiſh or violet-coloured ſtreak, ſeparating the green of the under parts from the white colour of the lower; the inferior edge of this dark lateral ſtripe is tinged with yellow. The body is ſmooth above, and moderately ſhort or plump; the hind legs are very long and ſlender; the fore feet have four, and the hind feet five toes, all which terminate in rounded, flat, and dilated tips, the under ſurface of which being ſoft and glutinous, enables the animal to hang with perfect ſecurity from the leaves of trees, &c. The ſkin of the abdomen is alſo admirably calculated by nature for this peculiar power of adheſion, being covered with ſmall glandular granules in ſuch a manner as to faſten cloſely even to the moſt poliſhed ſurface; and the animal can adhere at pleaſure to that of glaſs, in whatever poſition or inclination it be placed, by merely preſſing itſelf againſt it." Dr. Shaw, Zool. &c.

It is further remarked by this and other authors, that though the tree frog inhabits the woods during the ſummer months, on the approach of winter it retires to the water, where it conceals itſelf in the ſoft mud or banks, and remains in a ſtate of torpidity till the ſpring; when it again emerges; and, like the reſt of this genus, depoſits its ſpawn in the water at that ſeaſon. The male, at this period, inflates its orbicular gular pouch in a ſurpriſing manner, and emits a loud and ſharp croak, which may be heard at a vaſt diſtance; they make the ſame noiſe on the approach of rain while they live among the trees, and may be conſidered, in ſome meaſure, as a kind of living barometers, more eſpecially the males, which, if kept in glaſſes and ſupplied with proper food, will afford an infallible preſage of the changes of weather. In the German Ephemerides Naturæ

Curioſorum, we meet with an account of one which was kept in this manner for the ſpace of ſeven years.

ARBOREOUS, Arboreus, is applied by ſome naturaliſts to ſuch excreſcences, funguſes, moſſes, and other paraſites, as grow on trees; in contradiſtinction to ſuch as grow on the ground; ſuch are the *lichenoides* and *agarics*.

ARBORESCENS, in *Natural Hiſtory*, a ſpecies of Doris (*Vermes Mollusca*), that inhabits the Norway ſeas. The feelers are ramoſe; back gibbous, and beſet with protuberances. Müll. Zool. Gmelin.

ARBORESCENT, a term uſed to denote any thing that ſhoots or grows up in form of a tree, or which gradually becomes firm and woody; and *arboreus* is that which reſembles a tree, having a permanent woody ſtem.

Botaniſts ſpeak of arboreſcent ſhrubs and plants, &c. Mineraliſts treat of arboreſcent metals, arboreſcent ſilver, arboreſcent iron, arboreſcent ſtones, &c. The fungus marinus is ranked by ſome in the claſs of arboreſcent fluors; the chemiſts produce arboreſcent cryſtallizations, which they call philoſophical trees. Phil. Tranſ. N° 198, N° 111, and N° 129.

Zoologiſts give inſtances of arboreſcent animals, particularly fiſhes.

The *arboreſcent ſtar-fiſh, ſtella arboreſcens*, a ſpecies of Asterias, is one of the curioſities of nature found in ſeveral cabinets of natural rarities.

ARBORETI, in *Entomology*, a ſpecies of Curculio, that inhabits Cayenne. It is of a cinereous colour; thighs of the anterior legs toothed; wing-caſes ſtriated with punctures. Fabr. Gmelin.

ARBOREUM, in *Natural Hiſtory*, a ſpecies of Alcyonium (*Vermes Zoophyta*), found in the Norway and Indian ſeas. The ſtem is arboreſcent, with obtuſe branches and papillary pores. This is Lithoxylon *Norwegicum* of Muſ. Teſſin.; Alcyonionium *ramoſum*, poris papillaribus in tubera lateralia terminaliaque congeſtis of Pallas; Arbuscula *marina coralloides* of Cluſius; *Planta marina coralloides rubra*, J. Bauh.; and *Accarbaar gabba-garba ſ. Accarbaar boazagu, Amboynenſibus Hualupia*, Rumphius.

ARBOREUS, in *Entomology*, a ſpecies of Cimex deſcribed by Degeer. Above it is brown-green, beneath yellowiſh; a tranſverſe yellow line acroſs the thorax; wing-caſes bordered with red; tail of the ſame colour, and bidentated. This is a ſmall inſect, being only five lines in length, and lives in trees. Gmelin.

ARBORIBONZES, in *Modern Hiſtory*, prieſts of Japan, who live an erratic life, and ſubſiſt on alms. They dwell in caverns, and cover their heads with bonnets made of the bark of trees.

ARBORIS pecten. See Pecten.

ARBORIST, Arborista, a perſon ſkilled in trees, their forms, natures, &c.

Arboriſt is an appellation of leſs extent than botaniſt.

ARBOR Scientiæ, a general diſtribution or ſcheme of ſcience or knowledge.

ARBOUC, in *Geography*, a town of Arabia, 116 miles north-weſt of Mecca.

ARBOUCAVE, a town of France, in the department of Landes; four leagues ſouth-eaſt of St. Sever, and $4\frac{1}{2}$ E. N. E. of Orthez.

ARBOURS, in *Gardening*, are ſmall compartments formed with various ſorts of trees and ſhrubs, in ſuch order as to incloſe a certain ſpace, and make a kind of receſs or ſhady retreat for the hot ſummer months. They were formerly held in much higher eſtimation than at preſent, and were commonly formed of ever-greens, as yews, planted very cloſe, the ſides trained erect ſix, eight, or ten feet high, and the tops formed like vaults or trained archways, over arched frames or lattice-work of wood or iron; having arched openings or arcades formed on the ſides, the whole being ſhorn or clipped annually to keep them in due order, which in many caſes appeared very ornamental, according to the ancient ſtyle of gardening. They were alſo frequently formed of deciduous trees, particularly the elm, and ſometimes with the horn-beam, beech, and lime, which were conſtantly ſhorn every ſummer. The forms of both the ever-green and deciduous kinds, were either ſquare, hexagonal, octagonal, or round, and their dimenſions generally from ten to fifteen feet in width and height; the tops were moſtly made either pavilion, turret, or dome-ſhaped, and ſometimes terminated by a globe, pyramid, or other figure, formed of the extreme branches.

The authors of the "Univerſal Gardener" obſerve, that covered arbours or bowers may be formed very quickly, even in one ſeaſon, with ſeveral ſorts of ſhrubby herbaceous climbing plants; ſome of which will advance fifteen or twenty feet in one ſummer. It is likewiſe added, that they ſhould, if poſſible, be erected upon a ſomewhat riſing ground, for the greater advantage of free air, and to enjoy the proſpect of the garden and adjacent country.

They are alſo ſometimes formed in the heads of ſingle large trees, particularly elms, where the trunks have divided at the height of ten or twelve feet, into ſeveral leſſer ſpreading ſtems, ſo as to admit of erecting a ſmall platform between them, cutting down the large boughs, and training the pliable branches archways over lattice-work, till thoſe on each ſide meet; then clipping the ſides annually, the tops may either be cut, or permitted to grow up, or the whole ſuffered to advance in a natural growth. They may likewiſe be formed on the ground in this manner: plant ſome of the talleſt-growing flowering ſhrubs round the inſide, to form the dimenſions of the arbour; then, on the outſide of theſe, others of ſomewhat leſſer growth; ſo continue three or four ranges, diminiſhing gradually in ſtature from the arbour outwardly, permitting the whole to take their natural growth; ſo that at a diſtance it may aſſume the appearance of one of the common ſhrubbery clumps.

The bottoms of them when on the ground, ſhould be well gravelled, and garden chairs placed in them during the ſummer.

ARBRE de mer, in *Natural Hiſtory*, a name given by one French author to the Linnæan Gorgonia Fabellum. Vide Rochef. Antill. c. 19. act. 13. p. 234.

Arbre *Coche*, in *Geography*, an iſland in the north part of lake Michigan in Upper Canada. N. lat. 45° 25′. W. long. 85° 18′.

ARBRESLE, L', a town of France, in the department of the Rhone and Loire, and chief place of a canton in the diſtrict of Lyon; nine miles north-weſt of Lyons. The place contains 871 and the canton 11,597 inhabitants; the territory includes 170 kiliometres, and 17 communes.

ARBROATH. See Aberbrothick.

ARBUCKLE, James, M. A. in *Biography*, was born at Glaſgow, in 1700, and educated in the univerſity of that city, and afterwards kept an academy in the north of Ireland. His poems were publiſhed in one volume, 12mo.; but his tranſlation of Virgil, which he undertook, was never finiſhed. He was a perſon of fine taſte, and much eſteemed by the learned in general. He died in 1734. Biog. Dict.

ARBUSCULA is uſed by Bradley to denote a little, or dwarf-tree, above the rank of ſhrubs, but below that of trees, ſuch e. gr. as the elder.

Arbuscula *marina coralloides alba*. Valent. Ind. 4.

t. 52. f. D. D. This is Madrepora *muricata* of Gmelin.

ARBUSTIVA, in *Botany*, an order of plants in the Fragmenta Methodi Naturalis of Linnæus.

ARBUSTORUM, in *Conchology*, a ſpecies of Helix; a land ſnail found in hedges and ſhrubberies in Europe. This ſhell may be better characterized in the words of Da Coſta than Linnæus; for the latter neglects to include in its ſpecific character the ſingle ſpiral line which is invariably found upon this ſpecies. It is thus defined by Da Coſta; ſhell ſomewhat umbilicated, ſpotted, with a ſingle narrow ſpiral band along the middle of the wreaths of whorls.—Teſta umbilicata convexa acuminata; apertura ſuborbiculari bimarginata; anterius elongata. Linn. Fn. Sv.—The ſhell is brown with yellow lines, or yellowiſh with brown lines, in little irregular daſhes, and the ſpiral ſtreak is darkeſt. Vide Donov. Brit. Shells.

Arbustorum, in *Entomology*, a ſpecies of Musca, (*Syrphus*, Fabr.) that inhabits Europe, and lives in trees. The thorax is grey; abdomen black, except the firſt joint and ſides of the ſecond, which are ruſous. Linnæus. Gmelin.

ARBUSTUM implies a number or multitude of trees planted for the ſake of the fruit.

The word was more peculiarly applied to a place planted with trees for ſaſtening vines to, which are hence called by Columella, *arbuſtivæ*.

Arbustum is ſometimes alſo uſed to denote an orchard or field wherein trees are planted at ſuch a diſtance, that there is room for ploughing and growing corn between them.

ARBUTELLA, in *Entomology*, a ſpecies of Phalæna (*Tinea* Linn.). The wings are ruſous, with ſtreaks of ſilver, the middle ones bifid. Fabricius.

ARBUTHNOT, Alexander, in *Biography*, an eminent Scots divine, was the ſon of the baron of Arbuthnot, and born in the year 1538. Having ſtudied the languages and philoſophy in the univerſity of Aberdeen, and civil law under Cujacius at Bourges in France, he took eccleſiaſtical orders, and became a zealous advocate and promoter of the reformation. In 1568, he aſſiſted as a member of the general aſſembly at Edinburgh; and by this aſſembly he was entruſted with the charge of reviſing a book, intitled, "The Fall of the Roman Church," which had given great offence, and which incurred the cenſure of the aſſembly, chiefly on account of an aſſertion contained in it, "that the king was the ſupreme head of the church." On this occaſion the aſſembly, in direct oppoſition to the principles of the reformation, to which they profeſſed a zealous attachment, iſſued an order that no book ſhould be publiſhed for the future, till it ſhould be licenſed by commiſſioners of their own appointment. In the following year, Mr. Arbuthnot was advanced to the office of principal of the king's college at Aberdeen. In 1572, he was a member of the general aſſembly held at St. Andrews, which ſtrenuouſly oppoſed a ſcheme of church government called "the book of policy," and which was formed by ſome ſtateſmen for the purpoſe of reſtoring the old titles in the church, and retaining among themſelves all the temporalities annexed to them. In the general aſſemblies held at Edinburgh in 1573 and 1577, Mr. Arbuthnot was moderator; and he ſeems to have been conſtantly employed, on the part of the church of Scotland, for conducting the conteſt with the regency concerning the plan of eccleſiaſtical juriſdiction to be adopted in this church. By the courſe he purſued in this buſineſs, and alſo by his publication of Buchanan's Hiſtory of Scotland, he gave offence to James VI.; and a royal order was iſſued forbidding him to abſent himſelf from his college at Aberdeen. The clergy, who were likely to be thus deprived of his important and uſeful ſervices, remonſtrated; but the king was inflexible, and the clergy ſubmitted. By this perſecution Arbuthnot's health and ſpirits were affected; and in the next year, viz. 1583, he ſunk into a decline, and died. Arbuthnot appears to have poſſeſſed a degree of good ſenſe and moderation, which eminently qualified him for the conduct of public buſineſs. Poſſeſſed of a conſiderable ſhare of learning, he patronized and promoted it, and contributed to revive in Scotland a taſte for polite literature. The only literary work which he has left is a learned and elegant treatiſe in Latin, intitled, "Orationes de origine et dignitate juris," printed at Edinburgh, in 1572, in 4to. Biog. Brit.

Arbuthnot, John, M.D. not leſs celebrated for his wit than for his learning, was ſon of an epiſcopal clergyman in Scotland, and born at Arbuthnot, near Montroſe, ſoon after the reſtoration. He received his education at the univerſity at Aberdeen, where he took his degree of Doctor in Medicine. He then came to London, and taught mathematics, in which he was well ſkilled. In 1697, he publiſhed "An Examination of Dr. Woodward's Account of the Deluge." This firſt brought him into public notice, and the reputation thence acquired was increaſed by his "Treatiſe on the Uſefulneſs of Mathematical Learning," which ſoon followed. In 1704, he communicated a paper to the Royal Society, which is publiſhed in their Tranſactions for that year, "On the conſtant regularity obſerved in the births of both ſexes." Though there is a ſmall diſparity, the males exceeding the females by about one in twenty, yet as the males are engaged in occupations of greater hazard and danger, he ſuppoſes their number to be nearly equal, at an adult age. Whence he concluded, "that polygamy is contrary to the law of nature and juſtice, and to the propagation of the human race:" an argument affording a complete anſwer to the doctrine contained in the Thelyphthora, a publication by the late Mr. Madan. On the credit of this paper he was made fellow of the Royal Society, and obtained a more intimate connection with the principal literary characters in the country. Being ſoon after called to attend prince George of Denmark, who was taken ill at Epſom, where the Doctor happened to be at the time, his ſucceſs in reſtoring him to health brought him into favour with queen Anne; and in 1709, Dr. Hannes being indiſpoſed, he was made her phyſician in ordinary, and admitted Fellow of the Royal College of Phyſicians. This would be attended of courſe with an increaſe of profeſſional fame and employment; but it does not appear he was ever popular as a phyſician, or had much general practice, as on the death of queen Anne, in 1714, he found himſelf ſo much neglected, as to have leiſure to go to Paris. On his return he thanks Mr. Pope for "taking notice of a poor old diſtreſſed courtier"; and tells him, "that his friends ſhall find the ſame welcome at Martin's Office in Dover-ſtreet, they had met at his houſe in St. James's, and that he can ſtill afford to give them half a pint of claret." His fondneſs for the converſation of Pope, Swift, Gay, and the other wits of the time, and their affectionate attachment to him, although contributing to his pleaſure, as moſt congenial to his diſpoſition, was probably the real cauſe of the little eſtimation he was in as a phyſician, except among his friends. For though Apollo is called the father of medicine as well as of verſe, yet thoſe who addict themſelves to him in his latter capacity, rarely attain eminence in the firſt. This was afterwards exemplified in the fate of Armſtrong and Akenſide, whoſe fame as phyſicians decreaſed in proportion to their increaſing celebrity as poets.

Arbuthnot had been for ſome time engaged with Pope and

and Swift in writing the "Memoirs of Martinus Scriblerus," intended as a general ſatire on the abuſes in human learning; but which was never completed. It was in alluſion to this, that he called his houſe in Dover-ſtreet *Martin's Office* (ſee his letter to Pope in 1714), which ſhews alſo that he had no inconſiderable ſhare in that exquiſitely witty production. "The life of that ſolemn and abſurd pedant, Dr. Scriblerus" Warton ſays (Introduction to the Memoirs), "of which Johnſon ſpeaks too contemptuouſly, is the only true and genuine imitation we have in our language of the ſerious and pompous manner of Cervantes." Beſides the large ſhare Arbuthnot contributed to theſe memoirs, he is upon good authority ſuppoſed to have written "The hiſtory of John Bull," "A Treatiſe on the ſcolding of the Ancients," and "The Art of Political Lying." There is alſo a philoſophical poem written by him, remarkable for its philoſophical ſentiment, in Dodſley's collection the title "Know thyſelf;" but his principal work is, "Tables of ancient Coins, Weights, and Meaſures," conſiſting of ſeveral diſſertations on theſe ſubjects, which he collected together and publiſhed in 4to. in 1727; they are ſtill held in eſteem. In 1732, now in the decline of life, he publiſhed a treatiſe "On the Choice of Aliments;" and in the following year, "On the effect of Air on human Bodies:" both founded on the doctrine of Boerhaave, the prevailing ſyſtem of the time. Among his ſatirical pieces ſhould be mentioned his "Epitaph on Chartres," a noted uſurer of the time. "Here continues to rot, &c." It is written with uncommon aſperity, but not more than the ſubject demanded. In almoſt all his ſatirical poems there is a good-humoured vein of pleaſantry, which confirms the character given of him by Swift to a lady who deſired his opinion of him: "he has more wit than all our race, and his humanity is equal to his wit." Although they are ſtrongly tinged with party, yet they are generally free from the gall and rancour that too often affects party writings. If indeed the "Memorandums of the ſix days preceding the death of a late Right Reverend," (meaning biſhop Burnet) be his, he cannot, in this inſtance, be acquitted of ſuffering his perſonal diſlike to get the better of his humanity. Dr. Arbuthnot was alſo ſkilled in muſic; and ſir J. Hawkins mentions an anthem, and a burleſque ſong of his compoſition. (Hiſt. Muſ. vol. v. p. 126.) The two volumes publiſhed in 12mo. in 1751, and entitled, "The Miſcellaneous Works of the late Dr. Arbuthnot," contain ſome of his genuine productions; but as for the greateſt part of them, his ſon George Abuthnot, Eſq., upon whoſe judgment and probity we may depend, ſays that they were not written by his father. He had been long afflicted with an aſthma, to which a dropſy was now added. With a view of obtaining relief under this accumulated diſtreſs, for he did not, he told his friends, expect a cure, he removed to Hampſtead, a village in the neighbourhood of London; but, finding little advantage from change of ſituation, he ſoon returned to his houſe in town, where he died Feb. 27, 1735; and ſuppoſing him to have been thirty, when his "Examination of Woodward's Account of the Deluge" appeared, in the 68th year of his age. Dr. Arbuthnot paſſed his days amidſt the endearments of domeſtic life, and the affectionate eſteem of his friends; and bore, with reſignation and cheerfulneſs, the afflictions that fell to his lot. His literary aſſociates, by whom he was beloved, have recorded their mutual friendſhip. Pope dedicated to him an epiſtle, called "A Prologue to the Satires;" and Swift feelingly laments, in one of his poems, that he is

> "Far from his kind Arbuthnot's aid,
> Who knows his art, but not his trade."

During his laſt illneſs, his ſerenity ſupported by habitual piety, never deſerted him; and theſe qualities, with an ardent love of virtue and diſdain of meanneſs and vice, are beautifully diſplayed in his lateſt letters.

ARBUTI, in *Entomology*, a ſpecies of PHALÆNA (*Noctua* Linn.) found in England. The anterior wings are brown; poſterior black, with a yellow band acroſs. Fabr. Donov. Brit. Inſ.

ARBUTUS, in *Botany*, *Strawberry-tree*. Lin. gen. 552. Schreb. 750. Gærtn. 59. Juſſ. 160. *Uva urſi*. Tournef. 370. Claſs, *decandria monogynia*. Nat. Order. *Bicornes. Ericæ*. Juſſ. Gen. Char. *Cal.* perianth five-parted, obtuſe, very ſmall, permanent. *Cor.* monopetalous, ovate, flattiſh at the baſe, diaphanous, with a quinquefid mouth; diviſions obtuſe, revolute, ſmall. *Stam.* filaments ten, ſubulate-ſwelling, very ſlender at the baſe, affixed to the edge of the corolla, and half the length of it; anthers ſlightly bifid, nodding. *Piſt.* germ ſubglobular, on a receptable marked with ten dots; ſtyle cylindric, the length of the corolla; ſtigma thickiſh, obtuſe. *Per.* berry roundiſh, five-celled; ſeeds ſmall, bony.

Eſſ. Gen. Char. *Cal.* five-parted. *Cor.* ovate, diaphanous at the baſe. *Capſ.* five-celled.

Species, 1. A. *unedo*, common ſtrawberry-tree; ſtem arboreous; leaves oblong-lanceolate; panicles ſmooth, nodding. This tree riſes to the height of twenty or thirty feet and uſually puts out branches very near the ground. It is in conſtant verdure; for, during the whole winter, it retains it leaves till puſhed off by thoſe which appear in the ſpring. In the months of October and November, the arbutus makes a very beautiful appearance, as, at this time, its freſh flowers and fruit of the preceding year are in their utmoſt perfection: hence it becomes a very deſirable tenant in ſhrubberies, producing a pleaſing contraſt with moſt other plants, whoſe ſeaſon of beauty is paſt. Mr. Aiton enumerates the following varieties, viz. α. Common white-flowered ſtrawberry-tree. β. Red-flowered ſtrawberry-tree. γ. Double-flowered ſtrawberry-tree. Beſides theſe varieties the nurſerymen make others founded upon the ſhape and ſize of the leaves. It is a native of the ſouth of Europe and of Aſia. This arbutus, we are told, is alſo a native of ſome parts of Ireland, eſpecially about the lake Killarney. 2. A. *laurifolia*, laurel-leaved ſtrawberry-tree; ſtem arboreſcent; leaves oblong, acuminate, ſharply ſerrate, ſmooth; racemes axillary, one-ranked, ſeſſile, ſolitary. This is very like the common arbutus, but differs in its ſharp cuſpidate ſerratures, and its axillary, very ſimple racemes, ſhorter than the leaves, with the flowers all directed the ſame way. A native of North America. 3. A. *andrachne*, oriental ſtrawberry-tree; ſtem arboreous, leaves ovate, entire, and ſerrate; panicles pubeſcent, erect. This alſo has ſome reſemblance to the common arbutus, but the bark is not rough; ſome of the leaves are not ſerrate; the panicle is viſcid. It grows to a middle-ſized tree, with large ſmooth leaves. The flowers reſemble thoſe of the firſt ſpecies, but grow more thinly on the branches. The fruit is oval, and the ſeeds flat. It grows abundantly in the Eaſt, about Magneſia. Cultivated in 1724, by Dr. Sherard, at Eltham. 4. A. *ferruginea*, long-flowered ſtrawberry-tree; ſtem arboreſcent; leaves oblong, obtuſe, ſmooth, entire; racemes terminal. Branches ſingular, ſmooth; leaves alternate, petioled; racemes axillary, ſolitary, terminating the branches; flowers remote, nodding, longer than thoſe of the other ſpecies. Found in America by Mutis. 5. A. *mucronata*, pointed-leaved ſtrawberry-tree; ſtem ſhrubby; leaves alternate, ovate, ſerrate, pointed; peduncles axillary, one-flowered. This is a very ſtiff ſhrub.

Leaves

Leaves flat, ſtiff, cartilaginous at the edge, with four ſerratures on each ſide, on very ſhort petioles; pedunceles ſingle, one-flowered. Found in Terra del Fuego, by Back. 6. A. *pumila*, dwarf ſtrawberry-tree; ſtems diffuſed; leaves alternate, diſtich, oblong, entire; flowers lateral, ſolitary. A low ſhrub, with leaves like thoſe of *Empetrum*, very ſmooth above, keeled beneath. It is a native of the ſame country as the fifth ſpecies. 7. A. *acadienſis*. Acadian ſtrawberry-tree; ſtems procumbent; leaves ovate, ſubſerrate; flowers ſcattered: berries many-ſeeded. A ſmall ſhrub with ſlender trailing branches. Flowers in thin looſe bunches, axillary. It grows in Acadia and other northern parts of America, affecting ſwampy land. 8. A. *alpina*, black-berried alpine arbutus; ſtems procumbent; leaves rugoſe, ſerrate. Branches trailing, flat on the ground; leaves alternate, oval, ſlightly ſerrate, reticulated underneath, wrinkled above; flowers in reflex cluſters, white, each ſtanding upon a ſingle ſhort peduncle; berries globular, on a ſmall blood-red calyx, about the ſize and, when ripe, the colour of a ſloe. It grows in alpine ſituations in the northern parts of Europe; and with us, on many of the highland mountains of Scotland. 9. A. *uva urſi*, bear-berry or trailing arbutus; ſtems procumbent; leaves entire. Branches trailing upon the ground to the extent of two or three feet round the root; leaves like thoſe of the preceding ſpecies, firm and rigid like thoſe of box; flowers of a fleſh-colour, in ſmall cluſters at the ends of the branches, upon ſhort red peduncles; berries, when ripe, are red, and of the ſize of a holly-berry. Common in many mountainous parts of the continent, and in the north of England and Scotland. Eng. Bot. 714. W. Med. Bot. 70. The leaves of this plant, about the middle of the laſt century, acquired great celebrity, not only for their efficacy in gravelly complaints, but in almoſt every other to which the urinary organs are liable, as ulcers of the kidneys and bladder, cyſtirrhœa, diabetes, &c. Among the numerous phyſicians who extolled the virtues of uva urſi in calculous complaints, De Haen may be conſidered the principal, and upon his authority it has been much uſed in this country; but in no inſtance does it appear to have produced that eſſential or permanent relief which is ſaid to have been experienced by the German phyſicians. The leaves of this plant are powerfully aſtringent, and the advantage they have occaſionally afforded in gravelly pains is now wholly aſcribed to this quality. They are uſually given in powder from a ſcruple to a dram, two or three times a day. This plant has been uſed in tanning leather, and alſo in dying an aſh-colour. 10. A. *thymifolia*, thyme-leaved arbutus. Aiton. Hort. Kew; ſtems procumbent; leaves oval, acute, obſcurely ſerrate, ſtrigoſe underneath; flowers axillary, eight-ſtamened. This has the ſtructure of the *vaccinium oxycoccus*, or cranberry, but all the parts are larger. The ſtem is imbricate, with briſtle-ſhaped ſcales. A native of North America, in ſwamps; and extremely abundant there. The berries are brought to market at Philadelphia late in autumn, and uſed for tarts and other kinds of paſtry. Conſiderable quantities of them are exported to Europe and the Weſt Indies. They are much uſed by our paſtry-cooks in London, though thought to be inferior to the cranberries of Britiſh growth. The plant was introduced by Dr. Fothergill in 1776.

Arbutus, *trailing*. See Epigæa.

Arbutus, in *Ornamental Gardening*, is applied to a genus of plants, the different ſpecies of which ſupply the fineſt evergreens for the principal ſituations in ſhrubberies and pleaſure-grounds. They are ſuch as may be ſet out in the open ground or in pots, but in whatever mode of planting it is deſigned to employ them, they ſhould be placed in ſo detached a manner, as to appear conſpicuous at all times, and be permitted to take their own natural growth. The beſt ſeaſon for tranſplanting all ſorts of theſe ſhrubs is in the end of September or October and beginning of November, or in March and April.

The propagation of the different ſpecies is effected moſt commonly by ſeed; they will, however, ſometimes grow by layers and cuttings, though in the latter mode rather more reluctantly; but the ſeed grows freely, from which the handſomeſt plants are frequently obtained. To continue the double-bloſſomed and ſcarlet kinds with certainty, it muſt be done either by layers, cuttings, grafting, or inarching, as theſe varieties will not retain their difference if continued from ſeed. From the ſeed of either the common oval or round-fruited kinds ſome of both ſorts may be expected; but that of the former is rather to be preferred for ſowing. The berries containing the ſeed may be had of the nurſerymen and ſeedſmen in October, November, and Spring; and the ſeeds may either be ſown in pots in autumn, and ſheltered in a frame all winter, or be preſerved in dry ſand until March, and then ſown in pots of light dry earth, and covered about a quarter of an inch deep; if the pots are then plunged into a hot-bed, it will ſo greatly forward the germination of the ſeed, that the plants will riſe in a month or ſix weeks; when they muſt have plenty of air admitted to them, moderate waterings, and be inured by degrees to the full air in ſummer, at which ſeaſon the pots ſhould be plunged into the common ground until October, and then be ſet in a green-houſe or frame, to have ſhelter from the froſt, till March, at which time it is adviſable to tranſplant the ſeedlings ſingly into ſmall pots, which if directly plunged into a ſlender hot-bed, ſhielded and ſhaded occaſionally with mats, giving moderate waterings, they will quickly take root, when the pots may be plunged into a bed of common earth in a ſheltered place, to remain two or three years, indulging the plants with larger pots and protection from ſevere froſts, till they are two or three feet high; then tranſplanting them with balls of earth about their roots into the full ground.

To propagate them by layers, the young ſhoots muſt be employed, otherwiſe they rarely emit roots in leſs than two years. Cuttings will ſend out roots by the aid of heat; in this view plant a number of the ſhort young ſhoots in pots in ſpring and ſummer, and plunge them into a ſubſtantial hot-bed of tan and dung.

Inarching or grafting is performed in the uſual way upon ſtocks of any of the varieties. See Ingrafting, and Inarching.

ARC, Arch, or Ark, formed of *arcus*, *a bow*. See Arch and Ark.

Arc, *Joan of*, in *Biography*, called alſo "the Maid of Orleans;" an extraordinary heroine, was the daughter of a peaſant of Domremi, near Vaucouleurs, on the borders of Lorrain, and born about the beginning of the 15th century. At the age of twenty-ſeven years, ſhe was ſervant in a ſmall inn, where ſhe was accuſtomed to tend horſes, and to perform other menial offices which commonly fall to the ſhare of men-ſervants. About this time king Charles VII. was reduced to the moſt diſtreſſed condition by the Engliſh; but the ſiege of Orleans, which was bravely defended by the garriſon and inhabitants, in ſome meaſure retarded their progreſs. Joan partook of the feelings of ſympathy with the beſieged, that very generally prevailed, and determined to make ſome effort for relieving her ſovereign in his preſent diſtreſſes. Whilſt ſhe was indulging theſe feelings, her enthuſiaſm led her to fancy that ſhe ſaw viſions and heard voices exhorting her to reeſtabliſh the throne of France, and to expel the foreign invaders.

vaders. Under the ſtrong impulſe of paſſion and of imagined inſpiration, ſhe obtained admiſſion to Baudricourt, the governor of Vaucouleurs, who after being informed of her inſpiration and intentions, treated her for ſome time with neglect; but, in conſequence of her renewed and importunate ſolicitations, he gave orders that ſhe ſhould be conducted to the French court, which then reſided at Chinon. It is pretended that Joan, immediately on her admiſſion, knew the king, though ſhe had never ſeen his face before, and though he purpoſely kept himſelf in the crowd of courtiers, and laid aſide every thing in his apparel that might ſeem to diſtinguiſh him; and that ſhe offered, in the name of the ſupreme creator, to raiſe the ſiege of Orleans, and to conduct him to Rheims to be there crowned and anointed. In order to remove his doubts of her miſſion, it is ſaid, that ſhe diſcloſed a ſecret, known only to himſelf, and which ſhe muſt have derived from heavenly inſpiration. She alſo demanded, as the inſtrument of her future victories, a particular ſword which was kept in the church of St. Catharine of Fierbois, and which, though ſhe had never ſeen it, ſhe deſcribed by all its marks, and by the place in which it had long lain neglected. Her intrepid and determined mode of addreſs excited attention, and gained confidence; and ſhe was referred to matrons for proofs of her virginity, and to doctors of the church for evidence of her inſpiration; their report being favourable, ſhe was ſent to the parliament at Poictiers; but they, conſidering her as inſane, demanded from her a miracle. Her reply was, that ſhe would ſoon exhibit one at Orleans. Accordingly ſhe was at length completely armed, mounted on horſeback in the preſence of the multitude, and ſent amidſt the loudeſt acclamations to join the army deſtined to the relief of Orleans. Upon joining the army, conſiſting of 10,000 men, ſhe ordered all the ſoldiers to confeſs themſelves before they ſet out on the enterpriſe; ſhe baniſhed from the camp all women of bad fame; ſhe diſplayed in her hands a conſecrated banner, repreſenting the Supreme Being as graſping the globe of earth, and ſurrounded with flower de luces; and after thus communicating to the ſoldiers a great degree of that enthuſiaſm by which ſhe herſelf was actuated, ſhe advanced towards Orleans. The Engliſh beſiegers were overawed by her orders and menaces, dictated in the name of the Almighty Creator; and ſhe entered Orleans arrayed in her military garb, and diſplaying her conſecrated ſtandard, and was received by all the inhabitants as a celeſtial deliverer. The convoy approached without finding any reſiſtance on the part of the beſiegers; the waggons and troops paſſed without interruption between the redoubts of the Engliſh; and a dead ſilence and aſtoniſhment reigned among thoſe troops, formerly ſo elated with victory, and ſo fierce for the combat. Joan, having thus far ſucceeded, ordered the garriſon, at the ſame time encouraging them with the promiſe of heavenly aſſiſtance, firſt, to attack the Engliſh redoubts, in which meaſure they were ſucceſsful; and then to fall upon the main body of the Engliſh in their entrenchments. In one of theſe latter attacks the French were repulſed, but the intrepid maid led them back to the charge and overpowered the Engliſh. In one of theſe attacks, ſhe was wounded in the neck with an arrow; but retreating behind the aſſailants, ſhe pulled it out with her own hands, had the wound quickly dreſſed, and haſtened back to head the troops, and to plant her victorious banner on the ramparts of the enemy. In conſequence of theſe ſucceſſes, attended with a loſs to the Engliſh of more than 6000 men, their courage and confidence gave way to amazement and deſpair. The French, in order to magnify the wonder of all theſe proſperous events, repreſent the maid, as not only active in combat, but as performing the office of general; directing the troops, conducting the military operations, and ſwaying the deliberations in all the councils of war. But whatever the policy of the French court might ſuggeſt for maintaining this opinion among the multitude, it is much more probable that this unexperienced country girl was prompted in all her meaſures by the wiſer commanders. Having raiſed the ſiege of Orleans, Joan now inſiſted that ſhe ſhould proceed to the accompliſhment of the ſecond part of her promiſe, which was that of crowning the king at Rheims. The king, accompanied by the victorious maid, marched at the head of 12,000 men towards Rheims; receiving the ſubmiſſion of the towns through which he paſſed; till at length arriving near Rheims, a deputation met him with the keys of the city, and he was admitted into it with tranſport. Here the ceremony of his coronation was performed with the holy oil of Clovis; and the maid ſtood by his ſide in complete armour, and diſplayed her ſacred banner. When the ceremony was finiſhed, ſhe threw herſelf at the king's feet, embraced his knees, and with a flood of tears ſhe congratulated him on this ſingular and marvellous event. Charles teſtified his gratitude by ennobling the family of Joan, giving it the name of *du Lys*, probably in alluſion to the lilies of her banner, and aſſigning to her a ſuitable eſtate in land. Having accompliſhed both the objects which ſhe had propoſed, the maid of Orleans expreſſed her wiſh to return to her former condition, and to the occupation and courſe of life which became her ſex: but the French general Dunois urged her continuance with the army, till the Engliſh ſhould be completely expelled, and her predictions fully accompliſhed. Overpowered by his advice, ſhe threw herſelf into the town of Compiegne, which was then beſieged by the duke of Burgundy and the Engliſh; where, on a ſally, having twice driven the enemy from their entrenchments, and finding their number increaſing, ſhe ordered a retreat; but was deſerted by her friends, ſurrounded by the enemy, and taken priſoner by the Burgundians. Inſtead of treating Joan as a priſoner of war, with the courteſy and good uſage, to which, as ſuch, ſhe was entitled, and which civilized nations practiſe towards enemies on occaſions of this kind, ſhe was purchaſed from the captors by the regent duke of Bedford, and a criminal proſecution was inſtituted againſt her on the charges of ſorcery, impiety, idolatry, and magic. The clergy in his intereſt, and even the univerſity of Paris, concurred in the accuſation. An eccleſiaſtical commiſſion was held at Rouen for her trial, and the maid, clothed in her former military apparel, but loaded with irons, was produced before this tribunal. Her trial laſted four months; and in the courſe of that time, many captious interrogatories were put to her, which ſhe anſwered with firmneſs and dignity. Upon being aſked, whether ſhe would ſubmit to the church the truth of her pretended viſions, revelations, and intercourſe with departed ſaints? ſhe replied, that ſhe would ſubmit them to God, the fountain of truth: and when ſhe was charged with being a heretic, and denying the authority of the church, ſhe appealed to the pope; but her appeal was rejected. When ſhe was aſked, why ſhe put her truſt in her ſtandard, which had been conſecrated by magical incantations? ſhe anſwered, that ſhe put her truſt in the Supreme Being alone, whoſe image was impreſſed upon it. When it was demanded, why ſhe carried in her hand that ſtandard at the unction and coronation of Charles at Rheims? ſhe replied, that the perſon who had ſhared the danger was entitled to ſhare the glory. When ſhe was accuſed of going to war, ſhe ſcrupled not to declare, that her ſole purpoſe was to defeat the Engliſh, and to expel them the kingdom. In the iſſue, however, ſhe

was

was condemned for all the crimes of which ſhe had been accuſed, aggravated by hereſy, her revelations were declared to be inventions of the devil to delude the people; and ſhe was ſentenced to be delivered over to the ſecular arm. At length her reſolution failed her; and through dread of the puniſhment to which ſhe was ſentenced, ſhe declared that ſhe was willing to recant; and, accordingly, ſhe acknowledged the illuſion of thoſe revelations which the church had rejected; and ſhe promiſed never more to maintain them. Upon this her ſentence was mitigated; and ſhe was condemned to perpetual impriſonment and to be fed during life on bread and water. But with this vengeance her enemies were not ſatisfied. In order to juſtify the ſevereſt meaſures againſt her, they inſidiouſly placed in her apartment a ſuit of men's apparel; upon the ſight of this garb, in which ſhe had acquired ſo much renown, and aſſumed, as ſhe once believed, by the appointment of heaven, her former ideas and paſſions revived, and ſhe ventured in her fortitude to put on the forbidden dreſs. In this apparel ſhe was detected; it was regarded as a relapſe into hereſy; her recantation became void; her partial pardon was revoked; and ſhe was to be burned in the market-place of Rouen. In June 1431, this barbarous ſentence, much more ignominious to thoſe who inflicted it than to her who was the object of it, was executed. "This admirable heroine, to whom the more generous ſuperſtition of the ancients would have erected altars, was, on pretence of hereſy and magic, delivered over alive to the flames, and expiated, by that dreadful puniſhment, the ſignal ſervices which ſhe had rendered to her prince and to her native country." She met her fate with reſolution, and the Engliſh themſelves beheld the ſcene with tears. The king made no effort for avenging her cauſe; he merely procured a reviſion of the proceſs, and a reſtoration of her memory ten years afterwards by the pope, in an act which ſtyled her a "Martyr to her religion, her country, and her king." Her countrymen, more prompt in the tribute of their reſpect, propagated many tales relating to her execution; and ſome of them would not even allow her to be dead, but profeſſed to expect her ſpeedy return to conduct them again to victory. Of the character and conduct of this ſingular heroine, the moſt probable opinion is, that of her being an honeſt and deluded enthuſiaſt, of whoſe fancies and paſſions the principal perſons in the intereſt of Charles availed themſelves for deluding and rouſing into exertion the paſſions of the people, at a criſis of peculiar importance; in which the maid of Orleans was inſtrumental in giving a deciſive turn to the conteſt between the French and Engliſh. The exploits of Joan of Arc have been celebrated both in proſe and verſe. Of the latter, the ſerious poem of Chapelain has been much leſs ſucceſsful than the burleſque and licentious one of Voltaire; but the injury done by it to her memory has been in ſome degree repaired in England, by Southey's ſublime and ſpirited poem of "Joan of Arc," which exhibits her in the brighteſt colours of virtue and heroiſm. Hume's Hiſt. of Engl. vol. iii. p. 141, &c. Nouv. Dict. Hiſtor. art. *Jéanne.*

ARC, in *Geography*, a rapid river of Savoy, which riſes in the northern part of mount Cenis, on the confines of Aoſta, traverſes the country of Marienne, and diſcharges itſelf into the Iſere about four miles from Montmelian.

ARC, or *Ar*, a river of France, riſes on the ſide of Porciouls, traverſes the plain of Pourieres, where Marius defeated the Cimbri; paſſes by Aix, and loſes itſelf in the lake of Martigues in the department of the mouths of the Rhone. Some have ſuppoſed this to be the *Canum flumen* of Ptolemy.

ARC *en Barrois*, a town of France, in the department of the Upper Marne, and chief place of a canton in the diſtrict of Chaumont, fourteen miles north-weſt of Langres. The place contains 1768, and the canton 5,735 inhabitants: the territory includes 205 kilometres, and 9 communes.

ARC *ſur Tille*, a town of France, in the department of the Côte d'Or, and chief place of a canton in the diſtrict of Dijon, on the river Tille, ſeven miles eaſt-north-eaſt of Dijon.

ARCA, in *Ancient Geography*, a town of Aſia in Meſitene on the weſt of the river Melas, and towards 37° 50′ N. lat.

ARCA, a town of Phœnicia, at the foot of mount Libanus, between Antaradus and Tripoli, upon a ſmall river about half a league from the ſea coaſt. This was the city of the Arkites, who were the offſpring of Canaan, and ſaid by ſome to have been founded by Arac, one of his ſons. The inhabitants conſecrated a temple in this place to Alexander the Great; and the city was denominated in honour of the Roman Emperors, and on account of its ſituation, "Cæſarea of Libanus," which name, as is ſeen in medals, it had borne about a century before the time of Alexander Severus. Shaw, in his travels (p. 270) ſpeaks of the ruins of Arca, and ſays, that the ſituation of this ancient city was very delightful; having to the north the proſpect of an extenſive plain, diverſified with a great variety of towns and villages, ponds and rivers; to the weſt the ſun might be ſeen ſetting in the ſea, and to the eaſt riſing over a long and diſtant chain of mountains. The citadel was erected upon the ſummit of an adjacent mount of a conical form, and muſt in former times have been impregnable. Water was conveyed from the mountains to the city by an aqueduct, whoſe principal arch could not have been leſs than 100 feet in diameter.

ARCA, *Cape d'*, in *Geography*, lies on the coaſt of Africa, E. S. E. from the N. E. end of the iſland of Forteventura, the moſt ſoutherly of the Canaries. It is about N. lat. 27° 15′, and W. long. 12° 10′.

ARCA *cordis* is uſed by ſome *Anatomiſts*, to denote the PERICARDIUM.

ARCA, in *Conchology*, a *genus* of Bivalves, the animal of which is ſuppoſed to be a *Tethys*: the valves are equal; and the hinge beſet with numerous ſharp teeth, inſerted between each other. The ſpecies are arranged in two ſections, viz. the firſt has an entire margin, and in the other the margin is crenulated: each of theſe ſections is ſubdivided into two parts, the firſt having the beaks recurved, and in the ſecond they are inflected. The ſpecies enumerated by Gmelin are, tortuoſa, noae, barbata, modiolus, pella, ovata, pellucida, roſtrata, ſtriata, pulchella, afra, foſſilis, cancellata, minuta, lactea, noduloſa, antiquata, ſenilis, granoſa, corbicula, decuſſata, aequilatera, pallens, cucullus, magellanica, reticulata, candida, indica, jamaicenſis, campechienſis, lata, ſenegalenſis, undata, pectunculus, pectinata, glycymeris, piloſa, nummaria, nucleus, rhomboidea, marmorata, anguloſa, ſcapha.

ARCADE, in *Architecture*, is uſed to denote any opening in the wall of a building formed by an arch.

ARCADES, or *Arcadia*, in *Ancient Geography*, a town on the weſt ſide of the iſland of Crete.

ARCADIA was one of the ſix diſtricts into which the Peloponneſus was divided. Its name is ſaid to have been derived from Arcas their fourth king; and it was anciently called Pelaſgi, being inhabited by the Pelaſgi, who boaſted of their deſcent from Pelaſgus. The Pelaſgians were found in ſeveral parts of Greece; but their chief and primitive ſeat is generally ſuppoſed to have been Arcadia, whoſe inhabitants are univerſally allowed to be the moſt ancient people in Greece. Bounded on the north by Elis, on the eaſt by Argolis, on the ſouth by Laconia, and on the weſt by Meſſenia, Arcadia occupied a central ſituation, and was the only diſtrict of the Grecian peninſula which was not mari-

time. It conſiſted chiefly of mountainous regions, emboſoming vallies which were often interſected by rivers and ſtreams; but in certain places there deſcended from the mountains too abundant waters, which finding no outlet in the plain, ſuddenly precipitated themſelves into profound gulphs, purſued their courſe for ſome diſtance through ſubterraneous caverns, and at length burſt forth and again appeared above the earth. The ſoil, in moſt parts extremely fertile, was peculiarly favourable to paſturage, and nouriſhed a race of herdſmen who, like other highlanders, invigorated by the exerciſe and efforts which the rugged ſcenes of their occupations often required for ſubſiſtence, and emboldened by the dangers of the chaſe, encountered not merely for amuſement but for the ſecurity of their flocks, were ſtrong and courageous; and their courage was increaſed by the confidence which the natural bulwarks of their country afforded againſt foreign invaſion.

Arcadia was divided into upper and lower, the former on the north, and the latter on the ſouth; and this which was the moſt mountainous of the two, was famous for its breed of horſes and aſſes, whence the laſt of theſe animals was denominated the Arcadian nightingale. Both theſe diſtricts abounded with cities, of which the following have been recorded, viz. Megapolis, now Leontari, Mantinea, now Goriza, Palantium, Mœnalus, Tegea, Orchomenon, Clitorium, Nonacris, Pſophis, now Dimazana, Heræa on the river Alpheus, Stymphalus on the lake and river of its name, in which there was a temple of Minerva, and Phialia or Phigala on the river Neda. The chief mountains were Cillene, Pholoe, now Xiria, Stymphalus, now Poglifi, Parthenius, and Lycæus, called alſo Olympus, by Pauſanias Ceraufius, and by the preſent inhabitants Mitena.

At firſt the Arcadians were a ſavage people, living in the woods and fields, and feeding promiſcuouſly on the products of the ground. At laſt they were taught by Pelaſgus, the founder of their monarchy, to build huts, to live ſociably, to exchange their common food for nuts, acorns, or beech-maſt, and to clothe themſelves with the ſkins of wild beaſts. They began afterwards to feed cattle, being invited to it by the fertility of their ſoil. The ſhepherds of Arcadia, amidſt their numerous flocks and herds, were diſtinguiſhed by the tuneful ſtrains of their vocal and inſtrumental muſic, and for the worſhip which they paid to their god Pan.

Affording few temptations to commercial adventures, they had very little of the intercourſe of peace with ſurrounding principalities. The ſecure and inſulated poſition of their territory long preſerved the Arcadians, on the one hand unimproved by the advancing refinement of Grecian civilization, and on the other uninfected by Grecian degeneracy; and when other ſtates had exhibited the higheſt exertions of genius, and were advanced to eminence in the arts, accommodations, and luxuries of life, the Arcadians were diſtinguiſhed by the innocent ſimplicity of their manners and by their fond attachment to paſtoral retirement. "The exuberant fertility (as Dr. Gillies obſerves), the inland ſituation, the generous warmth, yet lively verdure, together with the picturefque and animating ſcenery of this delightful region, ſeemed peculiarly adapted to inſpire, and to gratify, the love of rural happineſs; and to afford in all their elegance and dignity, thoſe ſublime and ſacred joys of the country, which the genius of ancient poets hath felt and deſcribed with ſuch affecting ſenſibility."

Lycaon, the ſon of the founder of the Arcadians, improved what his father had done towards civilizing them, by introducing among them the worſhip of Jupiter. Each of his ſons built a city, which they called reſpectively by their own names; in them the people acquired the habits of ſocial life; and in the next reign they began to ſow corn, make bread, ſpin wool, and manufacture cloth for garments; ſo that in four generations, the Arcadians, from being but one remove from wild beaſts, became civilized, induſtrious, inured to ſociety, huſbandry, and a regular police.

Arcadia, like other ſtates of Greece, was anciently governed by kings. Of theſe kings they reckon twenty-five from Pelaſgus, the founder of their monarchy, to Ariſtocrates II. with whom it terminated. This laſt king was murdered by his ſubjects for his treachery to the Meſſenians his allies, whom he betrayed to the Spartans, then at war with them. This event happened in the firſt year of the 28th olympiad, or the 668th year before Chriſt; and if Pelaſgus was contemporary with Cecrops, the founder of Athens, as Sir Iſaac Newton ſuppoſes, and we refer him, with Blair in Tab. ii. of his Chronology, to the year 1556 before Chriſt, the duration of the Arcadian monarchy will be about 888 years. But about the commencement of this period there is a conſiderable difference of opinion among chronologers. However this be, the kings of Arcadia poſſeſſed only limited authority, but afterwards conſtructed a federal republic, of which the ſeveral departments ſent reſpectively deputies to the ſtates general. With ſuch manners, and a form of policy ſo well adapted to virtuous ſimplicity and a moderate extent of territory, the Arcadians, while they adhered to their innocent purſuits and occupations, were contented and happy.

But the ambition of neighbouring ſtates, and eſpecially the rivalry of the two chief powers of Greece, Athens and Sparta, which involved intermediate and adjacent countries in their contentions, reached the mountains of Arcadia, and compelled the inhabitants frequently to change the crook for the ſword. When obliged by neceſſity, or excited by honour, the Arcadian Iſlanders took the field, they diſplayed ſuch ſtubborn valour, and exerted ſuch efforts of vigour and activity, as made their ſervices eagerly deſired, and purchaſed with emulation, by the ſurrounding ſtates. They commonly appeared clad with the ſkins of wolves and bears, and carried either a little bundle of javelins, or a lance in their hands, which they uſed with a peculiar dexterity. Their women alſo became at length ſuch expert warriors, that they have ſometimes by their ſeaſonable ſuccour decided a doubtful victory. Hence ſuch offers were made to them as induced many, when their own country was at peace, to ſerve as mercenaries in foreign armies. The warfare in which the Arcadians were engaged, firſt from neceſſity, and afterwards from choice, made a very important change in their internal ſituation. From farms and villages they aſſembled into walled towns; they fortified Tegea, and afterwards Mantinea.

The Arcadians of Tegea joined the Grecian patriots of Athens and Sparta, in vindicating the freedom and independence of their native land againſt the attempts of oriental deſpotiſm, and bore an important ſhare in the battle of Platæa, which conſummated the victories of liberty. In the Peloponneſian war, Arcadia, ſituated between the contending parties, was involved in their hoſtilities. The Spartans, after having vanquiſhed their principal rival, endeavoured to ſubjugate the Arcadians, but though ſometimes victorious, yet they were never completely ſucceſsful. At length, after the peace of Antalcidas had withdrawn their chief enemies from the field, they directed their efforts againſt Mantinea, and, that city, become the capital of Arcadia, was after a gallant defence compelled to ſubmit. The Arcadians however were not ultimately ſubdued; Epaminondas, in vindicating the liberties of his own country, aſſerted the independence of other ſtates againſt the overbearing domination of Sparta. In the

firſt invaſion of Laconia, the Arcadians joined the puniſher of their imperious oppreſſors. Now ſo much accuſtomed to the conflicts of war, they alſo partook of its rapacity, and inſtead of the honeſt ſimplicity of ſhepherds, imbibed the plundering ſpirit of mercenary ſoldiers. Auxiliaries to the Theban hero, they had profited by his ſucceſs: encouraged by their advantages, and the depreſſion and diſtreſs of Sparta, they gave ſcope to their ambition, and planned the ſubjugation of the whole peninſula. Acquiring the policy as well as views of their changed national character, to pave the way for the total conqueſt of the Peloponneſus, they began by wreſting ſeveral places from the Elians, the leaſt warlike and moſt wealthy of their neighbours. But the ardour of rapacious avarice operating with too much violence and precipitation, by rouſing confederate reſiſtance, ultimately defeated the purpoſes of ambition. Injuſtice and robbery they aggravated by impiety and ſacrilege; they directed their depredations againſt the temple of Olympia, containing the collected treaſures of many centuries, the rich gifts of vanity and ſuperſtition. Not only neighbouring powers but many of their own countrymen cenſured this ſpoliation; internal diſcord aroſe between the plunderers and thoſe who reprobated the deed, and their ſchemes of boundleſs aggrandiſement proved abortive. The Arcadians now intermingling ſo much in the wars and intrigues of the Grecian ſtates, accompanied them in their declenſion from patriotiſm to ſelfiſh corruption, from corruption to enervation and the decay of military proweſs, until they became dependent and tributary appendages of the Macedonian kings, and afterwards provinces of the Roman empire. Since that time all traces of Arcadia are loſt, and the country is only known as a part of the Grecian or the Turkiſh empire. Several colonies of Arcadians migrated at different periods from their own country, and ſettled in Latium; and may therefore be juſtly reckoned among the firſt inhabitants of Italy. Pauſanias in Arcad. lib. viii. oper. p. 511. ed. Kuhnii. Anc. Un. Hiſt. vol. v. p. 64, &c.

Arcadia, or Cyparissa, in *Geography*, a ſea-port town of European Turkey, in the Morea, ſituate on a gulf to which it gives name, open to the Mediterranean ſea, ſix leagues to the north of Navarin. N. lat. 37° 24′. E. long. 21° 42′.

ARCADIUS, in *Biography* and *Hiſtory*, an emperor of the eaſt, and eldeſt ſon of Theodoſius the Great, was born in Spain, A.D. 377, and inveſted by his father with the purple at the age of ſix years, A.D. 383. At his death, in 395, Theodoſius divided the empire between his two ſons, Arcadius and Honorius; allotting to the former Thrace, Aſia Minor, Syria, and Egypt, with Dacia, Macedonia, and half of Illyricum. Arcadius poſſeſſed none of thoſe qualities that were adapted to his ſtation, and to the extenſive dominion which was aſſigned him; and he had the misfortune, at the commencement of his reign, to be under the direction of his father's unworthy favourite, Rufinus, whoſe ambition led him to aſpire to the ſovereignty itſelf. In order the more effectually to ſecure his influence over the young prince, he concerted a marriage between Arcadius and his daughter: but the eunuch Eutropius contrived to attach the emperor's affections to Eudoxia, and he was married to her in the firſt year of his reign. Rufinus being cut off by an untimely death, Eutropius, who was even a worſe man than Rufinus, ſucceeded to the miniſterial power, and by fraud or violence, removed from the view of Arcadius all thoſe in whom he placed any confidence. This miniſter, however, did not long enjoy the power which he acquired by artifice, and which he exerciſed merely to ſerve the purpoſes of his own ambition and avarice. Having fomented diſcord between Arcadius and his brother Honorius, and perſuaded Gildo to transfer the allegiance of Africa from the latter to the former, he cauſed the emperor A. D. 397, with a view to his own ſecurity and that of his adherents, to paſs an unjuſt and cruel law of treaſon, extending the crime to all practices againſt the miniſters and officers of the ſovereign, and the puniſhment of it to deſcendants. His power was at length overthrown by the rebellion of Tribigild, the Oſtrogoth, A. D. 399, and by the concurring influence of the empreſs Eudoxia, by whom he was ſucceeded in the abſolute direction and government of the feeble Arcadius. She aſſumed the title of "Auguſta," and had her image borne through all the provinces of the empire, which was honoured with the reſpect beſtowed on that of the emperor himſelf. By her perſecution of the venerable Chryſoſtom, who was baniſhed and died in exile, becauſe he too freely expoſed the vices of the court, and of the empreſs, Eudoxia excited diſturbances at Conſtantinople; but in the bloom of youth ſhe died of a miſcarriage, A. D. 404. Arcadius ſurvived her a few years, and witneſſed the calamities that were accumulating on the eaſtern empire. At length in his thirty-firſt year, he died at Conſtantinople; A. D. 408, after having reigned twelve years with his father, and nearly fourteen years after his death. He had one ſon, viz. Theodoſius, who at the time of his deceaſe was eight years of age, and four daughters. Arcadius was a prince of very moderate talents; being indolent, and alſo addicted to pleaſure, he was ſhamefully impoſed upon, and entirely governed by his miniſters and the empreſs, who, under the ſanction and by an abuſe of his authority, oppreſſed the people in the moſt deſpotic and tyrannical manner. "It is impoſſible," ſays Mr. Gibbon, "to delineate his character; ſince, in a period very copiouſly furniſhed with hiſtorical materials, it has not been poſſible to remark one action that properly belongs to the ſon of the great Theodoſius."

The ſuppoſed teſtament of Arcadius, by which he appointed Jezdegerd, the Perſian monarch, guardian of his ſon, and which is mentioned by Procopius, is not authenticated by any ſufficient evidence. Anc. Un. Hiſt. vol. xiv. p. 324—356. Gibbon's Hiſt. vol. v. p. 372. 412.

Arcadius, in *Entomology*, a ſpecies of Papilio (P. Nymph. Fab.) The wings are very entire; the anterior ones black with blue and white ſpots; poſterior ones fuſcous, beneath cheſnut-brown. This kind inhabits Africa. Fabricius. Obſ. Gmelin overlooked this new ſpecies in his Syſt. Nat.

ARCÆ *Cuſtos*, in *Eccleſiaſtical Antiquity*, a title formerly given to the archdeacon, on account of his having the cuſtody of the church's cheſt, or treaſure.

ARCAGANTES, in *Ancient Geography*, called alſo Liligantes and Limigantes, were Sarmatians, who, being expelled their own country, took poſſeſſion of ſome parts of the Roman territory.

ARCALU, in *Geography*, the name of a ſmall principality of the Tartar Moguls, on the river Hoamko; where the great wall of China commenced.

ARCAN, a town of Aſia, in Tartary, upon the frontiers of Mawaralnahra, ſituate upon the river Caſſima, and called alſo Adercand.

ARCANE, a ſmall town of Aſiatic Turkey, in Natolia, upon the coaſt of the Black Sea, between Seriape, or Sinape, and the Cape Piſello.

ARCANGIS, in the *Turkiſh Armies*, an inferior kind of infantry, which ſerve as *enfans perdus*, and to haraſs and pillage the enemies' frontiers.

The Arcangis are an order inferior to the Janizaries;

and, when any of them diſtinguiſh themſelves, are uſually preferred in the Janizaries order. They have no pay, but are to ſubſiſt on their plunder.

ARCANI, in *Geography*, a town of Mingrelia, at the mouth of a river of the ſame name, ſuppoſed to be the ancient Apſarrus.

ARCANIUS, in *Entomology*, a ſpecies of PAPILIO (Dan. Faſt.). The wings are very entire, ferruginous beneath, on the anterior pair one ocellated ſpot; on the poſterior pair five, the firſt of which is ſeparated from the others by a band. Fabricius. This is *Papilio Amyntas* of Scopoli and Poda, and inhabits Europe. It is produced from a green larva, which has an obſcure line along the back, is yellow on the ſides, and bidentated at the tail.

ARCANNA, a kind of red chalk, called by phyſiologiſts *rubrica fabrilis*, as being uſed by carpenters to colour their lines for marking timber, &c.

ARCANO, in *Geography*, a town of Italy, belonging to the Venetian ſtates, in the province of Friuli, eleven miles weſt of Udina.

ARCANUM literally ſignifies a *ſecret*; and is therefore very pertinently applied by quacks and impoſtors in medicine, who conceal their ignorance and fraud under the pretence of ſecrecy. Hence a multitude of arcana.

ARCANUM CORALLINUM, a name formerly given to red mercurial precipitate, on which ſpirit of wine has been burnt in order to render it milder.

ARCANUM DUPLICATUM. This term was invented by Glauber, and applied by him to the ſalt remaining after the diſtillation of nitrous acid, from nitre and ſulphuric acid. It is the ſame as was afterwards known by the name Vitriolated Tartar; or, according to the modern nomenclature, SULPHAT of *Potaſh*.

ARCAS, in *Aſtronomy*, a name given by ſome old writers to the ſtar Arcturus, in the conſtellation Bootes. Arcas, the ſon of Caliſto by Jupiter, it is ſaid, when he was about to kill his mother in the ſhape of a bear, was, together with her, ſnatched up into heaven; where ſhe was converted into the conſtellation of the Great Bear; others ſay into this ſingle ſtar.

ARCAS, in *Entomology*, a ſpecies of PAPILIO. The wings are very entire and fulvous; margin and ſpots black; poſterior ones beneath grey, and without ſpots. Inhabits the Cape of Good Hope. Fabricius and Gmelin.

ARCAS, in *Ancient Geography*, a town of Armenia Minor, according to the Antonine Itinerary.

ARCAS, in *Geography*, a ſmall place of Spain, in Caſtile, the Arcabrica of the ancients.

ARCAS, an iſland in the gulf of Mexico, in the bay of Campeachy. N. lat. 20°. W. long. 92° 50′.

ARCASSON *Bay*, lies on the coaſt of France, 18 leagues ſouth-weſterly from the river of Bourdeaux to Cape Ferret, its north entrance; and before it lies the iſland Terry, with a channel on each ſide.

ARCASTE, an iſland on the weſt coaſt of Africa, ſouth of the river Gambia, and of Cape Roxo.

ARCATIS *Regia Soræ*, in *Ancient Geography*, ARCATE, a town in the interior of the Indian peninſula, on this ſide the Ganges, and the capital of a country called Soretanum Paralia.

ARC-BOUTANT, in *Building*, a kind of flat arch, or part of an arch, abutting againſt the feet of an arch, or reins of a vault, to ſupport, and prevent their giving way.

The name is French; formed of *arc* and *bouter, to abut*. Arc-boutants are only arched BUTTRESSES.

ARCE, in *Ancient Geography*, alſo called Rakem and Petra, the capital of Arabia Petræa.

ARCE. See ARCA and ARACEANS.

ARCE, in *Geography*, a town of Italy, in the kingdom of Naples, and country of Lavora, ſix miles ſouth of Sora.

ARCEGOVINA, a province of Dalmatia, between the country of the Dulcignotes to the ſouth-eaſt, the republic of Raguſa to the north-weſt, a part of Boſnia to the north-eaſt, and the Adriatic ſea to the ſouth-weſt. The principal towns are Riſano, Caſtel-Novo, Cataro, and Budoa, which are all fortified; and the river Moracica traverſes the country, which abounds with mountains, and yet is very fertile, from the north-weſt to the ſouth-weſt. The Venetians poſſeſs the greateſt part of it, and the reſt belongs to the Turks.

ARCELES, a town of France, in the department of the Eaſtern Pyrenées, and chief place of a canton, in the diſtrict of Ceret, four leagues ſouth-eaſt of Perpignan, and four eaſt-north-eaſt of Ceret.

ARCELLA, in *Entomology*, a ſpecies of PHALÆNA (*Tinea*); wings pure white, with a common arched mark, and two marginal ſpots of brown. Fabricius, Gmelin. Inhabits Germany.

ARC-EN-QUEUE, in *Ornithology*, the name of the Linnæan ORIOLUS *Annulatus*, in Buffon's Hiſt. Nat. des Oiſ.

ARCES, in *Geography*, a town of France, in the department of the Eaſtern Pyrenées, and chief place of a canton, in the diſtrict of Ceret, ſeven leagues ſouth-ſouth-weſt of Perpignan, and two ſouth-weſt of Ceret.

ARCESILAUS, in *Biography*, a Greek philoſopher, the founder of the Middle Academy, was a native of Æolis, and born in the firſt year of the 116th olympiad, or the 316th year before Chriſt. He followed his firſt preceptor, Autolycus the mathematician, to Sardis; but he afterwards went to Athens, where he ſtudied muſic under Xanthus, geometry under Hipponicus, and philoſophy under Theophraſtus, Ariſtotle, Polemon, and Crantor. With the latter, and alſo with Zeno the founder of the Stoic ſect, he formed an intimate friendſhip. Poetry was his favourite amuſement, and he was ſo familiarly acquainted with Homer and Pindar in particular, that he often cited in converſation pertinent paſſages from their works; and it was his practice every night before he went to ſleep, to read a portion of Homer. After having in early life been initiated in mathematics and polite literature, he was deſigned for the profeſſion of the law, but he rather choſe to devote himſelf to philoſophy. After the death of Crates, he took poſſeſſion of the academic chair, and his method of inſtruction was univerſally admired. However, the innovations which he introduced in the Platonic ſchool, gave riſe to a new ſchool, called, in reference to Plato's ſchool, the Second Academy; and with reſpect to a ſubſequent innovation by Carneades, the Middle Academy. See ACADEMY.

The ſchool of Arceſilaus was founded upon the principle of the uncertainty of knowledge; and it was inſtituted in oppoſition to the Dogmatiſts, and particularly the Stoics, whoſe doctrine was different from that of Plato. This philoſopher, under the ſanction of Socrates and Plato, and without explicitly avowing the doctrine of univerſal ſcepticiſm as taught in the ſchool of Pyrrho, maintained, that whatever certainty there may be in the nature of things, every thing is uncertain to the human underſtanding. He, therefore, taught his diſciples not with confidence to aſſert their own opinions, but to controvert thoſe of others; that truth has no certain characters by which it may be diſtinguiſhed from error; and therefore he ſuſpended his judgment, and diſputed merely with a view of convincing him-

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ſelf that oppoſite opinions may be ſupported by arguments of equal weight. Hence his ſchool became a theatre of unprofitable contention, in which his diſciples were allowed to propoſe and to maintain their opinions; and then the maſter, by his ſkill in diſputation, and by his captivating power of addreſs, aſtoniſhed the audience by confuting them. Thus the point in debate ſeemed to be determined, till the ſame ingenuity was employed on the oppoſite ſide of the queſtion.

Arceſilaus has been compared to Tiberius Gracchus, as a diſturber of the peace, who endeavoured to overturn the eſtabliſhed philoſophy, without the merit of that political reformer; who attempted the correction of abuſes and errors; for he brought the world of ſcience into a worſe ſtate of confuſion than that in which he found it. Accordingly his doctrine of uncertainty alarmed not only philoſophers but civil magiſtrates; and he was conſidered as a common enemy to ſcience and to ſociety; and unqueſtionably his tenets ſeem neceſſarily to deſtroy the foundations of virtue, and to introduce uncertainty and indifference with regard to the obligations of morality. When Arceſilaus was once reproached by an enemy for living according to his principles, Cleanthes, though a Stoic, juſtified him, and averred, "that though he deſtroyed morals by his doctrine, he eſtabliſhed them by his conduct." "You flatter," ſaid Arceſilaus. "Is this flattery," replied Cleanthes, "to aſſert, that you ſay one thing and do another?" This, however, was a mere compliment, to which Arceſilaus was not entitled; for, according to the repreſentation of Diogenes Laertius, he was addicted to the moſt ſhameful intemperance and lewdneſs, and deſerved the character of the corruptor of youth; ſo that the pernicious tendency of his principles was exemplified in his own practice. He died, in the 4th year of the 134th olympiad, 241 years before Chriſt, though at the age of 75, a martyr to his licentious conduct; for the cauſe of his death was a delirium produced by exceſſive drinking. On many occaſions, however, he manifeſted a generous and liberal ſpirit. When one of his pupils expreſſed a predilection in favour of a Peripatetic philoſopher, named Hieronymus, Arceſilaus took him by the hand, and conducting him to his ſchool, requeſted the philoſopher to treat him in a manner ſuitable to his merit. When Cleanthes, who was the ſucceſſor of Zeno, the profeſſed adverſary of Arceſilaus, was affronted by one of his pupils, he would not reſtore him to his ſchool till he had made a ſatisfactory acknowledgment for the offence. Having lent ſome ſilver veſſels to a friend for an entertainment, when he found that he was poor, he would not allow them to be returned. Viſiting a ſick friend, whom he obſerved to be in poverty, he ſilently conveyed a purſe of gold under his pillow. When the ſick man diſcovered it, he ſaid with a ſmile, "This is one of the generous frauds of Arceſilaus." He is ſaid to have ſpent a great part of the ample income ariſing from an eſtate at Pitane, the place of his birth, in ſimilar acts of liberality. None of the writings of this philoſopher have deſcended to our times. During his life he was honoured, and after his death the Athenians paid reſpect to his memory by a magnificent funeral. Two Chriſtian fathers, viz. Numenius and Lactantius, have inveighed againſt his doctrine. Diogenes Laertius, l. iv. § 28, &c. Suidas. Athæn. l. vii. p. 276. Cic. Acad. Queſt. l. i. c. 5—12. 24. De Fin. l. ii. c. 1. l. v. c. 31. Euſeb. Præp. Evang. l. xiv. c. 6. 9. Lactant. Inſt. l. iii. c. 4. Gen. Dict. Brucker's Hiſt. Philoſ. by Enfield, vol. i. p. 244, &c.

ARCESINE, in *Ancient Geography*, a town formerly ſituate in the iſland Amorgus, one of the Cyclades.

ARCESIUM, a cavern of mount Ida, in the iſle of Crete.

ARCEUTHUS, a river of Syria, which watered the territory of Antioch, according to Strabo.

ARCEUTUM, is uſed in ſome *Ancient Law-Writers*, for a procuration due to a biſhop, abbot, or archdeacon, from their clergy, in time of entertainment.

ARCH, Arc, Arcus, in *Geometry*, a part of any curve line; e. gr. of a circle, an ellipſis, or the like. The arc of a circle is any part of its circumference. Such is A E B, *Plate* III. *Geometry*, *fig.* 35.

The baſe or line A B, that joins the two extremes of the arc, is called the CHORD; and A D, half of the chord biſected by the diameter at right angles, is the SINE of half the ſaid arc, viz. A E.

All angles are meaſured by arcs. For this purpoſe an arc is deſcribed, having its center in the point or vertex of the angle: and as every circle is ſuppoſed to be divided into 360 degrees; an arc is eſtimated according to the number of degrees which it contains. Thus an arc is ſaid to be of 30, of 80, of 100 degrees. However, the meaſure of angles by the arcs of a circle is founded upon the uniform curvature of the circle.

Arcs, *concentric*, are thoſe which have the ſame center.

Arcs, *equal*, are ſuch arcs of the ſame or equal circles, as contain the ſame number of degrees. Hence, in the ſame or equal circles, equal chords ſubtend equal arcs. And hence, again, arcs intercepted between parallel chords are equal.

A radius, C E, *fig.* 35, which biſects the chord in D, does alſo biſect the arc in E; and is perpendicular to the chord; and on the contrary. And hence the problem, to *biſect an arch*, is ſolved, by drawing a line C E from the center perpendicular to the chord in D. Equal arcs have equal chords, ſines, tangents, &c.

Arcs, *ſimilar*, or *like*, are thoſe which contain the ſame number of degrees of unequal circles. Such are the arcs A B and D E, *fig.* 36. or *fig.* 1. *Plate* VI. *Architecture*.

Two radii being drawn from the center of two concentric circles, the two arcs intercepted between them bear the ſame ratio to their reſpective peripheries, and their radii; and alſo the two ſectors to the areas of their reſpective circles. Similar arcs and other like curves are alſo like parts of the whole, or determined by like parts alike poſited.

Arc *of a circle*, the length of an, may be found by the following rule: viz. as 180 is to the number of degrees in the arc, ſo is 3.1416 times the radius to its length. Or, as 9 is to the number of degrees in the arc, ſo is .0174533 times the radius to its length. For, when the radius is 1, half the circumference is 3.141592 65. &c. conſequently

$\frac{3.14159265}{180 \text{ degrees}}$, &c. = .0174532925199, &c. = the length of an arc of 1 degree; hence $r \times .01745$, &c. = the length of 1° to the radius r, and, therefore, .01745, &c. $\times r \times$ number of degrees in any arc = the length of that arc: e. g. let the length of the arc A D B (*fig.* 37), whoſe chord A B is 6, the radius being 9, be required. By trigonometry, 9 (A C) : 3 (A P) :: 1 (radius of the tables) : $\frac{3}{9}$ = .3333333 = ſine of the angle A C P, or arc A D, to the radius 1; and the degrees in the table of ſines anſwering to the fine are 19.4712206, the double of which is 38.9424412, or the degrees in the whole arc A B. Then, by the rule, 38.9424 412 × .0174533 × 9 = 6.117063 = the length of the arc required. Dr. Hutton has given ſeveral other theorems,

with

with their demonſtrations, for finding the lengths of circular arcs in his "Treatiſe of Menſuration," p. 124, &c.: ſome of which are as follow. Let the radius of a circle be 1, any arc a, tangent t, ſine s, coſine c, and verſed ſine v: and we ſhall have,

$$a = t - \frac{1}{3}t^3 + \frac{1}{5}t^5 - \frac{1}{7}t^7 + \frac{1}{9}t^9 \text{ \&c.}$$

$$a = \frac{s}{c} - \frac{1}{3}\cdot\frac{s^3}{c^3} + \frac{1}{5}\cdot\frac{s^5}{c^5} - \frac{1}{7}\cdot\frac{s^7}{c^7} \text{ \&c.}$$

$$a = s + \frac{1}{2.3}s^3 + \frac{1.3}{2.4.5}s^5 + \frac{1.3.5}{2.4.6.7}s^7 \text{ \&c.}$$

$$a = \sqrt{2v} \times 1 + \frac{1}{2.3}\cdot\frac{v}{2} + \frac{1.3}{2.4.5}\cdot\frac{v^2}{2^2} + \frac{1.3.5}{2.4.6.7}\cdot\frac{v^3}{2^3} \text{ \&c.}$$

$a = \frac{3.14159}{180}$, &c. $d = .01745329$, &c. $\times d$, where d denotes the number of degrees in the given arc; $a = \frac{8c - C}{3}$ nearly, when C is the chord of the arc, and c the chord of half the arc, whatever be the radius.

To inveſtigate the length of the arc of any curve, put x = the abſciſſe, y = the ordinate of the arc z of any curve whatever, put $\dot{z} = \sqrt{\dot{x}^2 + \dot{y}^2}$; then, by means of the equation of the curve, find the value of $\dot{x}$ in terms of $\dot{y}$, or of $\dot{y}$ in terms of $\dot{x}$, and ſubſtitute that value inſtead of it in the above expreſſion $\dot{z} = \sqrt{\dot{x}^2 + \dot{y}^2}$; and hence, taking the fluents, they will give the length of the arc z in terms of x or y. See RECTIFICATION.

TABLE for finding the Length of Circular Arcs, Radius being Unity.

Deg.	Length.	Deg.	Length.	Min.	Length.	Sec.	Length.
1	0.0174533	60	1.0471976	1	0.0002909	1	0.0000048
2	0.0349066	70	1.2217305	2	0.0005818	2	0.0000097
3	0.0523599	80	1.3962634	3	0.0008727	3	0.0000145
4	0.0698132	90	1.5707963	4	0.0011636	4	0.0000194
5	0.0872665	100	1.7453293	5	0.0014544	5	0.0000242
6	0.1047198	120	2.0943951	6	0.0017453	6	0.0000291
7	0.1221730	150	2.6179939	7	0.0020362	7	0.0000339
8	0.1396263	180	3.1415927	8	0.0023271	8	0.0000388
9	0.1570796	210	3.6651914	9	0.0026180	9	0.0000436
10	0.1745329	240	4.1887902	10	0.0029089	10	0.0000485
20	0.3490659	270	4.7123890	20	0.0058178	20	0.0000970
30	0.5235988	300	5.2359878	30	0.0087266	30	0.0001454
40	0.6981317	330	5.7595865	40	0.0116355	40	0.0001939
50	0.8726646	360	6.2831853	50	0.0145444	50	0.0002424

In uſing the above table, take the degrees, minutes, and ſeconds from the firſt, third, and fifth columns, and againſt them are the correſponding lengths, the ſum of which is required: e. g. what is the length of an arc of 37° 42′ 58″?

30°	0.5235988
7°	0.1221730
40′	0.0116355
2′	0.0005818
50″	0.0002424
8″	0.0000388
the length required .	0.6582703

If the radius be not unity, the length may be found by proportion, thus, unity : radius :: the length here found : the length required.

See a table of circular arcs for each degree, minute, ſecond, and third, of the ſemiperiphery, in Hutton's Tables, p. 340. See a paper on an elementary manner of obtaining ſeries for expreſſing circular arcs, by Monſ. L'Huilier in the Phil. Tranſ. for 1796, pt. i. p. 142—163.

To find the center of gravity of an arc of a circle; ſee CENTER *of gravity*.

For the ſines, tangents, &c. of arcs, ſee SINE, TANGENT, &c.

ARCH, in *Aſtronomy*, has various denominations according to the circle to which it is applied.

ARCH, *Diurnal*, of the ſun is part of a circle parallel to the equator, deſcribed by the ſun in his courſe betwixt riſing and ſetting. The half of this comprehended between the meridian and horizon, is called the *ſemidiurnal arch*, and by means of this the time of his riſing and ſetting is eaſily aſcertained. Tables of ſemidiurnal arcs may be found in moſt of our aſtronomical almanacs or ephemerides. The term is alſo applied to other celeſtial bodies, as the planets and ſtars. His nocturnal arch is of the ſame kind, excepting that it is deſcribed between his ſetting and riſing.

The latitude and elevation of the pole are meaſured by an arch of the meridian; and the longitude, by an arch of a parallel circle.

ARCH *of progreſſion* or *direction*, is an arch of the ecliptic, which a planet ſeems to paſs over, when its motion is direct, or according to the order of the ſigns.

ARCH *of retrogradation*, is an arch of the ecliptic, deſcribed while a planet is retrograde, and moves contrary to the order of the ſigns.

ARCH *between the centers* is an *arch*, as AI (*Plate* I. *Aſtronomy, fig.* 11.). paſſing from the center of the earth's ſhadow, A, perpendicular to the moon's orbit, OB, and meeting her center at the middle of an eclipſe. See ECLIPSE.

If the aggregate of the arch between the centers AI, and the apparent ſemidiameter of the moon, be equal to the ſemiadiameter of the ſhadow, the eclipſe will be total without any duration; if leſs, total with ſome duration; and if greater, yet leſs than the ſum of the ſemidiameters of the moon and the ſhadow, partial.

ARCH *of poſition*, or angle of poſition, is the ſame with the horary angle. See POSITION.

ARCH *of viſion* is the ſun's depth below the horizon, at which a ſtar, before hid in his rays, begins to appear again.

TABLE exhibiting the *Arch of Viſion* of the PLANETS and FIXED STARS nearly.

Planets.	(°)	(′)	Fixed Stars. Magnitude	(°)
			1 -	12
Mercury, -	10	0	2 -	13
Venus, -	5	0	3 -	14
Mars, -	11	30	4 -	15
Jupiter, -	10	0	5 -	16
Saturn, -	11	0	6 -	17

However, the quantity of this arch is not always the ſame; but varies with the latitude, declination, right aſcenſion or deſcenſion, and diſtance of any planet or ſtar. With reſpect to Venus, it is ſometimes reduced to nothing, as ſhe is ſometimes viſible when the ſun is at a conſiderable elevation above the horizon. Riccioli. Alm. v. i. p. 42.

ARCH, in *Architecture*, is a concave ſtructure, raiſed or turned upon a mould, called the centering, in form of the arch of a curve, and ſerving as the inward ſupport of ſome ſuperſtructure. Sir Henry Wotton ſays, an arch is nothing but a narrow or contracted vault; and a vault is a dilated arch.

Arches are uſed in large intercolumnations of ſpacious buildings; in porticoes, both within and without temples; in public halls, as ceilings, the courts of palaces, cloiſters, theatres, and amphitheatres. They are alſo uſed to cover the cellars in the foundation of houſes, and powder magazines; alſo as buttreſſes and counterforts to ſupport large walls laid deep in the earth; for triumphal arches, gates, windows, &c.; and, above all, for the foundations of bridges and aqueducts, and they are ſupported by piers, butments, &c.

Arches are of ſeveral kinds, and are commonly denominated from the figure or curve of them, as circular, elliptical, cycloidal, catenary, &c. according to their curve, in the form of a circle, or ellipſis, cycloid, catenary, &c.

There are alſo other denominations of circular arches, according to the different parts of a circle, or manner of placing them; thus,

Semicircular arches, which are thoſe that make an exact ſemicircle, having their center in the middle of the ſpan or chord of the arch; called alſo by the French builders, perfect arches, and arches en plein centre. The arches of Weſtminſter bridge are ſemicircular.

Scheme arches, or ſkene, are thoſe which are leſs than ſemicircles, and are conſequently flatter arches, containing 120 or 90 or 60 degrees; &c.; they are alſo called imperfect and diminiſhed arches.

Arches of the third and fourth point, or Gothic arches, or, as the Italians call them, di terzo and quatro acuto, becauſe they always meet in an acute angle at top, conſiſt of two eccentric circular arches meeting in an angle above, and are drawn from the diviſion of the chord into three or four, or more parts at pleaſure; of this kind are many of the arches in churches and other old Gothic buildings.

Elliptical arches uſually conſiſt of ſemiellipſes, and were formerly much uſed inſtead of mantle-trees in chimnies, and are now much uſed, from their bold and beautiful appearance, for many purpoſes, particularly for the arches of a bridge, like that at Blackfriars, on account of their ſtrength, beauty, convenience, and cheapneſs.

Straight arches are thoſe which have their upper and under edges parallel ſtraight lines inſtead of curves; theſe are chiefly uſed over doors and windows, and have their ends and joints all pointing toward one common center.

The term arch is peculiarly uſed for the ſpace between two piers of a bridge, intended for the paſſage of water, boats, &c.

Arch of equilibration, is that which is in equilibrium in all its parts, having no tendency to break in any one part more than in another, and which is therefore ſafer and ſtronger than any other figure, the materials and all other circumſtances being alike.

An inveſtigation of the nature and property of arches of equilibration will be found in the following propoſitions and examples:

Problem I. (*Plate* VI. *Architecture, fig.* 3.) The nature of the curve ABD, forming an arch, being given to find the nature of the extrados or curve PSR, bounding the top of the wall APRD, ſupported by that arch, by the preſſure or weight of which wall all the parts of the arch are kept in equilibrio.—1ſt. Let ſeveral equal right lines AB, BC, CD, &c. (*fig.* 2.) placed in a vertical plane, be moveable round the angles A, B, C, D, &c. whilſt the points A, G at the baſe remain fixed and immoveable; through B, C, D, &c. draw the lines B*i*, C*m*, D*p*, &c. perpendicular to the horizon, and complete the parallelogram B*hik*, and make C*l* = B*k*, and complete the parallelogram C*lmn*. In like manner make D*o* = C*n* or I*m*, E*r* = *op*, F*t* = *rs*, and complete all the parallelograms in the figure as at firſt.——2d. Let ſeveral weights which are to one another as the lines B*i*, C*m*, D*p*, &c. lie reſpectively on the points B, C, D, &c.: now the force B*i* is equivalent to B*h*, B*k*, acting in the directions BA, BC; the force B*h* is deſtroyed by the reſiſtance of the point A, but B*k* endeavours to move the point B towards C; in like manner the force CM is equivalent to C*l* and C*n*; the force D*p* to D*o*, *op*, &c.; now the forces B*k*, acting towards C, and C*l*, acting towards B, being equal by conſtruction, deſtroy one another; and in like manner the forces C*n* and D*o*, D*q* and E*r*, E*v* and F*t*, &c. deſtroy one another; and the point G, being fixed, it is manifeſt the figure ABCD, &c. will not be moved by the incumbent weights B*i*, C*m*, D*p*, &c. but all its parts will remain in equilibrio.—3d. The force B*h* : force B*k* or C*l* :: fine $\angle$ *hi*B or *i*BC : S, $\angle$ ABi :: $\frac{1}{\text{S. ABi}}$: $\frac{1}{\text{S. }i\text{BC}}$ or $\frac{1}{\text{S. }m\text{CB}}$. Likewiſe the force C*l* : force C*n* or D*o* :: S. *m*CD or *p*DC : S. *m*CB :: $\frac{1}{\text{S. }m\text{BC}}$: $\frac{1}{\text{S. }m\text{CD}}$ or $\frac{1}{\text{S. }p\text{DC}}$, and ſo on; whence it is plain, in general, that any force C*l* is as $\frac{1}{\text{S. }\angle m\text{CB}}$; now ſince C*m* = $\frac{\text{S. C}lm \times \text{C}l}{\text{S. C}ml}$ = $\frac{\text{S. B C}x \times \text{C}l}{\text{S. }m\text{CD}}$, therefore the force C*m* is as $\frac{\text{S. BC}x}{\text{S. }m\text{CB} \times \text{S. }m\text{CD}}$. ——4. Now let the number of the lines AB, BC, CD, &c. be increaſed and their lengths diminiſhed ad infinitum, that the figures may obtain the form of a curve, and the preſſure will then act on all parts of it; and the angle BC*x* will then become the angle of contact, and the ſines of *m*CB and *m*CD become equal to the ſine of *m*C*x*; therefore drawing the tangent A*n* (*fig.* 3.), the preſſure on any point A to preſerve the equilibrium will be as the angle of contact at A directly, and the ſquare of the ſine of the angle *m*A*n* reciprocally; but the angle of contact is as the curvature, or reciprocally as the radius of curvature, therefore the preſſure is reciprocally as that radius, and the ſquare of the ſine of that angle *m*A*n*.—5. Cor. 1. If a weight like a wall *n*PSR, be incumbent on the arch ABD, ſtanding

ing in a vertical plane, and all the parts kept in equilibrio, then the weight Ag, on any point A, is as the curvature at A directly, and the cube of the fine of ATC reciprocally; AT being a tangent at the point A, meeting the axis BC produced in T: for the weight on the given part of the arch is as $\frac{C}{S.ATC|^3}$, C being the curvature at A, and the weight of the column $Agbr$ is as $Ag \times wr = Ag \times Ar \times S.ATC = Ag \times S.ATC$, becauſe Ar is given; therefore $Ag \times S.ATC$ is as $\frac{C}{S.ATC|^2}$, and Ag as $\frac{C}{S.ATC|^3}$, to keep the parts in equilibrio.——Cor. 2. If R be the radius of curvature in A, then the weight Ag is as $\frac{1}{R \times S.ATC|^3}$. ——Cor. 3. If BC $= x$, AC $= y$, BA $= z$, then Ag is as $\frac{-\dot{x}\ddot{y}}{\dot{y}^3}$, where $\dot{x}$ is conſtant; for $\dot{z} : \dot{y} ::$ AT : AC :: rad. 1 : S. ATC $= \frac{\dot{y}}{\dot{z}}$; therefore $Ag = \frac{\dot{z}^3}{R \times \dot{y}^3}$, and R may be found by ſuppoſing either $\dot{x}$ or $\dot{y}$ given. If $\dot{x}$ be given, $R = \frac{\dot{z}^3}{-\dot{x}\ddot{y}}$, therefore Ag is as $\frac{\dot{z}^3}{\dot{y}^3} \times \frac{-\dot{x}\ddot{y}}{\dot{z}^3} = \frac{-\dot{x}\ddot{y}}{\dot{y}^3}$.

Problem II. The nature of the curve ABD (*fig.* 3.) being given for the figure of an arch to find the height Ag of the wall inſiſting thereon, at every point A, ſo that all the parts ſhall remain in equilibrio. Draw the ordinate AC, and let BC $= x$, AC $= y$, Arch BA $= z$, BS the height of the wall at the vertex $= a$, R $=$ rad. curvature in A, draw the tangent AT, which will be found from the nature of the curve; find the S. angle ATC; then take Ag as $\frac{1}{R \times S.ATC|^3}$ for the height.

Example I. Let AB (*fig.* 4.) be the arch of a circle, radius $= r$, BC $= x$, cof. BC $= c$, BS $= a$, then $c =$ S. ATC, whence Ag is as $\frac{1}{rc^3}$ or as $\frac{1}{c^3}$ which at B is $\frac{1}{r^3}$, therefore $\frac{1}{r^3} : \frac{1}{c^3} :: a : Ag = \frac{ar^3}{c^3}$. Let BO $=$ ON, BS $= a$, (*fig.* 4.). Then as rad. r : cof. BA $= c ::$ BO : CO and $r^3 : c^3 ::$ BO^3 : CO^3, where $\frac{r^3}{c^3} = \frac{\text{BO}^3}{\text{CO}^3}$ and $\frac{ar^3}{c^3} = \frac{a\text{BO}^3}{\text{CO}^3} = \frac{\text{BS} \times \text{BO}^3}{\text{CO}^3} = Ag =$ BS when CO $=$ BO, and when CO $= o$, Ag is infinite; hence SgM is a curve running up to an infinite height towards M, the perpendicular NM being an aſymptote to it, and the curve is as accurately as repreſented in the figure, when the thickneſs BS at the top is about 1-10th of the ſpan diameter. But if a circular arch, and a right line at the top was *neceſſarily* required, the proportion of BS to the radius BO may be found, ſo as the arch may be *nearly* in equilibrium thus: —When Sg is a right line, then SQ in the figure muſt be nothing, or rather when the curve croſſes the horizontal line, then SQ is equal to nothing. Now to find that point from the general equation: $Ag = \frac{ar^3}{c^3} = \frac{\text{BS} \times \text{BO}^3}{\text{CO}^3} = \frac{\text{BS} \times \text{BO}^3}{\text{BO} - \text{BC}|^3}$. Put BC $= x$, then $\frac{ar^3}{c^3} = \frac{ar^3}{r-x|^3} = Ag = x + a$ when the curve croſſes the horizontal line, whence $ar^3 - a \times \overline{r-x|^3} = x \times \overline{r-x|^3}$, and by diviſion $a = \frac{x \times \overline{r-x|^3}}{r^3 - \overline{r-x|^3}}$. Now this value of a or BS evidently becomes $= o$, when the arch conſiſts of the whole ſemicircle; but when the arch is leſs than the ſemicircle, a will have a finite value; and between 60 and 120 degrees, many arches of equilibration of a certain thickneſs at the top may be found. Thus, if the half arch contain 30 degrees, then a will be $= \frac{1}{4}r$ very nearly. And if BA was an arch of 45 degrees, then a or BS $= \frac{1}{5}$ of the ſpan nearly. Farther, if BA were 55 degrees, then $a = .0992r$, which is between the ſixteenth and ſeventeenth part of the ſpan or chord: ſo that in each of theſe caſes, the points A and B would be in equilibrium; but then about the middle parts between B and A, or rather nearer to B than to A, the materials ſhould be a little lighter than at B and A, and the exact proportion in which their gravity ſhould be diminiſhed, might be eaſily found by calculation: thus, in the firſt caſe in particular (*fig.* 5.) the ſpecific gravity of the materials in the middle of the arch between B and A, that is, at 15 degrees from B, ſhould be to that at B or A, as 278 to 284; which is but a very inconſiderable decreaſe, and may be very well neglected. In the firſt two caſes, the thickneſs at the top would be too much; but in this latter one, when the whole arch is 110 degrees, the thickneſs is but juſt about that which the beſt architects now allow, and in greater arches the thickneſs would become too little; ſo that an arch of nearly about 110 degrees is the only part of a circle that can be uſed with much propriety.

Example II. Let NAB (*fig.* 6.) be an ellipſis, $t =$ NO, the ſemitranſverſe parallel to the horizon, $r =$ BO the ſemiconjugate, BC $= x$, CA $= y$, BS $= a$; then by the nature of the ellipſe, $r : t :: \sqrt{2rx - x^2} : y = \frac{t}{r}\sqrt{2rx - x^2}$; hence $\dot{y} = \frac{t \times \dot{x}}{r} \times \frac{r - x}{\sqrt{2rx - x^2}}$ and $\ddot{y} = \frac{-tr\dot{x}^2}{\overline{2rx - x^2}|^{\frac{3}{2}}}$ by making $\dot{x}$ conſtant. Then $Ag = \frac{-\dot{x}\ddot{y}}{\dot{y}^3} \times Q$, is $= \frac{tr\dot{x}^3 Q \times \overline{2rx - x^2}|^{\frac{3}{2}}}{t^3\dot{x}^3 \times \overline{r-x|^2}} = \frac{r^3}{t^3\dot{x}^3} \times \frac{\overline{2rx - x^2}|^{\frac{3}{2}}}{\overline{r-x|^2}} = \frac{rQ}{t^2 \times \overline{r-x|^2}}$; but when $x = o$, this expreſſion becomes $a = \frac{rQ}{t^2}$, and then $Q = \frac{at^2}{r}$, conſequently $\dot{y} = a \times \left|\frac{r}{r-x}\right|^3 = \frac{\text{BS} \times \text{BO}^3}{\text{CO}^3}$, the ſame as in the circle; but the elliptic arch may take a ſtraight line at top better than the circular one, when the longer axis is horizontal, becauſe the arch is flatter, or of a leſs curvature; and worſe than the circular, when the ſhorter axis is horizontal.

For the convenience of thoſe readers who may not be acquainted with the fluxionary or algebraical expreſſions, we ſhall give the calculation in numbers for the two laſt kinds of arches, viz. the circular and elliptical. Let ABD (*fig.* 5.) be a ſegment of a circle of 110° whoſe chord or ſpan AD may be 100, then the verſed ſine CB will be 26 nearly, and the radius AO or BO 61.04 nearly. Take BS $= 6.05$, which will be a little leſs than the 16th part of the ſpan AD, then $\frac{\text{AC}|^3}{\text{CO}|^3} \times$ BS will be equal to the height AG. Firſt ſuppoſe BC equal 5, and CO $= 56.04$, then AG, the height of the wall from the arch to the top, will be equal to 6.05 multiplied by 61.04 cubed and divided by

by 56.04, cubed equal to 7.8248: if BC be equal to 10, AG will be equal to 10.368, and ſo on, whatever number BC be taken.

For the ellipſis, let NABD (*fig.* 6.) be an ellipſis with the longer axis NH horizontal and ſemitranſverſe NO = 48.29 ſemi-conjugate BO = 41.04 feet: then if we ſuppoſe AD to be the ſpan of the arch ABD, its height BC will be 30 feet; and when AD = 83 nearly, let BS be taken = 6 feet. Then the general equation for any height AG of the wall is $\frac{BS \times BO^3}{CO^3}$. Suppoſe BC = 10, then CO = 31.04, and AG in this caſe is equal to $\frac{6 \times \overline{41.04}^3}{\overline{31.04}^3}$ = 13.86; again ſuppoſe BC = 20, then AG = $\frac{6 \times \overline{41.04}^3}{\overline{21.04}^3}$ = 44.53, and by cubing the value of CO for a denominator to the conſtant numerator, $6 \times \overline{41.04}^3$, the value of AG in every point of the arch may be readily found.

For the method of determining the figure of the extrados of the parabola, hyperbola, and catenarian, ſee Dr. Hutton's Principles of Bridges, ſect. 2. from page 31 to 40. Emerſon's Miſcellanies, p. 156, &c.

Problem III. Having the form of the extrados given to find the intrados; that is, having given the form of the line bounding the top of a wall ſupported by an arch, to find the figure of that arch, ſo that by the preſſure of the ſuperincumbent wall, the whole may remain in equilibrium. When the extrados is an horizontal line, Dr. Hutton and Mr. Emerſon have both determined the nature of the curve, and calculated tables for conſtructing it, where the height, the ſpan, and the thickneſs at the crown are given. Dr. Hutton ſuppoſes the ſpan NH = 100, height BO = 40, and the thickneſs BE at the crown = 6. Put a or BE = 6, b or NO = OH = 50, and r or BO = 40, x = BC, y = AC, (*fig.* 7.) The equation of the curve is thus expreſſed:

$$y = b \times \text{hyp. log. of } \frac{a + x + \sqrt{2ax + x^2}}{a} \Big/ \frac{a + r + \sqrt{2ar + r^2}}{a}.$$

Then the correſponding values of ED and DA, or horizontal and vertical lines, will be as in this table.

TABLE for conſtructing the curve of equilibration.

Value of DE.	Value of AD.	Value of DE	Value of AD.	Value of DE	Value of AD.
0	6.000	21	10.381	36	21.774
2	6.035	22	10.858	37	22.948
4	6.144	23	11.368	38	24.190
6	6.324	24	11.911	39	25.505
8	6.580	25	12.489	40	26.894
10	6.914	26	13.106	41	28.364
12	7.330	27	13.761	42	29.919
13	7.571	28	14.457	43	31.563
14	7.834	29	15.196	44	33.299
15	8.120	30	15.980	45	35.135
16	8.430	31	16.811	46	37.075
17	8.766	32	17.693	47	39.126
18	9.168	33	18.627	48	41.293
19	9.517	34	19.617	49	43.581
20	9.934	35	20.665	50	46.000

The chief properties of arches of different curves may be ſeen in ſect. 2. of Dr. Hutton's "Principles of Bridges," above quoted. It there appears that none, except the mechanical curve of the arch of equilibration, can admit of a horizontal line at top; that this arch is of a form both graceful and convenient, as it may be made higher or lower at pleaſure, with the ſame ſpan or opening; that all other arches require extrados that are curved, more or leſs, either upwards or downwards: of theſe, the elliptical arch approaches the neareſt to that of equilibration for ſtrength and convenience; and it is alſo the beſt form for moſt bridges, as it can be made of any height to the ſame ſpan, its hanches being at the ſame time ſufficiently elevated above the water, even when it is very flat at top. Elliptical arches alſo appear bolder and lighter, are more uniformly ſtrong, and are much cheaper than moſt others, as they require leſs materials and labour. Of the other curves, the cycloidal arch is next in quality to the elliptical one for theſe properties, and laſtly the circle. As to the others, the parabola, hyperbola, and catenary, they are quite inadmiſſible in bridges that conſiſt of ſeveral arches; but may, in ſome caſes, be employed for a bridge of one ſingle arch which may be intended to riſe very high, as in ſuch caſes they are not much loaded at the hanches. The weight of the arch, the preſſure on the abutment, &c. &c. will all be conſidered under the article BRIDGE.

ARCH, in *Building*, is a number of ſtones placed together over a hollow ſpace, in the form of ſome curve, as a part of a circle, of an ellipſis, a parabola, hyperbola, &c., having the joints ſo formed, that it is ſupported without falling, by the piers or abutments from which it ſprings. Of circular and elliptical arches, ſome conſiſt of ſemicircles or ſemiellipſes, others are compoſed of ſegments of theſe curves.

Arches are chiefly uſed for bridges, entrances to cities and large buildings, and in general for the covering of any very large opening in walls; as alſo for ſmaller apertures, as doors, windows, &c.

The decoration of arches is various according to the nature and deſtination of the building, but it generally conſiſts of mouldings ſurrounding the curve, called an archivolt.

For the application of arches to particular purpoſes, ſee BRIDGE, *Triumphal* ARCH, GATE, DOOR, WINDOW, DOME, VAULT.

ARCH, *triumphal*, is a gate or paſſage into a city, built of ſtone or marble, and magnificently adorned with architecture, ſculpture, inſcriptions, &c. ſerving not only to adorn a triumph at the return from a victorious expedition, but alſo to preſerve the memory of the conqueror to poſterity.

Theſe arches were at firſt very ſimple, being built of brick, ſuch as that of Romulus; or of roughly hewn ſtone, as that of Camillus; and they were alſo for a long time of a ſemicircular figure, and hence called "fornices" by Cicero. In proceſs of time they acquired a greater degree of magnificence; and they were conſtructed of the fineſt marble, and of a ſquare figure, with a larged arched gate in the middle, and two ſmall ones on each ſide, adorned with columns and ſtatues, and various figures executed in ſculpture. From the vault of the middle gate hung ſmall winged images of victory, with crowns in their hands, which they let down on the victor's head as he paſſed in triumph. This kind of magnificence commenced under the firſt emperors; ſo that Pliny (H. N. xxxiv. 6. § 12.) calls it "novicium inventum." During the time of the republic, arches were appropriate to generals who obtained victories over

over the enemies of Rome; and none were erected in honour of the dead. But when Auguſtus became emperor, this was one ſpecies of adulation that was rendered him; and the Roman ſenate propoſed to him to have a triumphal arch erected in honour of Nero Druſus who died in Germany. He approved the propoſal; and an arch of marble, adorned with trophies, was erected on the Via Appia. Caligula was the ſecond on whom this honour was conferred after his death by the Piſans, to whom he had ſent a colony. Germanicus was the third. This honour was afterwards extended to women; which Dion conſiders as an evidence of the degeneracy and ſervility of the Romans: it was granted to Livia after her deceaſe.

Antiquarians have reckoned 36 triumphal arches in Rome. The moſt celebrated of the ancient arches now remaining at Rome, are thoſe of Titus, of Septimius Severus, and of Conſtantine; of which we have figures given us by Des Godetz.

The arch of Titus, placed between the forum and the coliſeum, was erected, as ſome have thought, by the ſenate and Roman people, to Titus and his father Veſpaſian, in honour of their victories; but it was more probably dedicated to Titus after his death and apotheoſis, as the epithet "divo," applied to him in the inſcription ſtill extant, ſuggeſts; and its chief deſign ſeems to have been to commemorate the conqueſt of Judæa, and the deſtruction of Jeruſalem. The frieze of this arch, which is of the Compoſite order, is ſupported by two columns, and upon it is repreſented the triumphant proceſſion of Titus, including a figure of the river Jordan, with captives and animals, as well as inſtruments of ſacrifice, in ſculpture. On the inner ſides of the arch are two baſſo-relievos, one of which exhibits the emperor drawn in his triumphal car by four horſes; the lictors accompany the chariot; and victory follows, holding in her left hand a branch of palm, and in her right hand a crown of laurel over his head: the horſes are conducted by a figure repreſenting the city of Rome, with a helmet and ſpear; and ſhe is followed by magiſtrates, &c. bearing branches of laurel. The other bas-relief repreſents the table of ſhew-bread, the trumpets, the golden candleſticks with ſeven branches, the tables of the law, the ark of the covenant, and other utenſils, brought as ſpoils by the conqueror from the temple of Jeruſalem.

The arch of Septimius Severus was erected by the Roman people, as the inſcription intimates, in honour of his victory over the Parthians and other barbarous nations, that were enemies of Rome. This arch ſtands near the back part of the capitol; and though it is much ſunk in the earth and mutilated, ſeveral baſſo-relievos are ſtill diſtinguiſhable. On the two ſides of the vault of the grand arch are two winged victories bearing trophies, two genii with perfumes, flowers, and fruits, ſymbolical of the provinces ſubdued by Severus, and four rivers. Eight fluted columns, of the Corinthian order, ſupport the frieze that bears the inſcription. A ſtaircaſe of marble led to its ſummit, on which were placed Caracalla with his father and brother, in a triumphal chariot drawn by ſix horſes, and at their ſides ranks of ſoldiers who accompanied the triumph. The inſcription imports that this arch was erected in honour of Marcus Aurelius, as well as of S. Severus, "in acknowledgment of the reſtoration of the ſafety of the ſtate, and the aggrandizement of the Roman empire, by their valour and eminent virtues."

The arch of Conſtantine ſubſiſts almoſt entire, and is by much the fineſt of the three. It was erected by the ſenate and Roman people in honour of Conſtantine after his victory over Maxentius, and ſtands in the Appian Way at the junction of the Cœlian and Palatine mounts. The inſcription on both ſides of the architrave imports, that it was dedicated "to the emperor Cæſar Flavius Conſtantine Auguſtus, the greateſt, the pious, and the happy; becauſe, by a divine impulſe, the greatneſs of his courage, and the aid of his army, he avenged the republic by his juſt arms, and, at the ſame time, reſcued it from the tyrant and his whole faction." On one ſide of the arch are the words "Liberatori urbis," to the deliverer of the city; and on the other, "Fundatori quietis," to the founder of public tranquillity. Antiquarians have obſerved that ſome of the baſſo-relievos, and other carvings upon this arch, appear to have been borrowed from the forum of Trajan, and that they repreſent that emperor's victories over the Dacians. This was the caſe with reſpect to the eight mutilated ſtatues, whoſe heads Lorenzo de Medicis broke off and conveyed away to Florence. This theft might not, perhaps, have been ſo notorious to poſterity, if the artiſts of Conſtantine's time had not added ſome figures which make the fraud apparent, and by their manifeſt inferiority evince the great decline of the arts in the interval between the reigns of thoſe emperors. Although the decree for erecting this arch was, without doubt, paſſed immediately after the defeat of Maxentius, it appears from the monument itſelf, that the building was not finiſhed and dedicated till the tenth year of Conſtantine's reign, or the year of Chriſt 315 or 316.

Triumphal arches were not confined to Rome and its environs. Two arches, with ſtatues of the natural ſize, were erected on the Flaminian way, one on the bridge of Tiber, and the other at Rimini, in honour of Auguſtus, who made this way from Rome to Rimini; and another arch was conſtructed on the ſummit of mount St. Bernard in the Alps, in honour of the victory which Auguſtus obtained over the inhabitants of theſe mountains. The triumphal arch of Ancona was erected in honour of Trajan, the empreſs Plotina and her ſiſter Marciana. One of the gates of Orange is a triumphal arch of C. Marius, ſuppoſed to have been erected in honour of the victory obtained by him and Catulus over the Teutones, Cimbri, and Ambrones. The gates, Peyro at Montpelier, and of St. Denis, St. Martin, and St. Antoine, at Paris, may alſo be reckoned triumphal arches of the moderns.

In China, triumphal arches are very numerous. They are erected not only in all the cities, but on the mountains and eminences along the roads; and were originally deſigned for the commemoration of their illuſtrious heroes, ſuch as princes, generals, philoſophers, and miniſters of ſtate. The number is computed to exceed 1100, among which there are nearly 200 of exquiſite beauty and grandeur. Some few, leſs noble and beautiful, are erected to their moſt diſtinguiſhed females. The height of theſe arches is commonly between 20 and 25 feet, and they are decorated with figures of men, beaſts, and birds, placed in various attitudes, feſtoons and other ornaments, which are but indifferently carved; but in ſome the relievos are ſo bold, that they ſeem to be ſeparated from the work.

ARCH, *Mural*. See MURAL.

ARCH, in the *Scripture Hiſtory*. See ARK.

ARCH, or *Arco*, in *Geography*, a ſmall town of Germany in the Tyrol, ſeated on the Sarca, with a citadel ſtanding on a mountain. It is the capital of a country, founded in 1413 by the emperor Sigiſmund. It is diſtant ſix leagues ſouth-weſt from Trent, and twelve north-weſt from Verona.

ARCH, or ARCHI, formed of ἀρχὴ, *beginning*, whence ἀρχῶν, *princeps*, *chief*, is alſo a term without any meaning of itſelf, but which becomes very ſignificant in compoſition with other words; as it heightens and exaggerates them; and has the force of a ſuperlative, to ſhew the greateſt degree or eminence of any thing.

Thus we ſay, *arch*-treaſurer, *arch*-angel, *arch*-biſhop, *arch*-heretic, &c. to denote ſuch as have a pre-eminence over others. So alſo *arch*-fool, *arch*-rogue, &c. to expreſs folly and knavery in the utmoſt degree.

In Engliſh, we uſually cut off the final *i*, from *archi*, though with very ill effect, as the words with which it is joined ſound much harſher on that account, than they would do, were it preſerved entire, as it is in moſt other languages.

ARCHABIS, in *Ancient Geography*, a river of Aſia, in the territory of Colchis, which, according to Arrian, diſcharges itſelf into the Euxine ſea.

ARCHAD, or ACCHAD, was built by Nimrod after he had founded Babylon, from which it was not far diſtant. Bochart ſuppoſes that it was ſeated on the banks of the Argad, which paſſed by the walls of Sitace; and indeed he ſuggeſts that theſe were the ſame city under different names.

ARCHADIAPOLIS, an epiſcopal city of Aſia, mentioned in the fifth council of Conſtantinople.

ARCHLEA, the name of a city of Aſia, in the diſtrict of Eolis, according to Pauſanias.

ARCHEOGRAPHIA, the art of deſcribing or explaining ANTIQUITIES. See ANTIQUE.

ARCHÆOPOLIS, a city of Aſia Minor, in Ionia, according to Pliny, in whoſe time it was deſtroyed, after having been often rebuilt. It was alſo called Cobe, Sipylum, and Lebade.

ARCHÆOPOLIS, a town of the territory of Colchis, and metropolis of Lazica, ſeated, ſays Procopius, on a barren hill, and watered by a river that flowed from an adjacent mountain.

ARCHÆOTA, a keeper of ancient records.

ARCHÆUS. See ARCHEUS.

ARCHAISM, properly denotes a phraſe or diction now obſolete and out of uſe, though anciently deemed good, or paſſable.

ARCHAISM, *etymologic*, *archaiſmus etymologicus*, is when either an obſolete word, declenſion, or conjugation, is uſed.

ARCHAISM, *ſyntactic*, *archaiſmus ſyntacticus*, is an unuſual and obſolete conſtruction in diſcourſe.

ARCHAMA, in *Ancient Geography*, a town of Cappadocia, in the ſtate of Cilicia, according to Ptolemy.

ARCHANDROPOLIS, a city of Egypt, according to Herodotus and Stephan. Byz.; but not mentioned by Ptolemy, and probably not exiſting in his time.

ARCHANGEL, compounded of the Greek ἀρχος, *prince*, and ἀγγελος, *angel*, an intellectual ſubſtance or angel, placed in the ninth order among the bleſſed ſpirits which compoſe the celeſtial HIERARCHY. See ANGEL.

The ſcripture (ſays lord King, Prim. Church. p. 73.) mentions but two orders of angels; viz. archangels, preſiding over the angels; and the angels, obeying and attending on the archangels. Indeed, we have no account in ſcripture but of one exalted ſpirit, anciently ſtyled archangel (ſee 1 Theſſ. iv. 16.); though it is not improbable that as there are different degrees of glory in the celeſtial ſtate, there may be different ranks, and correſponding denominations and offices among theſe ſuperior beings.

ARCHANGEL, in *Botany*. See LAMIUM.

ARCHANGEL, *baum-leaved*. See MELITTIS.

ARCHANGEL, *yellow*. See GALEOPSIS.

ARCHANGEL, in *Geography*, a ſea-port town of Ruſſia, and capital of the government to which it gives name. This government is bounded on the north by the Frozen Ocean, on the eaſt by the government of Tobolſk, on the ſouth by the governments of Olonetz and Vologda, and on the weſt by the White Sea and the dominions of Sweden. It was formerly included in the government of Vologda, but ſeparated by a late partition of Catharine II. Accordingly it contains 7 diſtricts; viz. Archangel, on the Dvina, about 70 verſts from its mouth; Kolmogori, on the Dvina; Schenkurſk, on the river Vaga; Pinega, on the right ſide of the Dvina, where the river Pinega falls into it; Onega, on the river Onega, in Ruſſian Lapland; Kola, on the river Kola, near the bay of Kola, in the Frozen Ocean; and Meſen, on the river Meſen, falling into the Frozen Sea. The town of Archangel is ſeated on the river Dvina, near its mouth, where it forms the gulph of Archangel in the White Sea. It was diſcovered in 1553, on occaſion of the firſt enterprize of the Engliſh for opening a trade with Ruſſia, by Richard Chancellor, who, under Sir Hugh Willughby, had the command of a ſmall fleet of 13 ſhips, deſtined for diſcovering a north-eaſt paſſage to China and India. Two of theſe ſhips were forced by ſtreſs of weather into the bay of the river Arzina, in Ruſſian Lapland; and Sir Hugh Willughby, together with both crews, were frozen to death. Chancellor, diſcovering the country bordering on the White Sea, landed near the mouth of the Dvina, in a bay which he denominated the bay of St. Nicholas, from a convent near the preſent port of Archangel. Soon after this, the tzar Ivan Vaſſilievitch II. cauſed the harbour of the Archangel Michael to be conſtructed; granted ſeveral privileges to the Engliſh nation; and thus grew up at length the trading port Archangel: the commerce ſoon increaſed, and with ſome occaſional interruptions, Archangel continued the ſole port for the exports and imports of Ruſſia, until the building of St. Peterſburg, when Peter the Great removed the commerce of the White Sea, to the havens of the Baltic. From 1691 to 1701, the exports, on a yearly average, amounted to the value of 112,251 pounds ſterling; whereas the imports from England were eſtimated at only 58,884 pounds ſterling. The revenue of the crown at Archangel amounted annually to about 100,000 rubles; a ſum which, according to the value of money at that time, may be deemed very conſiderable. The principal articles of export were then potaſhes, caviar, tallow, wax, hides, hemp, feathers, tar, yarn, beef, rhubarb, ſilk (probably Chineſe and Perſian), cork, bacon, cordage, furs, briſtles, &c. all rough commodities. In 1752, Elizabeth again reſtored the ancient immunities of Archangel; and its preſent trade is not inconſiderable. To the former articles of exportation, ſeveral others of importance are added, ſuch as corn, linſeed, iron, flax, train-oil, ſail-cloth, and other coarſe linens, tobacco, &c. This port ſupplies the government of Archangel, and part of thoſe of Niſhnei-Novogorod, and Caſan, with European commodities, and draws in exchange from thoſe parts corn, flax, hemp, coarſe linen, cordage, ſails, maſts, tallow, which are moſtly conveyed by the Dvina: and it alſo forms a principal communication with the northern and weſtern parts of Siberia, whence fur-ſkins and iron are procured. A ſhip goes every year from Archangel to winter at Spitzbergen; and at leaſt one frequently goes to Novaya Zemlia, for the benefit of the fiſhery.

From a ſtatement of the port-duties, given by Mr. Tooke, for 1775, it appears that the imports of Archangel amounted to 281,747 rubles, 63 kop; its exports to 1,367,926 rubles, 38¾ kop; and duties to 144,961 rubles, 84½ kop. The water of the ſea near Archangel is ſo briny, that quantities of ſea-ſalt are prepared from it; though that of the White Sea in general contains proportionably but little ſalt. The fiſhery here, and on other parts of this ſea, is very conſiderable, particularly of ſtock-fiſh, herrings, whales, morſes, porpoiſes, ſea-dogs, &c. The dock-

dock-yards of Archangel are not in the town, but at the diſtance from it of five verſts, on an iſland in the Dvina, named Solombol, which is pretty large, and inhabited by people belonging to the yards. The ſhips are built in docks, and then launched from the ſtocks; and the timber of which they are conſtructed is that of the larch-tree, which is very cheap: a quantity ſufficient for a ſhip of 60 guns coſts there, if carefully and honeſtly purchaſed, ſomewhat more than 3000 rubles. The oak timber, which is uſed for particular parts of the veſſel, is brought thither from the precincts of Caſan.

In the government of Archangel, and particularly in the ſouthern parts, the breeding of cattle is carried on with great ſucceſs; and every where about the town there is a fine breed of large cows, brought originally from Holland, and which are not found in the leaſt to degenerate. In the diſtrict of Archangel is alſo found a good kind of poney, fleet and hardy; but the genuine breed begins to be rare.

Mr. Coxe informs us, that the moſt honeſt and intelligent perſons of the mercantile and trading order among the Ruſſians are the inhabitants of Archangel and its environs: moſt of them are able to read, write, and caſt accounts: many of them are much employed at Peterſburg by the members of the Britiſh factory, to ſuperintend their warehouſes, and they have the general character of induſtrious and faithful ſervants. This ingenious traveller traces the diſtinguiſhing character of the inhabitants of Archangel and its environs, to this town's having been, during a conſiderable period, the great emporium of Ruſſia; ſo that many of them, being connected with foreign merchants, who required great exactneſs in their dealings, were gradually trained to buſineſs. By a kind of local enthuſiaſm, and traditional inſtruction, they have continued to diſtinguiſh themſelves among their countrymen, by acquiring the rudiments of arithmetic, and by a diligent diſcharge of their truſt. Archangel is ſituated in N. lat. 64° 34′. E. long. 38° 55′.

ARCHANGELICA, in *Botany*. See ANGELICA.

ARCHANGELICÆ, in *Entomology*, a ſpecies of APHIS, found on the plant Angelica Archangelica, and deſcribed by Scopoli: it is black; beak and abdomen greeniſh. Gmelin.

ARCHANGELSKOI, in *Geography*, a town of Siberia, in the government of Irkutzk, at the conflux of the Tangui and the Oka, 116 miles north-eaſt of Udinſk. N. lat. 55° 20′. E. long. 101° 44′.

ARCHARD, in *Commerce*, a kind of green fruit, pickled in vinegar, and much valued throughout the Eaſt Indies.

The beſt are thoſe brought from Perſia, in bottles, much like ſmall cucumbers among us.

ARCHASIA, in *Entomology*, a ſpecies of PAPILIO found in Java. The wings are dentated, brown, with a common fulvous band, the firſt half of which is blue on the anterior wings. Gmelin. *Obſ.* This author is indebted to Fabricius for his deſcription, and by him this ſpecies is called ARCHESIA. It is the ſame ſize as Papilio Atalanta.

ARCHBISHOP, ARCHIEPISCOPUS, a metropolitan prelate, having ſeveral ſuffragan biſhops under him.

Archbiſhops were not known in the Eaſt till about the year 320; and though there were ſome ſoon after this who had the title, yet that was only a perſonal honour, by which the biſhops of conſiderable cities were diſtinguiſhed. It was not till of late that archbiſhops became metropolitans, and had ſuffragans under them.

Athanaſius appears to be the firſt who uſed the title archbiſhop, which he gave occaſionally to his predeceſſor Gregory Nazianzen, in like manner, gave it to Athanaſius; not that either of them was entitled to any juriſdiction, or any precedence, in virtue of it.

Among the Latins, Iſidore Hiſpalenſis is the firſt that ſpeaks of archbiſhops. He diſtinguiſhes four orders or degrees in the eccleſiaſtical hierarchy, viz. patriarchs, archbiſhops, metropolitans, and biſhops.

In the fourth century, when Conſtantine the Great modelled the eccleſiaſtical government according to the civil, new gradations of eminence and rank were introduced among the biſhops, correſponding to thoſe that were eſtabliſhed in the ſtate. Before this period, three prelates ſeem to have enjoyed a certain degree of pre-eminence above the reſt of the epiſcopal order; theſe were the biſhops of Rome, Antioch, and Alexandria; and to theſe the biſhop of Conſtantinople was added, when the imperial reſidence was transferred to that city. Theſe four prelates anſwered to the four prætorian prefects created by Conſtantine; and it is poſſible that in this century they were diſtinguiſhed by the Jewiſh title of patriarchs. After theſe followed the exarchs, who had the inſpection over ſeveral provinces, and anſwered to the appointment of certain civil officers who bore the ſame rule. In a lower claſs were the metropolitans, who had only the government of one province, under whom were the archbiſhops, whoſe inſpection was confined to certain diſtricts; but in this gradation the biſhops brought up the rear. Moſh. Eccl. Hiſt. v. i. p. 349. See BISHOP.

ARCHBISHOPRICK, ARCHIEPISCOPATUS, the dignity of archbiſhop, or the province under his juriſdiction.

There are now two archbiſhopricks in England; viz. of Canterbury and York; the prelates whereof are called *primates*, and *metropolitans*; with this only difference, that the former is called primate of *all* England, and the latter, ſimply, primate of England.

The latter yields likewiſe in prerogative and juriſdiction to the former. The archbiſhoprick of York extends over the counties of Northumberland, Durham, Cumberland, Weſtmoreland, Cheſhire, Lancaſhire, and the iſle of Man, beſides its proper and peculiar dioceſe of the greateſt part of Yorkſhire and Nottinghamſhire. That of Canterbury comprehends the other counties, and has its peculiar dioceſe, being a great part of Kent. The archiepiſcopal office is rather a dignity than a juriſdiction; and the primates rarely interfere in any dioceſes except their own. They are appointed by the king, in the ſame manner as the biſhops, by what is called a "congé d'elire."

The archbiſhop, beſide the inſpection of the biſhops and inferior clergy in the province over which he preſides, exerciſes epiſcopal juriſdiction in his own dioceſe. As archbiſhop, he, upon receipt of the king's writ, calls the biſhops and clergy of his province to meet in convocation; but he cannot aſſemble them without the king's writ. To him all appeals are made from inferior juriſdictions within his province; and, as an appeal lies from the biſhops in perſon to him in perſon, ſo it alſo lies from the conſiſtory courts of each dioceſe to his archiepiſcopal court. He is guardian of the ſpiritualities of any vacant ſee in his province, as the king is of the temporalities; and exerciſes eccleſiaſtical juriſdiction in it. He is entitled to preſent by lapſe to all the eccleſiaſtical livings in the diſpoſal of his dioceſan biſhops, if not filled within ſix months. He has likewiſe a cuſtomary prerogative upon conſecrating a biſhop, to name a clerk or chaplain to be provided for by ſuch biſhop; in lieu of which it is now uſual to accept an OPTION. He is ſaid to be *enthroned* when veſted in the archbiſhoprick; whereas biſhops are ſaid to be *inſtalled*.

Archbiſhopricks, as well as biſhopricks, may become void by death, deprivation for any groſs and notorious crime, and reſignation, which, on the part of an archbiſhop, muſt be made to the king himſelf. When an archiepiſcopal ſee is vacant, the dean and chapter are the ſpiritual guardians, ever ſince the office of prior of Canterbury was abolithed at the reformation.

The archbiſhop of Canterbury had anciently, viz. till the year 1152, juriſdiction over Iceland as well as England, and was ſtyled a *patriarch*, and ſometimes *alterius orbis papa*, and *orbis Britannici pontifex*. Matters were done and recorded in his name thus, *anno pontificatus noſtri primo*, &c. The firſt archbiſhop of Canterbury was Auſtin, appointed by king Ethelbert, on his converſion to Chriſtianity, about the year 598. He was alſo *legatus natus*. See LEGATE. He even enjoyed ſome ſpecial mark of royalty: as to be patron of a biſhoprick, which he was of Rochester; and to make knights, coin monies, &c.—He is ſtill the firſt peer of England, and the next to the royal family; having precedence of all dukes, and all great officers of the crown. It is his privilege, by cuſtom, to crown the king and queens of this kingdom. He may retain and qualify eight chaplains; whereas a duke is by ſtatute allowed only ſix.

He has, by common law, the power of probate of wills and teſtaments, and granting letters of adminiſtration.

He has alſo (by ſtat. 25 Hen. VIII. c. 21) a power to grant licences and diſpenſations in all caſes formerly ſued for in the court of Rome, and not repugnant to the law of God. He accordingly iſſues ſpecial licences to marry, to hold two livings, &c.; and he exerciſes the right of conferring degrees.

He is addreſſed with the title of *Grace*, and *Moſt Reverend Father in God*; and writes himſelf by *Divine Providence*; whereas biſhops only uſe by *Divine Permiſſion*.

He alſo holds ſeveral courts of judicature; as court of arches, court of audience, prerogative court, and court of peculiars.

The archbiſhop of York has the like rights in his province, as the archbiſhop of Canterbury. He has precedence of all dukes not of the royal blood; and of all officers of ſtate, except the lord high chancellor. He has alſo the right of a count palatine over Hexamſhire.

The firſt archbiſhop of York was Paulinus, appointed by pope Gregory about the year 622. He had formerly juriſdiction over all the biſhops of Scotland; but in the year 1470, pope Sextus the IV. created the biſhop of St. Andrews, archbiſhop and metropolitan of all Scotland.

ARCH-BUTLER, ARCHIPINCERNA, the great butler or ſkinker of the empire.

The king of Bohemia is archbutler: and his buſineſs as ſuch is to preſent the firſt cup at an imperial entertainment; but he is not obliged to officiate with his crown on.

His other prerogatives are, that he precedes all other temporal electors; walks in proceſſion immediately after the emperor, the empreſs and the electors of Mentz and Cologn following next; and in the electoral college he has the third voice, &c. He has for vicar or deputy the hereditary prince of Limbourgh.

ARCH-CHAMBERLAIN, ARCHICAMERARIUS, an officer of the empire; much the ſame with what in England we call *great chamberlain*.

The elector of Brandenburg is arch-chamberlain of the empire, being ſo appointed by the golden bull; and in that quality, he bears the ſceptre before the emperor, which he bears in his coat of arms, walking on the left hand of the elector of Saxony. At ſome ſolemnities he alſo ſerves on horſeback like other electors, carrying a baſon with a towel in his hands; which, alighting, he gets for the emperor to waſh. He may proceed with reſpect to his fiefs, principalities and lands, as with allodial eſtates; and at his own pleaſure impoſe new tolls, and erect mills on all the rivers. He has his vicar, or ſub-arch-chamberlain, who is prince of Hohenzollern, of the houſe of Brandenburg, and alſo bears the ſceptre in his arms.

ARCH-CHANCELLOR, ARCHICANCELLARIUS, a great chancellor who anciently preſided over the notaries, that is, the ſecretaries of a court.

This office chiefly obtained in France, under the two firſt races of their kings; and afterwards under the empire: as they had three ſeveral territories, Germany, Italy, and Arles; they had three arch-chancellors: and hence the three arch-chancellors ſtill ſubſiſting in Germany; the archbiſhop of Mentz being arch-chancellor of Germany, the archbiſhop of Cologn of Italy, and the archbiſhop of Treves of Arles.

The arch-chancellor of Germany is alſo denominated director, and alſo dean or decanus of the electoral college. To him it belongs to notify the demiſe of a Roman emperor to his co-electors, to appoint the diet, to adminiſter the oath of election to the whole body of electors or their envoys, to collect their voices, to proclaim the election, and alſo to anoint the elected emperor, when the coronation happens within his dioceſe. At the diet he bears the general directory, in which he acts without controul; and before him or his envoys all thoſe of the ſtates of the empire, as well as of foreign princes, legitimate themſelves. He names the vice-chancellor of the empire, or an aulic vice-chancellor, who is obliged to take an oath to him as well as to the emperor. He alſo appoints all the chancery officers of the empire, and has ſupreme juriſdiction over them, and alſo the inſpection of its archives. By him the emperor cauſes the aulic council of the empire to be viſited. The arch-chancellor of Italy has the ſecond voice at an election of a king of the Romans; and when the emperor is crowned at Aix-la-Chapelle, and in the archbiſhoprick of Cologne, the right of performing the coronation belongs ſolely to him.

The arch-chancellor of the holy Roman empire in Gaul and Arles is at preſent only a bare title, without any power belonging to it. At an election of a king of the Romans, he has the firſt voice, and conſtantly precedes the elector of Cologn.

Bern. de Mallincrot, in an expreſs treatiſe *De Archicancellariis Imperii Romani*, ſhews that theſe three archbiſhops were arch-chancellors before they were electors.—We alſo read of arch-chancellors of Burgundy, &c.

ARCH-CHANTOR, ARCHICHANTOR, the chief or preſident of the chantors of a church.

ARCH-*count*, *archicomes*, a title anciently given to the earl of Flanders, on account of his great power and riches.

ARCH-DEACON, ARCHIDIACONUS, a church officer veſted with eccleſiaſtical juriſdiction over the laity and clergy, next after the biſhop, either through the whole dioceſe, or only a part of it.

He is uſually appointed by the biſhop himſelf, and hath a kind of epiſcopal authority, originally derived from the biſhop, but now independent and diſtinct from his. He therefore viſits the clergy, and has a ſeparate COURT for puniſhment of offenders by ſpiritual cenſures, and for hearing all other cauſes of eccleſiaſtical cognizance.

The archdeacon, ſometimes alſo called *arch-levite*, was originally the firſt and eldeſt of the deacons who attended on the biſhop: whence his name.

But as the archdeacons, in their original inſtitution, had no

no relation to the diocefe, but only to the epifcopal fee, fo it was by feveral ſteps and degrees that they attained to the power they now enjoy. At their firſt inſtitution, their proper buſineſs was, to attend the biſhop at the altar; to direct the deacons and other inferior officers in their ſeveral duties, for the orderly performance of divine ſervice; to attend the biſhop at ordinations; and to aſſiſt him in the management of the revenues of the church: but without any thing that could be called juriſdiction in the preſent ſenſe of the word, either in the cathedral or out of it. Gibſon.

An archdeacon was not known before the council of Nice: his function has ſince become a dignity: and even ſet above that of prieſts; though anciently it was quite otherwiſe. The archdeacon was the biſhop's chief miniſter, for all external concerns, and particularly the adminiſtration of the temporalities. He took care that order and decency were obſerved in divine ſervice; looked to the ornaments and utenſils of the church; had the direction of the poor, and inſpection of the manners and behaviour of the people: for which reaſon he was called the *biſhop's heart and eye; oculus epiſcopi, & cor epiſcopi.* Theſe advantages ſoon gained him ſuperiority over prieſts, who had only ſpiritual functions. But he had no juriſdiction over them till the ſixth century; though by that time he was become ſuperior to the archimandrite, or rural dean.

In the tenth century, archdeacons were conſidered as having juriſdiction in their own right, or attached to their office; with a power of delegating it to others. But from that time meaſures were taken to leſſen their power, by increaſing their number.—He whoſe diſtrict lay in the capital city, took the quality of *great arch deacon.*

We have ſixty archdeacons in England: their office is to viſit every two years in three, to inquire into the reparations and moveables belonging to the church, reform abuſes in eccleſiaſtical matters, and bring the more weighty affairs before the biſhop: beſides which they have alſo a power to ſuſpend, excommunicate, and in many places to prove wills, and in ſome to inſtitute to benefices.

It is one part of the archdeacon's office to induct all clerks into their benefices within his juriſdiction; and, by the act of uniformity, he is now obliged to be in prieſt's orders.

Many archdeacons, in old foundations, have, by preſcription, their courts and officials, as biſhops have.

Archdeaconries are commonly given by biſhops, who do therefore prefer to the ſame by collation; but if an archdeaconry be in the gift of a layman, the patron doth preſent to the biſhop, who inſtitutes in like manner as to another benefice; and then the dean and chapter do induct him, that is, after ſome ceremonies, place him in a ſtall in the cathedral church to which he belongeth, whereby he is ſaid to have a place in the choir.

ARCH-*ſubdeacon, archiſubdiaconus*, the firſt or chief among the ſubdeacons, as the archdeacon is among the deacons. In ſome copies of the Roman ordinal, he is called *ſubarchidiaconus.*

ARCH-DRUID, ARCHIDRUIDA, the chief or pontiff of the ancient DRUIDS in a nation.

ARCHDUKE, ARCHIDUX, a duke veſted with ſome quality, pre-eminence, and authority, above other dukes.

The archduke of Auſtria is a very ancient title. There have alſo formerly been archdukes of Lorrain and Brabant. Auſtria was erected into a marquiſate by Otho I. in favour of his brother-in-law Leopold, or by Henry I. in 944, who is ſaid to have beſtowed it on Leopold, called the "illuſtrious," and the firſt that brought the Auſtrian countries as an inheritance to his poſterity, under that dignity; and it was raiſed into a duchy by Frederic I. in 1156; but we do not well know when, or why, the title archduchy was given it.—It is commonly maintained, that Frederic III. called the "Pacific," erected it into an archduchy for his ſon Maximilian, about the year 1477. Others ſay, that the title was conferred by the ſame emperor on Philip, the ſon of Maximilian; and that he was the firſt of the Hapſburg family diſtinguiſhed by the appellation of Archduke. However this be, it is certain, that it has been uniformly uſed ſince the fourteenth century, and that conſiderable privileges are annexed to it.

The principal privileges of this ſtate are, that the archduke ſhall diſtribute juſtice in his own dominions, without appeal: that he ſhall be judged to have received the inveſtiture of his ſtates, after having demanded it three times; and that he cannot be deprived of his countries, even by the emperor, and the ſtates of the empire: that no affair of the empire can be concluded without his participation; and that he have a power of creating counts, barons, and gentlemen, throughout the whole empire; which are privileges to which the other dukes of the empire are entire ſtrangers. Beſides, he is born privy-counſellor of the emperor; all attempts againſt his perſon are puniſhed as crimes læſæ majeſtatis; he is exempt from challenge to ſingle combat; may aſſiſt at the aſſemblies, or be abſent, at pleaſure; and he has the privilege of being exempt from contributions and public taxes; and ranks immediately after the electors. His ſubjects cannot be ſummoned out of his province, upon account of law-ſuits, or to give witneſs, or to receive the inveſtiture of fiefs: any lands of the empire may be alienated in his favour, even thoſe that are feudal; in the ſucceſſion to his ſtates, the right of birth takes place, and upon the failure of males, the females ſucceed according to the lineal right; and if no heir be found they may diſpoſe of their lands, as they pleaſe.

ARCH-*monaſtery, archimonaſterium*, an appellation ſometimes given to the greater monaſteries and abbies.

ARCH-*notary, archinotarius*, the *primicerius*, or chief of the notaries.

This office is ſuppoſed by ſome to have differed from the *arch-chancellor*, though wherein the difference conſiſted does not appear.

ARCHE, αρχη, is a Greek word, importing the *beginning.*

ARCHE, among *Phyſicians*, is the beginning or firſt period of diſeaſe.

ARCHE, L', in *Geography*, a town of France in the department of the Correze, and chief place of a canton, in the diſtrict of Brive, two leagues ſouth-weſt of Brive.

ARCHED *fountain.* See FOUNTAIN.

ARCHED *ſkene*, or *ſcheme*, in *Architecture*, is uſed to denote a flat *arch*, leſs than a ſemicircular one.

ARCHED *legs*, is an imperfection in a horſe, when being in his natural poſition, he has his legs bent forwards; ſo that his whole leg makes a kind of arch or bow.

This uſually ariſes from exceſſive labour, whereby the back-ſinews are made to ſhrink up, ſo that the legs remain arched, and naturally tremble after a little riding; though the diſorder is natural to ſome horſes.

ARCHEGETES, formed of αρχων, *chief*, and ηγεομαι, *to conduct*, in *Mythology*, a title of Apollo, under which he had an altar and worſhip in the iſle of Naxos. The coins of this iſland bore a figure of Apollo's head with this appellation. In the iſland of Malta, Hercules had the ſame title, whither his worſhip was brought from Tyre.

ARCHEION, a name given by the Greeks to the moſt retired and ſecret place of their temples, where were depoſited.

ſted the richeſt treaſurers pertaining to the deities, to whom they were conſecrated, and alſo other valuable articles which they were deſirous of preſerving ſecure. The Romans imitated the Greeks in this reſpect, and lodged their public treaſure in the temple of Saturn.

ARCHELAIS, in *Ancient Geography*, a town of Cappadocia. Pliny ſays, that it was a Roman colony, and that it was near the river Halys.—Alſo, a city of Judæa built by Archelaus, ſon of Herod the Great, before his exile. Ptolemy places it to the weſt of Jericho, and the Peutingerian tables fix its ſituation between Jericho and Scythopolis.

ARCHELAUS, in *Biography*, a Greek philoſopher, was born either at Miletus or at Athens. He was a diſciple of Anaxagoras at Lampſacus, occupied the chair of that philoſopher after his death, and may be conſidered as the laſt preceptor of the original Ionic ſchool. Afterwards he removed to Athens, and with him the Ionic ſchool was removed thither. Here he acquired diſtinguiſhed reputation by publicly teaching the doctrines of Anaxagoras concerning natural bodies; whence he was denominated the natural philoſopher. Among the tenets aſcribed to him are the following: that ſimilar parts were the material principles of all things, and that a ſuperintendant mind, by collecting and uniting theſe, formed natural bodies; that the univerſe is infinite; that heat is the cauſe of action, and cold of reſt; that the earth was originally a muddy maſs, from which living animals were produced and nouriſhed; and that animals have ſouls, differing in their powers according to the ſtructure of the bodies in which they reſide. In ethics, it was his fundamental principle, that there was in nature no eſſential diſtinction between right and wrong, but that it reſulted from poſitive inſtitution, and conſequently that all actions were indifferent, till human laws declare them to be good or evil. This doctrine, ſo ſubverſive of all moral obligation, gained little credit at the time when it was propounded; and it has had few advocates either in ancient or in modern times. Amongſt the ſcholars of Archelaus, who were numerous, Socrates was eminently diſtinguiſhed; and under him philoſophy aſſumed a new character. Diog. Laert. l. ii. § 17. T. ii. p. 89. Cic. Tuſcul. Queſt. l. v. c. 4. T. ii. p. 454. ed. Olivet. Plut. de Placit. Phil. l. i. c. 3. T. ii. p. 876. Auguſt. de Civ. Dei. l. xiii. c. 2. Suidas. Brucker's Hiſt. Phil. by Enfield, vol. i. p. 153.

ARCHELAUS, a Chriſtian divine, was biſhop of Meſopotamia, and flouriſhed under the emperor Probus, about the year 278. Of the author and authenticity of the work againſt the Manichees, intitled, "The Acts of the Diſputation of Archelaus with Mani or Manichee," aſcribed to him by Jerom and others, and ſaid to be written in the Syriac language, many different opinions are entertained. Photius, on the authority of Heraclean, biſhop of Chalcedon, aſcribes it to Hegemonius; and hence Cave and others have been induced to conſider Hegemonius as the tranſlator. Fabricius conjectures, that this author, whoſe age is unknown, publiſhed an abridgment of the work of Archelaus. Dr. Lardner, who with his uſual accuracy and impartiality has examined and weighed the evidence on this ſubject, inclines to the opinion of Beauſobre, who thinks, that this work was originally written in Greek, near the end of the third or beginning of the fourth century; and that it contains ſome truths diſguiſed and mixed with manifeſt falſehoods. It was edited from a manuſcript of the Latin tranſlation found at Caſſino, and from ſome fragments of the Greek in Cyril and Epiphanius, by Zacagni, in his "Collectanea Monumentorum Vet. Rom." in 1698. The writer's reſpect for the ſcriptures now commonly received, ſays Lardner, is manifeſt from his very numerous and frequent quotations of them as deciſive and of authority in all diſputed points of religion. Cave, Hiſt. Lit. vol. i. p. 144. Fabr. Bibl. Græc. l. v. c. i. § 31. T. v. p. 362. Lardner's Works, vol. iii. p. 368—374.

ARCHELAUS, king of Judæa properly ſo called, together with Samaria and Idumæa, was the ſon of Herod the Great by Martac his fifth wife, and appointed by his will to ſucceed him in the 1ſt year of Chriſt, or the 3d year before the vulgar æra. Notwithſtanding a conciliatory ſpeech made by the new king on his acceſſion to the throne, and ſome grants to the people, a tumult was raiſed, by which the paſchal ſolemnity for that year was interrupted, and 3000 of the mutineers loſt their lives. After the ſuppreſſion of this tumult, Archelaus proceeded to Rome, in order to obtain the ratification of his father's will, and a permanent eſtabliſhment in the kingdom. Upon his arrival he found his brother Herod Antipas, who was his competitor for the crown, together with ſeveral of his family who favoured Herod's pretenſions, not ſo much from love to him as from hatred to Archelaus. An embaſſy alſo of fifty of the principal perſons of Jeruſalem was ſent to Rome with a petition to Auguſtus, that they might be permitted to live according to their own laws under a Roman governor; and theſe deputies were joined by above 8000 Jews, that were reſident in the city. Archelaus, however, by his humility and addreſs, obtained the grant of half his father's kingdom, including Judæa Proper, Idumæa, and Samaria, under the title of Ethnarch, or governor of a nation, and alſo a promiſe of adding that of the king, as ſoon as he heard that his conduct merited that diſtinction. St. Matthew indeed (ch. ii. 22.) ſays, "that Archelaus did reign in Judæa;" and againſt this mode of expreſſion there can be no juſt objection, becauſe his father in his laſt will had appointed him his ſucceſſor with the title of king; and Joſephus (Antiq. l. 18.) calls him, notwithſtanding the limitation of Auguſtus's decree, the king that ſucceeded Herod, and he has uſed (De Bell. l. ii. c. 7.) the term reigning for the duration of his government. Archelaus immediately upon his return to Jeruſalem began to betray ſome offenſive tokens of his arbitrary and vindictive temper. He firſt depoſed Joazar, and afterwards his ſucceſſor Eleazar, from the high-prieſthood; and, in direct oppoſition to the Moſaic law, he repudiated his wife Mariamne, and married Glaphyra, the widow of his brother Alexander, though ſhe had ſeveral children. In other reſpects, his reign was tyrannical, and, Antipater excepted, he ſeems to have been the worſt of all Herod's ſons; and therefore in the tenth year of his government, A.D. 6, or 7, the chief of the Jews and Samaritans, not being able any longer to endure his cruelty and tyranny, preſented complaints againſt him to Cæſar. Auguſtus ſent for him and ſome of his chief accuſers to Rome, and having heard both the charge and the defence, condemned him to be baniſhed to Vienne or Vienna in Gaul, where he died, and all his goods to be confiſcated. Upon this, Judæa was reduced to a province of the empire and annexed to Syria; and Cyrenius, a conſular perſon, was ſent by Cæſar to make an aſſeſſment in Syria, and to ſeize the eſtate of Archelaus. From different ſtatements given by Joſephus in his war (De Bell. l. ii. c. 7. § 3.), Antiquities (l. xvii. c. 15. § 2.), and Life (§ 1.), there is reaſon to conclude, that Archelaus reigned nine years complete, and that the tenth year was current when he was baniſhed. And Dio (l. lv. p. 567.) places Archelaus's baniſhment in the 759th year of Rome. If Herod did not die till the beginning of A.U. 751, the ninth year of Archelaus's reign could not be completed in the 759th year of Rome: but if it be ſuppoſed that Herod died in the beginning of A. U. 750, Joſephus

ſephus and Dio will be found to agree. There is probably a reference to the recent hiſtory of Archelaus in our Lord's parable recorded by St. Luke, ch. xix. 12—15. Anc. Un. Hiſt. vol. iii. p. 207—218. Lardner's Works, vol. i. p. 14, 15. 290. 425.

Archelaus, king of Macedon, was the natural ſon of Perdiccas II; and though he obtained the crown by aſſaſſinating the lawful heirs, he determined to maintain it with valour and glory. With this view he fortified the principal towns of Macedonia, diſciplined its armies, and fitted out armed ſhips, which was a kind of force to which the Macedonians had not been accuſtomed. He alſo diſtinguiſhed himſelf as a patron of literature and of the arts, and ſome of the moſt learned men of Greece frequented his court; with them he converſed in the moſt familiar manner, and ſome of his ſayings at table are recorded amongſt the apophthegms of antiquity. Euripides lived with him on terms of peculiar intimacy; and this is the more ſurpriſing, if we credit the tradition that he refuſed to write a tragedy, at his requeſt, on ſome ſubject relating to himſelf, and offered this apology, that he did not with to repreſent the cruelties of a tyrant. When Socrates was invited by him, he declined paying him that reſpect, alleging, as Seneca ſays, "that he could not go to ſee a man from whom he might receive favours, without being able to return the like;" and it is ſaid, that Socrates cenſured the great expence which he beſtowed on his palace which was painted by Zeuxis, whilſt he had taken no pains to adorn his mind. Some have pretended that Ariſtophanes wrote his comedy of "the Clouds," from envy of Socrates, becauſe Archelaus took more notice of this philoſopher than of himſelf. Archelaus inſtituted ſacrifices and ſcenic games in honour of Jupiter and the nine muſes; and a day was devoted to each muſe. He alſo ſent chariots to the Olympic and Pythian games. The manner of his death and the duration of his reign are not preciſely aſcertained. It is generally ſuppoſed that he was aſſaſſinated by Craterus, the object of his laſcivious paſſion, in conſequence of an affront. According to Diodorus Siculus, he began his reign in the 3d year of the 93d Olympiad, 406 years before Chriſt, and reigned ſeven years. Others have extended it to fourteen, ſixteen, and even twenty-four years. Gen. Dict. Anc. Un. Hiſt. vol. iii. p. 269.

Archelaus, a famous ſculptor, the ſon of Apollonius, was borne at Priæne, a town of Ionia. The marble monument of the apotheoſis of Homer is aſcribed to him, and ſuch is its diſtinguiſhing excellence, that, independently of his poems, it would have inſured his immortality. It was dug up in 1658 in a field belonging to the princes of Colonna, where it is ſaid the emperor Claudius, in whoſe time it was executed, had a houſe of pleaſure.

ARCHEMORUS, in *Ancient Geography*, a river of Greece in the Peloponneſus, which ſeparated the territories of Sicyon from thoſe of Corinth. It is called Nemea by Strabo.

ARCHEMY. Archemy, is uſed by ſome to denote the art of trantmuting leſs perfect metals into the more perfect. In which ſenſe *archemy* differs from *alchemy*, as a part from the whole.

ARCHENDA, in the *Ancient Phyſic*, a kind of powder prepared of *alcanna* and leaves of the Egyptian ligustrum, wherewith the people ſmeared their feet after bathing, as a preſervative againſt ſweating and ſtench.

ARCHER, John, in *Biography*, an Engliſh phyſician, who practiſed in London in the reign of Charles the Second, author of a manual, "Every man his own phyſician," publiſhed in 1673; and though little noticed, it appears to have been not void of ingenuity. At the end of his works, he boaſts of three inventions, a vapour bath, of conſiderable efficacy in rheumatiſm, and various other diſeaſes; an oven "which doth with a ſmall faggot bake, diſtil, boil a pot, or ſtew, all with the ſame charge of fire, time, and labour;" and a chariot, ſo contrived, that the perſon ſitting in it may move it at pleaſure. It is not improbable that ſome of our modern inventors took hints from this book for their contrivances.

Archer, Edward, M.D. in *Biography*, was born in the borough of Southwark, in London, about the year 1719. He received his medical education partly at Edinburgh, and partly at Leyden, at which latter place he graduated in the year 1746, and gave for his theſis a diſſertation De Scorbuto. In the year 1748 he was elected phyſician to the ſmall-pox hoſpital in Cold Bath Fields, in the place of Dr. Poole, the firſt phyſician to that inſtitution; and in 1752 he was admitted licentiate of the college of phyſicians, London. In the year 1782, the committee of the ſmall-pox hoſpital, conſiſting of thirteen of the governors, prevailed on him to ſuffer a whole length portrait of him to be painted by Mr. Pine, for which they paid one hundred guineas, and placed it in the court-room as a mark of their reſpect, and of the high opinion they entertained of his abilities, and of his zeal for the inſtitution. This, though he then accepted, yet he was mindful to return it; and therefore ordered by his will, that each of the contributors ſhould be paid back the money they had advanced, with intereſt to the time of its being repaid. He alſo left 500*l.* to the hoſpital, where he reſided to the time of his death, which happened on the 28th of April 1789, having now been phyſician to the inſtitution forty-one years.

He was of an humane and benevolent diſpoſition, and poſſeſſing an ample fortune, was never ſolicitous about practice; and during the latter part of his life, entirely declined all buſineſs, excepting his attendance on the patients in the hoſpital. To this he might in part be inclined from his corpulence, and from the nature of the complaint, a dropſy in the cheſt, to which he at length fell a ſacrifice, and which muſt make all motion particularly troubleſome to him. He was a man of conſiderable learning, and had collected a magnificent and valuable library. This was ſold a few months after his death by Meſſrs. Leigh and Sotheby. He was buried at Woodford in Eſſex.

ARCHERS, a kind of militia or ſoldiery, armed with bows and arrows. The word is formed of *arcus*, *a bow*; whence *arcuarius*, and even *arquis*, and *arquites*, as they are alſo denominated in the corrupt ſtate of the Latin tongue.

Archers were much employed in former times; but they are now laid aſide, excepting in Turkey, and ſome of the eaſtern countries; where there are companies of *archers* ſtill ſubſiſting in their armies; and with which they did terrible execution at the battle of Lepanto. As an amuſing exerciſe and trial of ſkill, the occaſional practice of archery is ſtill continued in many parts of Europe, and even in our own country.

The name archer is ſtill retained even where the thing is loſt: thus in France, the officers who attend the lieutenants de police, and provoſts, to make captures, ſeizures, arreſts, &c. are called archers; though their arms be only halberds or carabines.—In this ſenſe they ſay, the archers of the *grand prevot de l'hotel*; of the *prevot des marchands*; the city *archers*; the *archers du guet*, or of the watch, &c.—Small parties of archers, called alſo *gens de marechauſſee*, have been employed to patrol on the great roads, to ſecure them againſt robbers.—The carriages of Lyons, &c. were always eſcorted

by a party of archers. To the diligence of theſe archers, or marſhal's men, it has been partly owing, that perſons have travelled in all parts of France in the utmoſt ſecurity; and that there have been fewer robberies on the highway in that whole kingdom in a year, than about London in a week. They have alſo their *archers des pauvres, archers of the poor*; whoſe office it is to ſeize ſuch beggars as they find in the ſtreets, and carry them to the hoſpitals.

ARCHERY, the art or exerciſe of ſhooting with bow and arrow.

Among the nations of antiquity, the bow was a principal implement of war. Its uſe may be traced to the very earlieſt times, and followed in the hiſtory of almoſt every country. In this article, however, we ſhall principally confine ourſelves to the practice of archery in England; where it was once carried to a degree of perfection that it is even yet unrivalled.

Our anceſtors uſed the bow for a double purpoſe: in time of war it was a dreadful inſtrument of ſlaughter; and in peace an object of amuſement. That both the Anglo-Saxons and the Danes were well acquainted with its uſe, is certain; and they muſt have derived their knowledge of it at an early period; as the Scandinavian ſcalds, when praiſing the heroes of their country, enumerate among their acquirements a ſuperiority of ſkill in handling the bow. Among the Saxons and the Danes, however, it ſeems only to have been uſed for the purpoſes of food or paſtime; and we are perhaps indebted to the Norman conqueſt for its introduction as a military weapon. The bow employed among the Saxons will be accurately deſcribed hereafter. That which the Normans uſed at the battle of Haſtings was the arbaleſt or croſs-bow; while no mention is made of archers on the ſide of Harold.

The exact time when ſhooting with the *Long* bow began is unſettled; and our chroniclers do not mention the uſe of archery as applied either to one bow or the other, till the death of king Richard the firſt in 1199, who was killed at the caſtle of Chaluz by an arrow, ſaid to have proceeded from a croſs-bow. From this time till that of Edward the ſecond, our notices of archery are ſcanty; the king's *baliſtarius*, or croſs-bow-man, is often mentioned, and it is in this reign that we met with *ſagittarius*, a term which perhaps has particular relation to the ſhooters with the long-bow. Many of the ſoldiers employed in the unſucceſsful expedition againſt Scotland in 1323 were of this deſcription, as well as thoſe who are ſent the next year to the relief of Aquitain. Under Edward III. the glory of the Engliſh long-bow was at its zenith; and that monarch appears to have been very anxious that its luſtre ſhould remain untarniſhed. In 1342 a precept was iſſued to the ſherives of moſt counties in England, for providing 500 white bows and as many bundles of arrows, for the then intended war againſt France. And the king afterwards ordered a letter of complaint to be directed to the ſherives of London, declaring that the ſkill in ſhooting with arrows was almoſt totally laid aſide for the purſuit of various uſeleſs and unlawful games; and commanding them not only to prevent ſuch idle practices in future, but to ſee that the leiſure time upon holidays was ſpent in the recreations of archery. The battle of Creſſy, in 1346, was attended by a circumſtance that ſeems to have a particular reference to the uſe of the long-bow among the Engliſh. Previouſly to the battle, a ſhower of rain ſo ſlackened the ſtrings of the Genoeſe croſs-bows, that they became almoſt unſerviceable; while the Engliſh were ſtill capable of annoying their enemies with ſucceſs. Both this victory, and that of Poictiers, ten years afterwards, were chiefly aſcribed by the Engliſh to their archers. The deciſive victory of Homildon, againſt the Scots, in 1402, was atchieved by them entirely: and the earl of Douglas found to his coſt, that the Engliſh arrows were ſo ſwift and ſtrong, and diſcharged with ſo much force, that no armour could repel them. In 1403, at the battle of Shrewſbury, where Hotſpur was ſlain, the archers on both ſides did terrible execution: and the victory of Agincourt, in 1417, was entirely owing to their ſkill. Yet, notwithſtanding the advantages which had evidently accrued to the Engliſh from the uſe of the long-bow, the French were ſtill attached to the arbaleſt: for which reaſon Henry V., as duke of Normandy, confirmed the charters and privileges of the Sahitarii, who had been long eſtabliſhed as a fraternity at Rouen. Under Edward IV. an ordinance was made, that every Engliſhman and Iriſhman dwelling in England, ſhould have a bow of his own height, to be made of yew, wych, hazel, aſh, or auburne, or any other reaſonable tree according to their power. Butts, alſo, or mounds of earth, as marks, were directed to be made in every townſhip, and the inhabitants to practiſe archery, under certain penalties. In the fourteenth year of the ſame king, it appears by Rymer's Fœdera, that one thouſand archers were to be ſent to the duke of Burgundy, whoſe pay is ſettled at ſix-pence a day: a circumſtance, which, conſidering the value of money at that time, proves very ſtrongly the great eſtimation in which Engliſh archers were ſtill held: and even afterwards, when the uſe of what we now call *Artillery* gained ground, that of the bow and arrow were by no means neglected. In the 19th of Henry VII. and the 6th and 25th of Henry VIII. the uſe of the croſs-bow was entirely forbidden, and by the laſt-mentioned ſtatute a penalty of ten pounds was to be inflicted on every one in whoſe houſe a croſs-bow might be found. Other ſtatutes, in the early part of Henry's reign, afford-d great encouragement to archery with the long-bow. One in his third year directs that every father ſhall provide a bow and two arrows for his ſon, when he ſhall be ſeven years old: and another was enacted in his 33d year to reduce the price of bows. Edward VI., as we learn from his own journal, was fond of archery; and in the ſucceeding reign, the ſtatutes of Henry VIII. for its promotion were much commended, with directions to enforce them. Under Elizabeth, James, and Charles I. other ſtatutes were ordained. In 1566 the price of bows was again regulated; and in 1571 it was enacted, that bow ſtaves ſhould be brought from the Hanſe towns and the eaſtward. Ten years after this, a ſociety of archers exiſted in London, who, from the fame which Arthur, elder brother to Henry VIII., had acquired at the long bow, were termed prince Arthur's knights. John Lyon, who founded Harrow ſchool in 1590, two years before his death, drew up rules for its direction, whereby the amuſements of the ſcholars were confined to "driving a top, toſſing a hand ball, running, and ſhooting;" the laſt mentioned diverſion is in a manner inſiſted on by the founder, who requires all parents to furniſh their children with "bow-ſtrings, ſhafts, and breſters, to exerciſe ſhooting." A ſilver arrow uſed, till within theſe few years, to be ſhot for by the young gentlemen of Harrow ſchool.

The laſt time the legiſlature interfered for the protection of archery, ſeems to have been in 1633, when Charles I. iſſued a commiſſion for preventing the fields near London being ſo incloſed as "to interrupt the neceſſary and profitable exerciſe of ſhooting;" as alſo to lower the mounds where they prevented the view from one mark to another. The ſame commiſſion directs that bridges ſhould be thrown

over the dikes, and that all ſhooting marks which had been removed ſhould be reſtored. During the grand rebellion, the practice of archery ſeems to have received no encouragement, but rather to have fallen into diſrepute. Sir William Davenant, in a mock poem, entitled "the long vacation in London," deſcribes the attorneys and proctors as making matches in Finſbury Fields:

"With loynes in canvas bow-caſe tied,
Where arrows ſtick with mickle pride;
Like ghoſts of Adam Bell and Clymme,
Sol ſets for fear they'll ſhoot at him."

Adam Bell and Clym of the Clough were noted outlaws, whoſe ſkill in archery rendered them as famous in the north of England, as Robin Hood and his contemporaries were in the midland counties. In 1676, Catharine of Portugal, queen of Charles II., by the contributions of ſir Edward Hungerford and others, preſented a ſilver badge, weighing 25 ounces, to the marſhal of the archers' fraternity, on which was repreſented an archer drawing the ſtring of a long-bow (in the proper manner) to his ear; with the following inſcription: "Reginæ Catharinæ Sagittarii." The ſupporters, two bowmen with the arms of England and Portugal. In 1682, there was a moſt magnificent cavalcade and entertainment given by the archers of Finſbury. Charles II. was preſent on this occaſion, but the day being rainy, he was obliged ſoon to leave the field. Archery had by this time degenerated. From the glory of Britiſh warriors, it dwindled to a mere manly recreation; and the very name of archer ſeemed forgotten, till, in 1753, targets were erected in Finſbury-fields, during the Eaſter and Whitſun holidays, when the beſt ſhooter was ſtiled captain for the enſuing year, and the ſecond, lieutenant. Of the original members of this ſociety, there were only two remaining when Mr. Barrington compiled his obſervations in the Archæologia. It is now incorporated with the archers' diviſion of the honourable the Artillery Company.

Archery, with the long bow, continues to be uſed as a manly exerciſe by the inhabitants of Geneva, and in many parts of Flanders; nor is it totally neglected in Great Britain. The moſt noted ſociety of this kind, now exiſting, is the Royal Company of Archers in Scotland, who aroſe about the time of James I. During the laſt century, in England, many ſmaller ſocieties had their origin, which have now dwindled. The chief that remain are the Archers' diviſion of the Artillery Company, the Toxophilites, and the Kentiſh bowmen.

How effectual the long-bow muſt have been before the uſe of fire-arms, need hardly be ſuggeſted; and the neglect into which it occaſionally fell muſt be ſolely attributed to the length of time that was required to train an expert archer, of which the preambles to many of our ſtatutes are ſufficient evidence. Why it continued in eſtimation ſo long after the uſe of gunpowder, will excite no aſtoniſhment in thoſe who remember, that, till the laſt century, muſkets were among the unwieldieſt inſtruments of war; they were never uſed without a reſt, had no bayonets, and could be diſcharged not near ſo frequently as at preſent. Strutt's Sports and Paſtimes. Archæol. vol. vii. p. 46, &c. Henry's Hiſt. Brit. Ellis's Hiſt. of Shoreditch. See Arrow, Artillery, and Bow.

Archery, in our *Ancient Cuſtoms*, a ſervice of keeping a bow for the uſe of the lord to defend his caſtle.

ARCHES, or *Court of* Arches. See Court *of Arches*.

Arches, in *Heraldry*, are borne in coat-armour, both double and ſingle; and they are drawn as ſpringing from, or ſupported by, pillars.

Arches, among *Navigators*, is particularly uſed for the Archipelago.

ARCHET, *French*; Arco, *Ital.*; the *bow* of a violin, tenor, or violoncello. In the hiſtory of muſic, great pains were taken in tracing the origin of this powerful engine in the hand of a great artiſt, which ſeems to have been utterly unknown to the ancients, as it can only be traced up to the middle ages; nor was it uſed with much dexterity till the ſeventeenth century. In muſic for the violin, tenor, or baſs, after the word *Pizzicato* occurs, the ſtrings are to be pinched or thrummed, till the *bow* is ordered to be reſumed, by the words *con arco*, with the bow. See Bow.

ARCHETYPE, Archetypus, compounded of αρχη, *beginning*, and τυπος, *type*, the firſt pattern or model by which any work is formed, or which is copied after, to make another like it. In this ſenſe the word coincides with original, or prototype; and ſtands oppoſed to copy.

Among minters, &c. archetype is peculiarly uſed for the ſtandard or original weight by which the other weights are to be adjuſted and examined.

Philoſophers, particularly the Platoniſts, talk of an *archetypal* world; meaning the world, ſuch as it exiſted in the Divine Mind, or in the idea of God, before the viſible creation.

ARCHEUNUCH, Archieunuchus, the chief of the eunuchs. The archeunuch was one of the principal officers in Conſtantinople under the Greek emperors.

ARCHEUS, an obſcure term, uſed chiefly among the *Ancient Chemiſts*, to expreſs ſome occult principle of life and motion, the cauſe of all the effects which we obſerve in nature; derived from αρχη, *principle*. As the chemiſts differ in their ideas of a vital cauſe, the term archeus becomes applied to very different things; though moſt of them conceive it of the nature of fire. Some uſe archeus to denote the fire lodged in the center of the earth, to which they aſcribe the generation of metals and minerals; and which they believe to be the principle of life in vegetables. Others by the word archeus mean a certain univerſal ſpirit diffuſed throughout the whole creation, the active cauſe of all the phenomena in nature. Others, inſtead of archeus, chooſe to call this the *anima mundi*; and others, the *Vulcan* or *heat* of the earth. They add, that all bodies have their ſhare of this archeus; and that when this is corrupted, it produces diſeaſes which they call *archeal diſeaſes*. They likewiſe attribute ideas to it; which for this reaſon they call *archeal ideas*. Helmont is a great aſſertor of the dogma of an archeus. It is likewiſe uſed to ſignify that peculiar fluid among the vegetable claſſes, which determines every particular plant to its odour, taſte, and other qualities.

ARCHI, in *Ancient Geography*, a town of Paleſtine, in the half tribe of Manaſſeh, beyond Jordan. Joſh. c. xvi. 2.

Archi, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Abruzzo citra.

ARCHIAC, a town of France, in the department of the Lower Charente, and chief place of a canton in the diſtrict of Jonſac, five leagues ſouth of Saintes. The place contains 1533, and the canton 10,906 inhabitants: the territory includes 180 kiliometres and 16 communes. W. long. 0° 39', N. lat. 45° 34'.

ARCHIACOLYTHUS, an ancient dignity in cathedral churches; the miniſters whereof were divided into four orders, or degrees, viz. prieſts, deacons, ſubdeacons, and acolythi; each of which had their chiefs. The chief of the acolythi was called *archiacolythus*. Du-Cange.

ARCHIAS, Aulus Licinius, in *Biography*, a Greek

poet, lived about the year 60 before Chriſt, and is better known by the eloquent oration pronounced by Cicero for vindicating his right to the citizenſhip of Rome, than by the fragments of his works now extant. Cicero (pro Archia, apud oper. t. v. p. 397. ed. Olivet.) informs us, that he was a native of Antioch, and that his poetical talents, even in his youth, were generally acknowledged and admired in all the Greek cities of Aſia and Europe which he viſited. At Rome, where he arrived under the Conſulſhips of Marius and Catullus, about the year before Chriſt 102, he was firſt received by the Lucullan family, and afterward highly favoured by the Metelli, Catuli, Craſſi, and other perſons of the moſt diſtinguiſhed rank and character. Cicero ſpeaks in terms of high commendation of his powers, which probably conſiſted rather in facility and copiouſneſs of verſifying, than in the other ſuperior qualities of a poet; and he ſays, that by previous ſtudy and meditation, his performances were equal to thoſe of antiquity. Archias wrote a poem on the Cimbric war, and began another on the conſulate of Cicero, which was left unfiniſhed. Some of his epigrams, now extant, are preſerved in the "Anthologia."

ARCHIATER, Archiatrus, formed of ἀρχὴ, *principium*, *chief*, and ἰατρὸς, *medicus*, a *phyſician*, properly denotes the chief phyſician of a prince who retains ſeveral.

On the real ſignification of the term, or on the office and deſignation of the Archiater, authors are not agreed: ſome, as Hieronimus Mercurialis, conſidering it as a title given to the phyſician to the emperor or prince; others, as Alciatus, Meibomius, &c. as belonging to the principal phyſician in the country, who had ſome power or authority over the other phyſicians. It is remarkable that the word does not occur in Pliny, though he frequently mentions phyſicians both of his own and of earlier times, ſome of whom were ſaid to have been dignified with the title; and that Galen, who had the care of the health of Marcus Aurelius and his ſons, is no where called by it. Perhaps, as Le Clerc conjectures, "Hiſtoire de Medicine," p. 593, the office did not exiſt until after their time: for though, he obſerves, we find the title affixed to the works of writers who lived anterior to the time of Pliny, it may be that the copies we are in poſſeſſion of were written much later, and the tranſcribers may have honoured the authors with this title, to enhance the value of their works, and increaſe the ſale of their manuſcripts. However this may be, the office was under the later emperors held in great honour, and its authority and privileges ſanctioned by the laws. Le Clerc, who has written a long diſſertation on the ſubject, "Hiſt. de Med." p. 583, cites ſeveral laws concerning them: by theſe we find they had ſalaries appointed them, which were paid by the prince, or by the cities or provinces where they were eſtabliſhed. They were exempt from all taxes through the whole of the Roman empire; their perſons were protected; they were not obliged to entertain ſoldiers, &c. On the other hand, the Archiaters, not immediately in the ſervice of the court, were obliged to give aſſiſtance to all ſick perſons indiſcriminately, without exacting any fee for their attendance. They were alſo frequently ennobled and made counſellors of ſtate, an office or dignity not unfrequently at this preſent time beſtowed by many of the princes of Europe upon their phyſicians. Dr. Dimſdale, who went to Ruſſia in the year 1768, to inoculate the late empreſs and the grand duke, was made phyſician and actual counſellor of ſtate to her imperial majeſty, and baron of the whole Ruſſian empire.

ARCHIDAMUS, the ſon and ſucceſſor of Ageſilaus the Great, king of Sparta, commanded the Spartan army during the life of his father, before Chriſt 367, and obtained a victory over the Arcadians, without the loſs of a ſingle Lacedæmonian, whence this was called "the tearleſs battle." When Epaminondas afterwards attacked Sparta, he obliged the Theban general to retire. He ſucceeded his father in the throne in the year before Chriſt 361; and, in the ſacred war, ſuccoured the Phocæans. To a haughty meſſage received from Philip of Macedon, who was elated with his ſucceſs, Archidamus replied, that "if he would meaſure his ſhadow, he would find it no longer than before:" and when he was aſked how far the dominion of Sparta extended? his anſwer (indicating more his magnanimity than his ſenſe of juſtice) was, "as far as they can ſtretch their lances." His life was prematurely terminated in a combat near the city of Mandonium in Italy, between the Meſſapians and Tarentines, to whoſe aſſiſtance he was deputed by a public decree of his country, after a reign of fifteen years; and his character was diſtinguiſhed by valour and public ſpirit. His ſtatue was erected in the temple of Jupiter Olympius, an honour which none of the Spartan kings had enjoyed except himſelf, and which Pauſanias ſuppoſes was granted to him becauſe he died fighting againſt the Barbarians, and did not receive thoſe ſepulchral honours which had been given to all his predeceſſors. He was ſucceeded by his ſon Agis. Anc. Un. Hiſt. vol. v. p. 483.

ARCHIDAPIFER, or chief ſewer, is a great officer of the empire.

The elector of Bavaria is archidapifer.—The palatine of the Rhine at one time pretended this office was annexed to his palatinate, but he has ſince deſiſted. At the peace of Baden, the office was fully reſtored to Bavaria. At the coronation of the emperor he carries before him the monde of the empire, which by virtue of his office he alſo bears in his arms, ranks next to Bohemia, places on the imperial table the ſilver diſhes, and ſerves up the firſt courſe.

ARCHIDIUM, in *Ancient Geography*, a town of the iſland of Crete, according to Pauſanias, *in Arcad.*

ARCHIDONA, in *Geography*, a town of Spain, in the province of Andaluſia, with an ancient caſtle, two leagues eaſt of Antequera.—Alſo, a town of South America, in Peru, built by the Spaniards, in the province of Canela.

ARCHIEROSYNES, in the Grecian *Antiquity*, a high-prieſt veſted with authority over the reſt of the prieſts, and appointed to execute the more ſacred and myſterious rites of religion.

ARCHIGALLUS, in *Antiquity*, the high-prieſt of Cybele, or the chief of the eunuch-prieſts of that goddeſs, called Galli. This officer was always choſen from among the moſt diſtinguiſhed families.

ARCHIGENES Apameus, ſo called from Apamea, the place of his birth, in *Biography*, a phyſician of eminence in the time of the emperors Domitian and Trajan. Galen ſpeaks of him as deſerving high credit for his diligence and ingenuity, and cites ſeveral of his works with commendation. Haller gives an epitome of his doctrines, and though he commends his practice in the cure of many diſeaſes, yet, from his fondneſs for amulets and charms, places him among the empirics. That he was in high repute, however, cannot be doubted, Juvenal having mentioned him ſeveral times in his ſatires, and always with honour. "Ocyus Archygenem quære, atque eme quod Mithridates compoſuit."

Various fragments of his writings exiſt in the collections of Aetius and Amida. Beſides his writings on the ſubject of pharmacy, he alſo wrote treatiſes on local affections, on the cure of chronic diſeaſes, on the nature and types of fevers, on pulſes, &c. Le Clerc Hiſt. de la Med.

ARCHIGERONTES, in *Antiquity*, the chiefs or maſters

maſters of the ſeveral companies of artificers at Alexandria.

Some have miſtaken the archigerontes for the arch-prieſts, appointed to take the confeſſions of thoſe who were condemned to the mines.

ARCHIGUBERNUS, Archigubernета, or Archigubernites, in *Antiquity*, the commander of the imperial ſhip, or that which the emperor was aboard of.

Some have confounded the office of archigubernus with that of *præfectus claſſis*, or admiral, but the former was under the command of the latter.

Potter takes the proper office of the archigubernета to have been to manage the marine affairs, to provide commodious harbours, and order all things relating to the ſailing of the fleet, except what related to war. Vid. Diod. Sicul. 26. 51.

ARCHIL, *Argol*, *Archilla*, *Rocella*, *Lichen Roccella* of Linnæus, or *Orſeille*, is a moſs of a lightiſh or dark grey colour, which grows on the rocks in many parts of the Archipelago, and in the Canary and Cape de Verd iſlands; and, according to Linnæus's account, on the Weſtern Coaſt of England. It belongs to the third of Dillenius's genus of *coralloides*, and to the *lichenes fruticuloſi* of Linnæus. This moſs grows upright, partly in ſingle, partly in double ſtems, which are about two inches in height; when it is old, theſe ſtems are crowned with a button, ſometimes round and ſometimes of a flat form, which Tournefort very properly compares to the excreſcences on the arms of the Sepia. The dark red paſte formed of this moſs has in commerce the ſame name of Archil or Argol, and is much uſed in dying; that well-known ſubſtance called Lacmus, or Litmus, is alſo made of it. See Litmus. Thoſe who prepare it for the uſe of the dyer grind it betwixt ſtones, ſo as to bruiſe it thoroughly without reducing it to powder, and then moiſten it occaſionally with ſtrong ſpirit of urine, or urine itſelf, mixed with quicklime. Alkalies extract a violet colour. In a few days it acquires a purpliſh red, and at length a blue colour. The dyers ſeldom uſe this drug by itſelf, becauſe of its dearneſs and the periſhableneſs of its beauty; but they chiefly employ it to give a bloom to other colours, as pinks, &c. and this is done by paſſing the dyed cloth, or ſilk, through hot water lightly impregnated with the archil. However, the bloom thus communicated ſoon decays upon being expoſed to the air; though, M. Hellot ſays, that by adding a ſmall quantity of the ſolution of tin, the colour obtained from this drug changes towards a ſcarlet, and gives a durable dye. Prepared archil will readily yield its colour to water, to volatile ſpirits, and to ſpirit of wine; and it is accordingly uſed to colour the ſpirits of thermometers; but being confined from the air, the ſpirits loſe their colour, and as M. l'abbé Nollet obſerves, regain it upon being expoſed to the air. He repeated the experiment ſeveral times with ſucceſs. A ſolution of archil in water gives a durable ſtain of a beautiful violet or purpliſh blue colour to marble. M. du Fay informs us that he has ſeen pieces of marble ſtained with it, that preſerved their colour for two years, without any ſenſible change. It ſinks deep into the marble, and makes it more brittle. The dye yielded by this ſubſtance, it is ſuppoſed, was known as early as the days of Theophraſtus. Theophraſtus, Dioſcorides, and Pliny, give the name of "Phycos thalaſſion" or "pontion," to a moſs which grew on the rocks of different iſlands, and particularly on thoſe of Crete or Candia. This moſs had, in their time, been long uſed for dying wool, and the colour it gave, when freſh, was ſo beautiful, that it excelled the ancient purple, which was not red, as many ſuppoſe, but violet. Pliny ſays, that with this ſubſtance the dyers gave the ground or firſt tint to thoſe cloths which they intended to dye with the coſtly purple. Thus Hardouin and others underſtand the words "conchylis ſubſternitur," which the French dyers expreſs by the phraſe "donner le pied." This "phycos thalaſſion" is ſuppoſed by Dillenius to be our argol; for at preſent, no ſpecies is known which communicates ſo excellent a colour, and which correſponds ſo nearly with the deſcription of Theophraſtus. Beſides, it is ſtill collected in the Grecian iſlands, and it appears that it has been uſed there ſince the earlieſt ages. Tournefort found this moſs in the iſland Amorgos, now called Morgo; and in his time it was ſent to England and Alexandria, at the rate of 10 rix-dollars per hundred weight; and he adds, that it was common in the other iſlands. He alſo ſhews, from Suidas, Julius Pollux, and other ancient writers, that this iſland was once celebrated for a kind of red linens, which in commerce had the name of the iſland; and he conjectures that it was dyed with this moſs. Hence Beckman (Hiſt. Inventions, vol. i. p. 61.) concludes, that our argol was not unknown to the ancient Grecians; and he apprehends, that the Europeans, and firſt of all the Florentines, were made acquainted with this dye-ſtuff, and its uſe, in the beginning of the fourteenth century. To this purpoſe he obſerves, that among the oldeſt and principal Florentine families is that known under the name of the Oricellarii, Rucellarii, or Rucellai; one of whom, in the year 1300, carried on a great trade in the Levant, and returning with great wealth to Florence, firſt made known in Europe, the art of dying with argol; and from this uſeful invention the family received the name of Oricellarii, from which, in proceſs of time, was formed Rucellai. After that period, the Italians procured argol from the Levant for themſelves, and afterwards for all Europe. But ſince the diſcovery of the Canary iſlands, about the end of the fourteenth or beginning of the fifteenth century, the greater part of this ſubſtance has been procured from them. In the iſlands of Canary, Teneriffe, and Palma, this moſs belongs to the crown; and in 1730, it was let by the King of Spain for 1500 piaſtres. In the reſt of the iſlands it belongs to private proprietors, who cauſe it to be collected on their own account. About the end of the year 1730, the captain of an Engliſh veſſel brought a bag of argol from the Cape de Verd iſlands to Santa Cruz, by way of trial; and diſcovering his ſecret to ſome Spaniſh and Genoeſe merchants, they fitted out a ſhip in 1731 for theſe iſlands, whence they brought it in large quantities. The argol of the Cape de Verd iſland appears larger, richer, and longer than that of the Canaries, which, perhaps, is owing to its not being collected every year. Adanſon, in 1749, found the greater part of the rocks in Magdalen iſland, near Senegal, covered with this moſs. Although moſt of our argol is at preſent procured from the Canary and Cape de Verd iſlands, a conſiderable quantity is alſo brought from the Levant, from Sicily, and from the coaſt of Barbary; and ſome years ago the Engliſh merchants at Leghorn, cauſed it to be collected in the iſland of Elba, and paid for it a high price. Our dyers do not purchaſe raw argol, but a paſte made of it, which the French call "orſeille en pate." The preparation of it was for a long time kept ſecret by the Florentines: the perſon who is ſuppoſed to have firſt made it known was Roletti, a dyer at Florence. Some information concerning it was afterwards communicated by Imperati, and Micheli the botaniſt. In latter times this art has been much practiſed in France, England, and Holland. Many druggiſts, inſtead of keeping this paſte in a moiſt ſtate with urine, as they ought to do, ſuffer it to dry, and it has then the ap-

pearance of a dark violet-coloured earth, with ſome white ſpots interſperſed in it. See LITMUS.

Linnæus apprehends that there are ſeveral other common moſſes from which valuable colours might be extracted. The French dyers uſe a cruſtaceous moſs growing upon rocks in Auvergne, and prepared with lime and urine, as a ſucceda neum to the Canary archil. This Archil, called "Orſeille de terre," and "Orſeille d' Auvergne," contains fewer and weaker colouring particles. It is the *lichen parellus* of Linnæus, and is diſtinguiſhed from the *roccella* by its figure, as it grows only in a thin rind on the rocks. It is collected in Auvergne on rocks of granite and volcanic productions, and in ſome parts of Languedoc; the greater part of it comes from St. Flour. The uſe of it is very trifling; however the Dutch purchaſe it to make their lacmus or litmus, on account of its low price. This moſs has alſo been found in Northumberland; but it is not collected there for any purpoſe.

Archil is made in Corſica, at Lyons, &c. The archil of the Canaries is ſaid to be leſs charged with lime. Dr. Lewis's ed. of Neumann's Chem. Works, p. 438. Phil. Tranſ. vol. li. p. 652. Ray Hiſt. Plant. i. p. 74. Micheli Nova Plant. p. 78. See LICHEN.

ARCHILE, in *Ancient Geography*, a city of Africa, in the Pentapolis; ſituate, according to Ptolemy, at ſome diſtance from the coaſt.

ARCHILOCHIAN, a term in *Poetry*, applied to a ſort of verſes, whereof *Archilochus* was the inventor.

Theſe conſiſt of ſeven feet; the four firſt whereof are ordinarily dactyls, though ſometimes ſpondees; the three laſt trochees: for inſtance:

"Solvitur acris hyems grata vice veris et Favoni." HOR.

It is uſual to mix iambic verſes of ſix feet, abating a ſyllable, with Archilochian verſes; this Horace himſelf has done in the ode now cited.

Theſe verſes are called dactylic, on account of the dactyls at the beginning.

ARCHILOCHUS, in *Biography*, a Greek poet and muſician, was the ſon of Teleſicles, a perſon of high rank, and a native of Paros, one of the Cyclades. According to Herodotus, he was contemporary with Candaules and Gyges, kings of Lydia, who flouriſhed about the fourteenth olympiad or 724 years before Chriſt. Blair refers him to the year before Chriſt 686, and Prieſtley to the year 660. To him is aſcribed the invention of the iambic verſe, and his reputation ranked ſo high amongſt the Greeks and Romans, that Plutarch ſays of him, that there is no bard of antiquity by whom the two arts of poetry and muſic have been ſo much advanced as by Archilochus. According to this author, he was the inventor of dramatic melody, or the melody uſed in declamation, or that which, in modern language, might be termed "recitative to ſtrict meaſure," ſuch as the voice-part obſerves in many modern pieces of accompanied recitative; and from him we learn, that he performed the muſic to his iambic verſes in two different ways; reciting ſome of them to a partial accompaniment, and ſinging others, while inſtruments performed the ſame notes as the voice; and this, it is ſaid, was the method which the tragic poets afterwards adopted. Plutarch alſo attributes to Archilochus, the rhythmopoeia of trimeter iambics; the ſudden tranſition from one rhythm to another of a different time, as from iambic rhythm or triple time, to dactylic or common time; and the manner of accompanying thoſe irregular meaſures upon the lyre. Accordingly, if Archilochus was the firſt author of this mixture or tranſition from one rhythm to another, he might, with propriety, be ſtyled the inventor of lyric poetry, which required this mixture, and which, after his time, became a ſpecies of verſification wholly diſtinct from heroic. To Archilochus is likewiſe aſcribed the invention of epodes, conſidered as denoting ſmall lyric poems, compoſed of trimeter-iambics, of ſix feet, and dimeters of four feet, alternately; ſuch are thoſe of the fifth book of the odes of Horace. Archilochus is generally ranked among the firſt victors of the Pythic games; and Pindar ſays, that he wrote hymns in praiſe of the gods and heroes. One of them in praiſe of Hercules, gained for him the acclamations of all Greece; for he ſung it in full aſſembly of the Olympic games, and received in recompence from the judges, the crown of victory. This hymn, or ode, was afterwards ſung in honour of every victor at Olympia, who had no poet to celebrate his particular exploits. The names of Homer, and of Archilochus, were equally revered and celebrated in Greece, as the two moſt excellent poets produced by the nation. Cicero ranks him with poets of the firſt claſs, and in his "Epiſtles," (xi. 1 16. ad Atticum) he ſays, that the Grammarian Ariſtophanes uſed to ſay, that the longeſt poem of Archilochus was, in his eſtimation, the moſt excellent. Horace profeſſes in his ſatires, to be an imitator of the Grecian bard, as to his ſtyle and manner, but not in his malignity; and he ſays, (Art. Poet.) that he was armed by the violence of his reſentment with iambics;

"Archilochum proprio rabies armavit iambo."

Ovid likewiſe refers to Archilochus: Paterculus and Quinctilian beſtow great praiſes on his poetry. The latter (l. x. c. 1.) ſays of him, that he had an uncommon force of expreſſion, abounding with bold thoughts, and ſhort but keen and piercing ſtrokes, and that his ſtyle was ſingularly ſtrong and nervous. The eſtimation in which he was held among the Greeks may be inferred from the conduct of the Delphian oracle, which expelled from the temple of Apollo, Corax of Naxos, by whom he was killed, though he did it in open war. His ſatires, however, were not only unjuſtifiably ſevere, but offenſively licentious and indecent; and on this account his poems were prohibited at Sparta, as being more likely to corrupt the hearts and manners of young people, than to be uſeful in cultivating their underſtandings. Of the force of his ſatires, the following inſtance is frequently alluded to by the ancients. Lycambes, who had promiſed him his daughter in marriage, and who had violated his contract, together with his family, was rendered ſo infamous by a torrent of abuſe and defamation, that he terminated his life by the halter, and one, if not all of his daughters, followed his example. Indeed, the "rage of Archilochus" was proverbial in antiquity, which compared the provoking of this ſatyriſt to the treading upon a ſerpent. In the army, into which he entered, Archilochus incurred a degree of ignominy, which probably contributed to imbitter the reſentment, and malignity of his writings. When he ſaved his life by his cowardly retreat in the firſt battle in which he was engaged, he alleged in excuſe of his daſtardly conduct; "I have loſt my buckler, but I have ſaved my life; and it is much more eaſy to get a new buckler, than a new exiſtence." Some fragments of his writings may be found in the "Poetæ Græcæ" Genev. 1606 and 1614, 2 vol. folio. Nouv. Dict. Hiſtor. Burney's Hiſt. Muſic, vol. i. p. 363.

ARCHILEUTO, or ARCHILUTE, a large lute, differing little from the *Theorbo*, on which thorough-baſs uſed to be played in accompanying the voice. At the beginning of the laſt century, it was the favourite inſtrument all over Europe. *Arrigonini*, a famous luteniſt, was employed in all Handel's early operas. And the office of luteniſt remained till

till the laſt century in his majeſty's chapel at St. James's. Gilier was the laſt who occupied the place and performed the duty.

ARCHIMAGUS, in the *Ancient Perſian Religion*, the chief prieſt or head of the order of magi. The archimagus anſwered to the high-prieſt among the Jews, or the pope now among the Romaniſts, being the head of the whole religion. The archimagus reſided in the fire temple, a place held in the ſame veneration among them as the temple of Mecca among the Mahometans, every perſon of the ſect being under a kind of obligation to make a pilgrimage to it once in their lives. Zoroaſter is ranked as the firſt archimagus, and he erected the firſt temple in the city of Balch. Here it remained till the ſeventh century, when the followers of Zoroaſter, being driven by the Mahometans into Carmania, or Kerman, a ſouthern province of Perſia, another building of the ſame kind was raiſed, and there it hath continued to this day. The fire temple at Balch was rebuilt by Darius Hyſtaſpis, with a grandeur ſuitable to its dignity, as it was the patriarchal temple of the ſect; and from the name of its reſtorer it was afterwards called "Auzur Guſtaſp," i. e. the fire temple of Darius Hyſtaſpis. In order to preſerve its reputation, he aſſumed the office and title of archimagus, and as Porphyry informs us, he gave orders before his death, that among his other titles it ſhould be engraven on his monument, that he was "maſter of the Magians," which plainly implies that he bore this office among them. From hence it ſeems to have proceeded, that the kings of Perſia were ever after regarded as of the ſacerdotal tribe, and were always initiated into the ſacred order of the Magians, before they were inaugurated into the kingdom. Prid. Con. vol. i. p. 315. 322.

ARCHIMANDRITE, the ſuperior of a monaſtery; amounting to what we now call ABBOT.

Covarruvias obſerves, that the word literally denotes the chief or leader of a flock; in which ſenſe it may be applied to any eccleſiaſtical ſuperior, and accordingly we find the name ſometimes attributed to archbiſhops. But among the Greeks, by whom it is chiefly uſed, it is always reſtrained to the chief of an abbey. According to father Simon, *mandrite* is a Syriac term, ſignifying a ſolitary monk; and conſequently archimandrite is the chief of monks of this deſcription. In the Greek church, the archimandrite is the ſecond dignity under the patriarch.

ARCHIMEDES, in *Biography*, one of the moſt celebrated mathematicians of antiquity, was born at Syracuſe, according to Torelli, in the ſecond year of the 123d olympiad, correſponding to the 287th year before Chriſt; or, according to Rivaltus, who has taken conſiderable pains in aſcertaining the true æra of his birth, the ſecond year of the 122d olympiad, anſwering to the 291ſt year before Chriſt. If we may rely on the authority of Tzetzes, he lived 75 years; and Blair in his chronology, refers his death to the firſt year of the 142d olympiad, or the 212th year before Chriſt. Plutarch informs us, that he was nearly related, by his father, to Hiero the Syracuſan king, with whom he lived in habits of the moſt intimate friendſhip and intercourſe: but his mother was of obſcure origin; and this circumſtance may probably account for the degrading terms "humilem homunculum," which Cicero applies to him in the fifth book of his Tuſculan Queſtions, Oper. tom. ii. p. 474. ed. Olivet. Unallured by thoſe proſpects of preferment which his connection with Hiero might have preſented, Archimedes devoted himſelf, with uncommon aſſiduity and ſingular ſucceſs, to the ſtudy of geometry, in his youth; and in his maturer years he travelled into Egypt, whither the Greeks generally reſorted in the purſuit of ſcience. After an abſence of ſeveral years, which he ſpent in the ſociety of Conon, and other eminent men, and during which time he exhibited very promiſing indications of his future fame, he returned to his own country, where he indefatigably proſecuted that courſe of application to mathematical and mechanical ſciences, which led to the diſquiſitions and diſcoveries recorded in his works. Such, indeed, were the ardour and intenſeneſs of his application, that he proſecuted his ſtudies, to the neglect of both food and ſleep, and improved the minuteſt circumſtance that occurred into an occaſion of making very important and uſeful diſcoveries. At the bath, it is ſaid, he frequently drew geometrical figures in the aſhes, or when, according to the cuſtom, he was anointed, upon his own body. Of the ardour of his mind in the purſuit of ſcience an inſtance occurs under the article HIERO's *Crown*; and was alſo manifeſt in his well-known declaration, pronounced in conſequence of his accurate acquaintance with the powers of the lever, "Δος που στω, και πασαν την γην κινησω," i. e. "Give me a place upon which to ſtand, and I will move the earth." Such was the pleaſure he derived from having diſcovered the proportion between the ſphere and its circumſcribed cylinder, that as a memorial of this diſcovery, he requeſted his friends to place upon his tomb a cylinder containing a ſphere, with an inſcription expreſſing the proportion of the one to the other. Cicero, when he was quæſtor in Sicily, about 140 years after the death of Archimedes, diſcovered this monument in a neglected ſtate, and over-run with briars and brambles, which he ordered to be cleared away. Vid. Opera ubi ſupra. As an evidence to Hiero of the aſtoniſhing effect of mechanical powers, Archimedes is ſaid to have drawn towards him, by means of pulleys and pullies, a galley manned and loaded, which lay in the ſhore. But his mechanical knowledge was applied to more ſubſtantial uſe, at the time when Syracuſe was beſieged by the conſul Marcellus; for he thus contrived to arreſt the efforts of the beſiegers for eight months. Plutarch (in Marcell.) and Livy (l. xxiv. c. 34.) inform us, that, whether the veſſels of the enemy were nearer to the walls of the city, or more diſtant from them, Archimedes annoyed them. When they approached the rampart, he ſuſpended long beams, which probably acted like levers, and ſtruck the galleys with a force that ſunk them; by means of grappling hooks at the extremities of other levers, he raiſed up veſſels in the air, and then daſhed them to pieces againſt the walls or projecting rocks. Whilſt they were more remote, he uſed inſtruments which threw large ſtones, that demoliſhed the ſhips or the machines employed in the ſiege. For the uſe he made of his burning mirrors, ſee BURNING-*Glaſs*.

Beſides other inventions which Diodorus Siculus (l. v.) aſcribes to Archimedes, he mentions that of the cochleon, or ſcrew pump, which he communicated to the Egyptians. Livy alſo (l. xxiv. c. 23.) records his diſtinguiſhed excellence as an obſerver of the heavenly bodies and his talent for the contrivance and conſtruction of warlike machines. His ingenuity in the ſolution of problems was, in Cicero's time, become proverbial, for in a letter to Atticus (l. xiii. ep. 28.), he alludes to the "προβλημα Αρχιμηδειον," or "Archimedian problem," as one that was of ſingularly difficult ſolution. His machine for exhibiting the motions of the celeſtial bodies is either referred to or more expreſsly mentioned by the Latin poets. To this purpoſe Silius Italicus (l. xiv. v. 341. p. 717. ed. Drakenb.) extols him:

"Vir fuit Iſthmiacis decus immortale colonis,
Ingenio facile ante alios telluris alumnos,
Nudus opum; ſed cui cœlum terræque paterent."

Claudian alſo, in his epigram on this invention of Archimedes, expreſſes himſelf in the following ſtrong terms:

"Jupiter,

" Jupiter, in parvo cum cerneret æthera vitro," &c. In English thus:

" When in a glaſs's narrow ſphere confin'd,
Jove ſaw the fabric of th' Almighty mind,
He ſmil'd and ſaid; 'Can mortals' art alone
Our heavenly labours mimic with their own?
The Syracuſan's brittle work contains
Th' eternal law that through all nature reigns.
Fram'd by his art, ſee ſtars unnumber'd burn,
And in their courſes rolling orbs return;
His ſun through various ſigns deſcribes the year,
And every month his mimic moons appear.
Our rival's laws his little planets bind,
And rule their motions by a human mind.
Salmoneus could our thunder imitate:
But Archimedes can a world create.'

Ovid (Faſt. vi. 277.) mentions the ſame machine:

" Arte Syracoſiâ ſuſpenſus in aëre clauſo
Stat globus, immenſi parva figura poli."

Plutarch (in Vit. Marcelli, Oper. t. ii. p. 307.) expreſsly ſays of Archimedes, after recounting the machines which he had employed during the ſiege of Syracuſe, that in the conſtruction of them "he gained the reputation of a man endowed with divine rather than human knowledge;" but it is to be regretted that, as he adds, "no account of them was left in writing."

Amongſt the various objects of mathematical ſpeculation to which his attention and inventive faculties were directed, one of the principal was the menſuration of the conic ſections. Unleſs we except the lunes of Hippocrates of Chios, he was the firſt who ſquared a curvilineal ſpace: he alſo reduced the quadrature of the circle to the determination of the ratio between the diameter and the circumference; and though unable to obtain the preciſe value of it, he aſſigned an uſeful approximation to it by the numeral calculation of the perimeters of the inſcribed and circumſcribed polygons. See CIRCLE, DIAMETER, and QUADRATURE. He determined the relation between the circle and ellipſe; and likewiſe attempted the hyperbola, though from the nature of the caſe he was not likely to ſucceed. He alſo found the proportion of the area of the ſpiral to that of the circumſcribed circle, and that of their ſectors; he determined the relations of ſpheres, ſpheroids, and conoids to cylinders and cones, and of parabolas to rectilineal planes, whoſe quadratures were already known. In all his mathematical inveſtigations, he imitated the example of his predeceſſor, Euclid; and, like him, he was cautious in admitting any principles that were not ſtrictly geometrical and unexceptionable.

No friend of ſcience can forbear lamenting the premature death of this ſingularly eminent mathematician and philoſopher, as well as the time and manner in which it happened. After he had been inſtrumental in protracting the ſiege of Syracuſe for eight months, the city was at length taken by ſtorm and devoted to the ſword. Marcellus, indeed, reſpecting the character even of an enemy ſuch as Archimedes was, had iſſued orders that his houſe and perſon ſhould be inviolate; but he was ſurpriſed and put to death, ſays Livy (l. xxxv. c. 31.), by a ſoldier who was ignorant of his perſon and character, while he was intent on figures which he had deſcribed in the duſt, and was altogether negligent of his own ſafety. The account of the manner of his death given by Plutarch (ubi ſupra) is ſomewhat different. He ſays, that Archimedes being in his muſeum, was ſo abſorbed in his attention to his diagram, that he was aſſaulted by one of the ſoldiers before he knew that the city was taken, and that he refuſed to accompany him to Marcellus till he had finiſhed his problem, upon which the enraged ſoldier diſpatched him with his ſword. However this be, Marcellus, it is ſaid, lamented his death, paid reſpect to his memory by directing and ſuperintending his funeral, and reſtrained the victorious army from offering any violence to his relations.

Of the numerous works of Archimedes many of them are loſt, but the moſt valuable, as we have reaſon to believe, are preſerved. Torelli has arranged and enumerated them in the following order: 1. "De Planorum Æquilibriis, liber primus, cum commentariis Eutocii Aſcalonitæ." 2. "Quadratura Paraboles." 3. "De Planorum Æquilibriis, liber ſecundus, cum commentariis Eutocii Aſcalonitæ." 4. "De Sphæra et Cylindro, liber primus, cum commentariis Eutocii Aſcalonitæ." 5. "De Sphæra et Cylindro, liber ſecundus, cum commentariis Eutocii Aſcalonitæ." 6. "Circuli Dimenſio, cum commentariis Eutocii Aſcalonitæ." 7. "De Helicibus." 8. "De Conoidibus et Sphæroidibus, cum Torelli commentario, in Prop. 12." 9. "Arenarius." 10. "De iis quæ in humido vehuntur, liber primus." 11. "De iis quæ in humido vehuntur, liber ſecundus." 12. "Lemmata." 13. "Opera Mechanica, ut cujuſque mentio ab antiquis ſcriptoribus facta eſt." Theſe latter works, with the Author's deſcriptions of them, are loſt; they are as follow: 1. "An artificial ſphere for exhibiting the celeſtial motions. 2. "Archimedes's method of inveſtigating the mixture of gold and ſilver in Hiero's crown, mentioned by Vitruvius." 3. "His pneumatic and hydraulic engines, mentioned by Tzetzes, Pappus, and Tertullian." 4. "Archimedes's ſcrew, the ſtructure and uſe of which are well known." 5. "The helix, by means of which, according to Athenæus, he launched a large ſhip belonging to Hiero." 6. "A ſingular kind of locket, the account of which is imperfect." 7. "The triſpaſton, by which large weights might be raiſed by a very ſmall power." 8. "Various warlike machines, conſiſting of tormenta, baliſtæ, catapultæ, ſagittarii, ſcorpiones, &c. which, according to Polybius, Livy, and Plutarch, were uſed in the defence of Syracuſe." 9. "His burning-glaſſes, by the combination of which he is ſaid to have ſet fire to the Roman ſhips."

When Conſtantinople was taken at the middle of the fifteenth century, ſuch writings of Archimedes as exiſted, together with the commentary of Eutocius, eſcaped the ravages of the conquerors, and were brought thence into Italy. Here they were found by the famous John Muller, better known by the appellation of Regiomontanus, who carried them into Germany, and they were ſoon afterwards, viz. in 1544, publiſhed in folio at Baſil, in Greek and Latin, by Hervagius, with a preface by Thomas Gechauff. A Latin tranſlation was publiſhed at Paris in 1577, by Paſcalius Hemellus. An edition was publiſhed in folio, by Commandine at Venice, in 1588. The edition of Rivaltus, in Greek and Latin, in folio, with new demonſtrations and notes, and a life of Archimedes, was publiſhed at Paris in 1615. At the cloſe of this edition is annexed an account of the other works of Archimedes that have been loſt. Maurolycus publiſhed an edition in folio, at Meſſina, in 1671; another by Borelli, was publiſhed at Palermo in 1685; and a Latin edition was publiſhed by Dr. Barrow in 4to. at London in 1675, with new illuſtrations and demonſtrations. The laſt, moſt ſplendid and complete edition in folio, was printed at the Oxford preſs in 1792; this edition was prepared for the preſs by the learned Joſeph Torelli of Verona, with a new Latin tranſlation, Eutocius's commentary, with a preface and notes; an account of the life and writings of Torelli, by Clemens Sibiliati, is prefixed, and a large appendix is added conſiſting of two parts, the firſt being a commentary on the paper of Archimedes, relating to bodies floating in fluids, by the Rev. Abram Robertſon of Chriſt-Church College Oxford, who had the whole care of this edition; and

and the ſecond, a large collection of various readings in the MS. copies of Archimedes's works, preſerved at Florence and Paris, collated with the edition of Baſil. The works of Archimedes form a principal part of the valuable collection of Greek mathematicians, publiſhed in folio at Paris, in 1693, entitled "Mathematici veteres." Of diſtinct parts of the works of Archimedes we have various editions. The book "De dimenſione circuli," was publiſhed in folio, at Paris, in 1561; at Leipſic, in 1602; and in octavo, at Oxford by Dr Wallis, in 1676; and in the third volume of Wallis's works, in 1699. This work, together with the book "De ſphæra & cylindro," appeared at Paris in 1561; the book "De planis equiponderantibus," was publiſhed in quarto at Paris, in 1565; "De conoidibus et de ſpheroidibus," at Palermo, in 1685; "De iis quæ in humido natant, &c." with the commentary of Commandine, in quarto, at Bologna, in 1565; and the "Arenarius," by Wallis, at Oxford, octavo, in 1676; of which an Engliſh tranſlation by G. Anderſon, was publiſhed in London, octavo, in 1784, with notes and illuſtrations. Torelli Pref. Rivalti Pref. Fabr. Bib. Græc. l. iii. c. 22. t. ii. p. 543, &c.

ARCHIMEDES's *Screw*. See SCREW *of Archimedes*.

ARCHIMEDES's *Burning-glaſs*. See BURNING-*glaſs*.

ARCHIMIME, ARCHIMIMUS, αρχη, and μιμος, *mimic*, is the ſame thing in effect with archbuffoon or mimic.

The *archimimes*, among the Romans, were perſons who imitated the manners, geſtures, and ſpeech, both of people living, and of thoſe who were dead.

At firſt they were only employed on the theatre; but were afterwards admitted to their feaſts, and at laſt to their funerals; where they walked after the corpſe, counterfeiting the geſtures and behaviour of the perſon who was carried to the funeral pile, as if he were ſtill alive.

ARCHINARA, in *Ancient Geography*, a town of India, on the other ſide of the Ganges, according to Ptolemy.

ARCHIPELAGO, in *Geography*, a ſea interrupted by a great number of iſlands.

The word is formed by corruption of *Ægeopelagus*, q. d. *Ægean ſea*, which again is formed of Αιγαιον Πελαγος, a name originally given it by the Greeks, but for what reaſon is not agreed on. See *Ægean Sea*.

The moſt celebrated Archipelago, and that to which the name uſed to be appropriated, and whence all other groups of iſlands have derived it, is that between Greece, Macedonia, and Aſia; in which are the iſlands of the Ægean ſea; which is called the *White Sea*, in contradiſtinction to the Euxine, which they call the *Black Sea*. This part of the Mediterranean ſea is bounded on the north by Romania, on the eaſt by Natolia, on the weſt by Livadia and the Morea, and on the ſouth by the iſle of Candy. It divides, as far as it extends, Europe from Aſia. All the iſlands contained in it, ſome of which lying on the coaſt of Natolia are called Aſiatic, and the others European, lie between about the 35th and 40th degrees of north latitude, and 23d and 27th degrees of eaſt longitude. Some of them are called Cyclades, becauſe they form as it were a crown and circle round the iſle of Delos; the others are called Sporades, as being diſperſed without any order between Aſia and the iſle of Candia.

The modern geographers mention other Archipelagos, as that of Lazarus near the coaſts of Malabar and Malacca; the Archipelago of Mexico; and that of the Caribbees, wherein are many iſlands; that of the Philippines, called by ſome the "great Archipelago," containing ſeveral iſlands, and all thoſe of the Moluccas, of Celebes, &c. Theſe Aſiatic iſlands form a large group uſually denominated the "oriental Archipelago," and extending from 13° S. lat. to 22° 4′ N. lat. that is 35 degrees, or 21,000 geographical miles, while the length from 95° E. long. to 132°, gives 37° not far from the equator, nearly correſponding with the breadth. The "northern Archipelago" conſiſts of four groups of iſlands between the eaſt coaſt of Kamtſkatka in Aſia and the weſt coaſt of America: the firſt, called Saſignan, comprehends five iſlands; that called Khao contains eight iſlands; and both theſe are now called Aleutian iſlands. The third group includes ſixteen iſlands, called Andreanoffſki Oſtrova; and the fourth, the Lyſſie Oſtrova, or Fox iſlands, which are ſixteen in number. "Broughton's Archipelago," is a cluſter of iſlands, rocky iſlets, and rocks, on the north-weſt coaſt of America, ſo called by Vancouver, after the name of their diſcoverer, and lying in about 50° 50′ N. lat. and W. long. 126° 20′. The "dangerous Archipelago," or "labyrinth," is a name given to a group of iſlands diſcovered in the Pacific Ocean, eaſtward of Otaheite, by Quiros, Schouten, and Le Maire, Roggewein, Byron, Wallis, Carteret, Bougainville, Cook, Edwards, Bligh, Vancouver, Broughton, and Wilſon, and ſo called from the intricacy and difficulty which they occaſion to the navigation. They are diſperſed from 14° to 27° of S. latitude, and as far as 25° eaſtward from Otaheite. The name was firſt given to ſome of theſe iſlands by Bougainville in 1768. To four of theſe iſlands Captain Cook, in 1760, gave the names of Reſolution, in S. lat. 17° 24′. W. long. 141° 39′; Doubtful iſland in S. lat. 17° 20′. W. long. 141° 38′; Furneaux iſland in S. lat. 17° 5′ and W. long. 143° 16′; and Adventure iſland in S. lat. 17° 14′, and W. long. 144° 30′. All the inhabitants of theſe iſlands appear to be of the ſame race with the Society iſlanders, but are ſomewhat darker in their complexions, and more ferocious in their manners. "Archipelago of the great Cyclades" is the cluſter of iſlands firſt diſcovered by Bougainville in 1768, and called by captain Cook, who paſſed them in 1774, *New* HEBRIDES. "King George III.'s Archipelago" is a name given by Vancouver to a large group of iſlands, forming various channels, and lying on the north-weſt coaſt of America between 56° 10′, and 58° 15′ N. lat. and about 135° and 136° W. long. The exterior coaſt of this Archipelago from Cape Croſs to Cape Edward has ſeveral openings that appeared likely to afford ſhelter, but the rocks and iſlets, ſome producing trees, and others altogether barren, that extend to the diſtance of three or four miles from the ſhore, muſt render the entrance of ſuch harbours unpleaſant and dangerous, till they are better known. That which ſeemed to be the eaſieſt of acceſs was northward of Cape Edward, in lat. 57° 44′, and was conſidered by Vancouver as Portlock's harbour. Cape Edgcumbe on this coaſt is ſituated in lat. 57° 2′, and W. long. 135° 34½′. This cape forms the north-weſt point of a ſpacious opening that branches into ſeveral arms, and is called by Mr. Dixon, Norfolk Sound. One of the northern branches of the ſound communicates with the land on which mount Edgcumbe ſtands, named by Captain Cook the Bay of Iſlands, and makes the intermediate part of the ſea-coaſt an iſland. The ſouth extremity of this Archipelago in lat. 56° 10′. and W. long. 134° 22½′, conſtitutes a remarkable promontory that terminates in a high bluff rocky cliff, and becomes, on its eaſtern ſide, a narrow point of land, named by captain Colnett, Cape Ommaney; and the opening between this and Cape Denſion, he called Chriſtian Sound. Vancouver's Voyage, vol. iii. p. 267. A cluſter of iſlands, or a ſingle iſland, about twenty leagues in length, and lying between 53° and 54° N. lat. and about 130° W. long. was called by Vancouver, "Pitt's Archipelago." On the north of this group was Chatham's Sound,

Sound, on the eaſt Grenville's canal, on the weſt Banks's iſland, and to the ſouth Nepean ſound, as they are ſeverally denominated in one of Vancouver's charts. Other collections of iſlands under this appellation will be noticed in the courſe of this work.

ARCHIPHERACITÆ, miniſters in the Jewiſh ſynagogues, appointed to read and interpret the Perakim, or titles and heads of the law, and the prophets.

The archipheracita was not the ſame with the archiſynagogus, as Grotius and others have miſtakenly imagined; but rather the chief or principal of thoſe appointed to read, explain, and profeſs the law, in their ſchools.—And hence the name which is formed of ἀρχὴ, *chief*, and the Hebrew or Chaldee, פֶּרֶק, *diviſion*, or *chapter*.

ARCHIPPA, in *Ancient Geography*, a town of Italy, in the territory of the Marſi, ſaid to be ſwallowed up by the Fucine lake.

ARCHIPPUS, in *Entomology*, a ſpecies of Papilio (Dan. Felt Linn.) that inhabits South America. The wings are repandated, fulvous, veined with black: the margin black, dotted with white; fulvous ſpots at the tip of the anterior ones. Fabricius. Obſ. This author believes it is the ſame inſect as Cramer deſcribes under the name Papilio *Plexippus*. Gmelin thinks Papilio *Archippus* of Cramer, f. A. B. is Papilio *Miſippus* of Fabricius.

ARCHIPRESBYTER. See Arch-priest.

ARCHIS, in *Ancient Geography*, a town of Aſia, in Armenia Prima.

ARCHISTRATEGUS, the generaliſſimo or captain-general of an army. See Strategus.

ARCHISYNAGOGUS, in the *Jewiſh Hiſtory*, the chief or ruler of the ſynagogue.

Theſe are ſometimes alſo called the angels or princes of the ſynagogues: the Jews called them *chazanin*, i. e. *wiſe*.

Archiſynagogi were perſons of authority in each ſynagogue, who preſided in aſſemblies held therein, invited thoſe to ſpeak whom they judged capable of it, and decided all diſputes, relating to money, &c. They had a power to have thoſe whipped who were convicted of acting contrary to the law; alſo a right of excommunicating, or caſting out of the ſynagogue, thoſe whom they found to merit this puniſhment. Their number was different according to the extent of the city, or the number of perſons that came to the ſynagogue; in ſome there were ſeventy, in others eight or ten, and in others not above one. Vitringa de Synagog.

ARCHITECT, a perſon ſkilled in architecture, or the art of building; who forms plans and deſigns for edifices, conducts the work, and directs the ſeveral artificers employed in it.

The word is derived from ἀρχὸς, *princeps*, and τεκτων, *faber*, *workman*, q. d. the principal workman.

The moſt celebrated architects are Vitruvius, Palladio, Scamozzi, Serlio, Vignola, Barbaro, Cataneo, Alberti, Viola, Inigo Jones, De Lorme, Petrault, S. Le Clerc, ſir Chriſtopher Wren, and the earl of Burlington.

Vitruvius enumerates twelve qualities requiſite to conſtitute a good architect; that he be docile and ingenious; well educated; ſkilled in deſigning, in geometry, optics, arithmetic, hiſtory, philoſophy, muſic, medicine, law, and aſtronomy.

Cloſe application to the ſtudy of ancient maſters, and the remaining works of the ancients, together with judgment and taſte to ſelect and properly to apply the hints which ſuch examples afford, joined to a peculiar genius for the ſtudy of this art, are abſolutely neceſſary to render an architect eminent in his profeſſion.

ARCHITECTOGRAPHIA, the deſcription of ancient buildings, temples, theatres, arches, pyramids, baths, gates, aquæducts, tombs, and the like.

ARCHITECTONIC, that which builds a thing up regularly, according to its nature and intentions.

ARCHITECTURE, Architectura, the art of erecting buildings of any kind.

Amongſt the various arts cultivated in ſociety, ſome are only adapted to ſupply our natural wants, or aſſiſt our infirmities; ſome are inſtruments of luxury merely, and calculated to flatter our pride, or gratify our deſires: whilſt others tend at once to ſecure, to accommodate, delight, and give conſequence to the human ſpecies.—Architecture is of this latter kind; and when viewed in its full extent, may truly be ſaid to have a very conſiderable part in almoſt every comfort or luxury of life. The advantages derived from houſes only are great, they being the firſt ſteps towards civilization, and having certainly great influence both on the body and mind. Secluded from each other, inhabitants of woods, of caves, or wretched huts, expoſed to the inclement viciſſitudes of ſeaſons, and the diſtreſſing uncertainty of weather, men are generally indolent, dull, and abject, with faculties benumbed, and views limited to the gratification of their moſt preſſing neceſſities; but wherever ſocieties are formed, and commodious dwellings are found, in which well ſheltered they may breathe a temperate air, amid the ſummer's heat or winter's cold; ſleep, when nature calls, at eaſe and in ſecurity; ſtudy unmoleſted; converſe, and taſte the ſweets of ſocial enjoyments; there they are ſpirited, active, ingenious, and enterpriſing; vigorous in body, ſpeculative in mind: agriculture and arts improve, they flouriſh among them; the neceſſaries, the conveniencies, and ſoon even the luxuries of life, become there abundant. Mere ſtrength however, even the ſteadieſt perſeverance, obtains with difficulty the deſired produce; but inventions facilitate and ſhorten labour, multiplying productions ſo, as not only to ſupply domeſtic wants, but likewiſe to treaſure up ſtores for foreign markets. Architecture then ſmooths the way for commerce; ſhe forms commodious roads through marſhes or other grounds naturally impracticable, fills up vallies, unites, or levels mountains; throws bridges over deep or rapid rivers, turns aſide or deadens the fury of torrents; conſtructs canals of navigation, builds ſhips, and contrives ports for their ſecure reception in the hour of danger: facilitating thus the intercourſe of nations, the conveyance of merchandize from people to people. A well-regulated commerce is ever the ſource of wealth; and luxury has ever been attendant on riches. As the powers of gratification increaſe, fancy multiplies wants; till at length, indolence or pleaſure, vanity and ſuperfluity, fears and reſentments, give birth to a thouſand ſuperfluous, a thouſand artificial cravings; the greater part of which could not be gratified, without the aſſiſtance of architecture; for ſplendid palaces, magnificent temples, coſtly dwelling-houſes, and amphitheatres, theatres, baths and porticos, triumphal arches and bridges, mauſoleums, and an endleſs number of ſimilar inventions, are all either neceſſary inſtruments of eaſe and pleaſure; or ſtriking teſtimonies of wealth, of grandeur and pre-eminence; either preſent or paſt. Nor are there any other objects, whether neceſſary or ſuperfluous, ſo certainly productive of their deſign; ſo permanent in their effects, or beneficial in their conſequences; fine furniture, rich dreſſes, brilliant equipages, numerous domeſtics, are only ſecondary attractions at firſt; they ſoon feel the effect of time; and their value fluctuates, or dies with the faſhion of the day. While the productions of architecture command general attention; are monuments laſting beyond the reach of modes; and record to lateſt poſterity the conſequence, virtues, atchievements, and munificence of thoſe they

they commemorate. The immediate and moſt obvious advantages of building are, employing many ingenious artificers, many induſtrious workmen and labourers of various kinds; converting materials of little value into the moſt ſtately productions of human ſkill; beautifying the face of countries; and multiplying the conveniencies and comforts of life. But theſe, however great, are not the moſt conſiderable: that numerous train of arts and manufactures, contrived to furniſh and adorn the works of architecture, which occupies thouſands, and conſtitutes many lucrative branches of commerce; that certain concourſe of ſtrangers, to every country celebrated for ſtately ſtructures; who extend your fame, adopt your faſhions, give reputation, and create a demand for your productions; are conſiderations of the higheſt conſequence: in ſhort, the advantages of building extend to the remoteſt ages, and at this day, the ruins of ancient Rome, in a great meaſure, ſupport the ſplendor of the preſent; by the number of travellers who flock from all nations, to viſit the ancient remains and modern magnificence of that famous city; and who, in the courſe of a few centuries, have there expended incredible ſums of money, by long reſidence; and in the purchaſe of old pictures, antique ſtatues, buſts, baſ-reliefs, urns, and other curious productions of art: of which, by ſome extraordinary good management, there is a treaſure never to be exhauſted. Nor is architecture leſs uſeful in defending, than proſperous in adorning and enriching countries; ſhe guards their coaſts with ſhips of war, ſecures their boundaries, fortifies their cities, and by a variety of artful conſtructions, controls the ambition and fruſtrates the attempts of foreign powers; curbs the inſolence, and averts the danger, and the horror of internal commotions. Thus architecture, by ſupplying men with commodious habitations, procures that health of body and vigour of mind, which facilitate the invention of arts: and when, by the exertion of their ſkill or induſtry, productions multiply beyond domeſtic wants, ſhe furniſhes the means of tranſporting them to other markets; and whenever by commerce they acquire wealth, ſhe points the way to employ their riches rationally, nobly, benevolently; in methods honourable and uſeful to themſelves and their deſcendants; which add ſplendor to the ſtate, and yield benefit both to their contemporaries and to poſterity: ſhe farther teaches them to defend their poſſeſſions, to ſecure their liberty and lives, from the attempts of lawleſs violence, or unreſtrained ambition. An art ſo variouſly conducive to the happineſs of man, to the wealth, luſtre, and ſafety of nations, naturally commands protection and encouragement: in effect, it appears, that in all civilized times, and well regulated governments, it has been much attended to, and promoted with unremitting aſſiduity; and the perfectioning of other arts has ever been a certain conſequence; for where building is encouraged, painting, ſculpture, and all the inferior branches of decorative workmanſhip, muſt flouriſh of courſe; and theſe have an influence on manufactures, even to the minuteſt mechanic productions; for deſign is of univerſal benefit, and ſtamps additional value on the moſt trifling performances, the importance of which, to a commercial people, is obvious; it requires no illuſtration. Let it not however be imagined that building, merely conſidered as heaping ſtone upon ſtone, can be of great conſequence; or reflect honour, either on nations or individuals: materials in architecture are like words in phraſeology; having ſeparately but little power; and they may be ſo arranged, as to excite ridicule, diſguſt, or even contempt; yet when combined with ſkill, expreſſed with energy, they actuate the mind with unbounded ſway. An able writer can move even in ruſtic language, and the maſterly diſpoſitions of a ſkilful artiſt will dignify the meaneſt materials; while the weak efforts of the ignorant, render the moſt coſtly enrichments deſpicable. To ſuch, the compliment of Apelles may juſtly be applied; who, on ſeeing the picture of a Venus magnificently attired, ſaid to the operator, "Friend, though thou haſt not been able to make her fair, thou haſt certainly made her fine." See the preface to ſir W. Chambers's Treatiſe on Civil Architecture.

Architecture is divided into CIVIL, MILITARY, and NAVAL *Architecture*, for which ſee theſe ſeveral heads.

ARCHITHALASSUS PRIMUS, in *Conchology*, a name given by Argenville to the ſhell called by Linnæus *Conus ſummus*.

ARCHITRAVE, in *Architecture*, the lower diviſion of an entablature, or that part which reſts immediately on the column.

In the moſt ancient buildings, which were probably of timber, the architrave was the beam which extended from column to column to ſupport the roof, whence the name, which is from αρχος, *chief*, and *trabs*, *a beam*.

In all the ancient examples of the Doric order ſtill exiſting in Greece, ſuch as thoſe at Athens and Corinth, and alſo thoſe at Pæſtum, and in Sicily, it has only one facia, and is of great height, being nearly equal to the diameter of the column. In the Doric order of the theatre of Marcellus at Rome, it has only one facia, but is much lower, being only equal to half a diameter of the column. The moderns, ſuch as Vignola, Scamozzi, &c. have generally confined it to this proportion nearly, but have divided it into two facias, taking the idea from ſome ancient examples of the Doric order in Italy.

In ſome of the ancient examples of the Ionic order in Greece, ſuch as the temple on the Iliſſus near Athens, it has only one facia, which is quite plain, and of conſiderable height; while in others, ſuch as the temple of Minerve Polias at Athens, and that of Bacchus at Teos, it is divided into three facias, and has the upper mouldings enriched. In the Ionic order of the temple of Fortune, and at the theatre of Marcellus at Rome, it alſo has three facias. The moderns have generally given it two facias.

In the Corinthian and Compoſite orders, both the ancients and moderns have divided it into three facias, generally enriching the mouldings.

The practice of architects differs exceedingly in the proportions of the architrave, as in all the other parts of the orders. Character and propriety, however, ſeem to require, that in the maſſy and grave orders, ſuch as the Doric and Ionic, this member, which repreſents a part ſubject to great preſſure, ſhould have a proportionate degree of ſtrength; while in the gayer Corinthian and Compoſite, its appearance ſhould be lighter and more ornamented.

In Gothic architecture there is no architrave, and this forms one of the moſt ſtriking differences between this ſpecies of architecture and the Grecian. In the latter there is always a horizontal architrave over the columns, whereas from the tops of Gothic columns arches always ſpring. The Egyptian architecture is alſo characteriſed by horizontal architraves.

ARCHITRAVE *Cornice*. See CORNICE.

ARCHITRICLINUS, in *Antiquity*, the maſter or director of a feaſt, charged with the order and economy of it, the covering and uncovering of the tables, the command of the ſervants, and the like.

The word architriclinus properly imports the chief or maſter of a triclinium or dining-room. His office properly differed from that of modimperator, or arbiter bibendi, as the latter was appointed by the gueſts; the architriclinus, by the perſon who gave the feaſt.

The architriclinus was sometimes also called *servus triclinarcha*, and by the Greeks προγευστης, i. e. *prægustator*, or *fore taster*. Potter also takes the architriclinus for the same with the SYMPOSIARCHA.

ARCHITYPE. See ARCHETYPE.

ARCHIVAULT, in *Architecture*, the inner *contour* of an arch; or a band or frame adorned with mouldings, running over the faces of the arch-stones, and bearing upon the imposts. See this represented in the lines that bound the arch over E. See BASILIC.

The word is French, *archivolte*, where it signifies the same thing, formed of *arcus volutus*.

It is different in the different orders. In the Tuscan, it has only a single face; it has two faces crowned in the Doric and Ionic; and the same mouldings with the architrave in the Corinthian and Composite.

ARCHIVE, or ARCHIVES, a chamber or apartment wherein the records, charters, and other papers and evidences of a state, house, or community are preserved, to be consulted occasionally.

The words come from *arca*, *a chest*; or the Greek αρχειον, which Suidas uses in the same sense. In some Latin writers we meet with *archarium*.

We say the archives of a college, of a monastery, &c. The archives of ancient Rome were in the temple of Saturn; the archives of the court of chancery are in the Rolls office. In the code we meet with *archivum publicum vel armarium publicum, ubi acta & libri exponebantur. Cod. de fid. instrum. auth. ad hæc.* xxx. q. 1.

ARCHIVIST, *archivista*, a keeper of an archive.

Under the emperors, the archivist was an officer of great dignity, held equal to the proconsuls, vested with the quality of a count, styled *clarissimus*, and exempted from all public offices and taxes. Among the ancient Greeks and Persians, the trust was committed to none but men of the first rank; among the Franks, the clergy, being the only men of letters, kept the office among themselves. Since the erection of the electoral college, the archbishop of Mentz has had the direction of the empire.

ARCHIZUPANUS, a title given to the prince or despot of Servia. The word is compounded of αρχι, and ζουπανος, *governor*. In an epistle of pope Innocent II. he is called *Magnus Jupanus*.

ARCH-MARSHAL, ARCHIMARISCALLUS, the grand marshal of the empire.

The elector of Saxony is arch-marshal of the empire; and in that quality he goes immediately before the emperor, bearing a naked sword, at the diet, and on other solemn occasions. He bears in his arms two swords placed crosswise. During the holding of the diets, he has jurisdiction over all electoral and other officers of the states of the empire, and also in criminal matters. His hereditary marshals are the counts of Pappenheim, who, by virtue of their office, bear the electoral swords of Saxony in their arms.

ARCH-MINISTER, derived from the Greek αρχος, and the Latin *minister*, the prime minister of a prince, or state. Charles the Bald having declared Boson his viceroy in Italy under the title of duke, made him also his first minister under that of arch-minister.

ARCHON, αρχων, literally signifying a *commander*, in *Antiquity*, the chief magistrate of the city and commonwealth of Athens.

After the Athenians had abolished monarchy, they created archons, who were obliged to render an account of their administration to the people. Some of these were annual, and others perpetual. Medon, the son of Codrus, was the first of the latter; and Creon of the former, who entered upon his charge in the first year of the twenty-fourth Olympiad, or the 684th year before Christ. The occasion of their institution was this: Codrus, king of Athens, having devoted himself for the good of his people, in the war with the Heraclidæ; his sons, Medon and Nileus, disputed the crown betwixt them: the Athenians took this occasion of dissolving their monarchy, and, in lieu of kings, created perpetual governors, under the name of archons. Medon, son of Codrus, was he who first had this charge, being appointed in the year 1070 before Christ; but required to render an account of his administration. He held it for twenty years, and his twelve descendants in regular succession (from him called *Medontidæ*) enjoyed it for 287 years. But a perpetual magistracy seemed to this free people too lively an image of royalty, the very shadow whereof they resolved to abolish. Accordingly, the administration of an archon, which had before been perpetual, they reduced, in the first year of the seventh Olympiad; or 753d year before Christ; or, according to Blair, the third year of the sixth Olympiad, or 754th year before Christ; to ten years: and, about seventy years after, to one year: with a view of recovering as oft as possible the authority into their own hands, which they never transferred to the magistrates but with regret. The first of the decennial archons was Charops, brother of Alcmæon and son of Æschylus; and the last was Eryxias, who closed the race of Codrus. The chief magistrates of Athens, distinguished by this common appellation, were nine in number; though the name archon belonged, by way of eminence, to the chief of the nine, who was also called *eponymus*, επωνυμος, because the year was denominated from him. His jurisdiction comprehended both ecclesiastical and civil affairs. He determined all causes between men and their wives, parents and children, and disputes relating to wills, dowries, and legacies: he had the charge and direction of orphans, minors, tutors, and guardians. He had also the first cognizance of several public actions. He kept a court of judicature in the odeum to decide in trials relating to provisions and similar matters. He appointed επιμεληται, or curators, who took care of the due celebration of the feasts called Διονυσια, *dionysia*, and θαργηλια, *thargelia*, and of the regulation of stage plays. He was punished with death if convicted of drunkenness during the time of his office. The second archon was called βασιλευς, or *king*: to him pertained the superintendance of the religious ceremonies and feasts: he decided all disputes between the priests and families sacred by inheritance, as the Ceryces and Eteobutadæ: he punished all impiety and profanation of the holy mysteries or temples: he offered public sacrifices for the prosperity of the commonwealth: he had also some concern in secular affairs, as he took accusations of murder, and referred them to the Areopagites, among whom he had a right of suffrage; but during the trial, he laid aside the crown which was the badge of his office. His court of judicature was in the royal portico. It was required, that his wife, called βασιλισσα, *basilissa*, should be a legitimate citizen of Athens, and a virgin. The third was the *polemarchos*, so called from πολεμος, *war*, and αρχειν, *to command*: to him belonged the care of strangers and sojourners, and the conduct of war; and he took care that the offspring of those who died in the service of their country should be maintained from the public treasury. These magistrates were assisted by the Παρεδροι, or assessors, who were admitted into office in the same mode, and under the same restrictions. The other six were called *thesmothetæ*, from θεσμος, *law*, and τιθημι, *I establish*. They formed a tribunal for judging concerning seductions, calumnies,

nies, bribery, &c. and for ſettling diſputes between the citizens and ſtrangers, and all controverſies in trade. They ratified all contracts and leagues, directed and guarded the eſtabliſhment of laws, and formed a kind of barrier between the other magiſtrates and the people: they preferred the appeals to the people, publicly examined ſeveral of the magiſtrates, and took the votes in the aſſemblies, and they proſecuted thoſe who attempted to miſlead the unwary into any act injurious to the commonwealth. They uſed to perambulate the city in the night, and to correct thoſe who committed any diſorder. The whole body had the power of life and death; they had a joint commiſſion for conſtituting ſome magiſtrates and depoſing others, when, upon inquiry into their conduct, and by the ſuffrages of the people, they were declared unworthy of their offices; they had alſo authority to aſſemble the people; and they were exempted from all taxes and contributions for building ſhips of war, in recompence of their ſervice. They wore garlands of myrtle; and any perſon who ſtruck them, when they wore their garlands, was puniſhed with ἀτιμία, *infamy*. They were elected by lot, and previouſly to induction into their office, they underwent a twofold trial, one in the forum, called *docimaſia*; and the other in the ſenate houſe, denominated an *acriſis*; and in theſe trials, they were aſked, who were their anceſtors? whether by three deſcents they were Athenian citizens? whether they were related to Apollo Patrius or Jupiter Hercæus? to what tribe and ward they belonged? whether they had been dutiful to their parents, had ſerved the appointed time in the wars, had the eſtate which the law required, and were perfect in all their limbs? They were then conducted into the royal portico, where an oath was required of them, that they would adminiſter juſtice without partiality, and never be corrupted by bribes. This cuſtom was eſtabliſhed by Solon, who alſo enacted that terrible law which condemned to death the archon who, after loſing his reaſon in the pleaſures of the table, ſhould dare to appear in public with the enſigns of his dignity. Potter's Arch. Græc. vol. i. p. 71.

Under the Roman emperors, ſeveral other Greek cities had two archons for chief magiſtrates, which were the ſame with the *duumviri* in the colonies and *municipia*.

ARCHON is alſo applied, by ſome authors, to divers officers, both civil and religious, under the eaſtern or Greek empire. Thus, biſhops are ſometimes called archontes; and the ſame may be ſaid of the lords of the emperor's court. We alſo read of the archon of the antimenſia, archon of archons, grand archon, archon of churches, archon of the goſpel, archon of the walls, &c.

ARCHON, LOUIS, in *Biography*, an antiquary, chaplain to Louis XIV., was born at Riom in Auvergne, in 1645, and died at Rome in 1717. His "Hiſtory of the chapel of the kings of France," in 2 vols. 4to. abounds with curious reſearches. Nouv. Dict. Hiſtor.

ARCHONTICI, in *Church Hiſtory*, a ſect which aroſe towards the cloſe of the ſecond century; thus called from the Greek ἀρχοντες, q. d. *principalities*, or *hierarchies of angels*; becauſe they held the world to have been created not by the ſupreme God, but by certain ſubordinate powers, called archontes, or angels. The archontici were a branch of VALENTINIANS.

ARCHONTIUM, ἀρχοντιον, denotes a dignity of the Greek church.

ARCHOUS, in *Ancient Geography*, the name of a river in Aſia, ſituate in Aſſyria. Alſo, a place of Aſia in Meſopotamia, weſt of the Tigris, and near the wall of Semiramis.

ARCHPRIEST, ARCHPRESBYTER, a prieſt, or preſbyter, eſtabliſhed in ſome dioceſe, with a pre-eminence over the reſt.

Anciently, the arch-prieſt was the firſt perſon after the biſhop: he was ſeated in the church next after the biſhop; and even acted as his vicar, in his abſence, as to all ſpiritual concerns.

In the ſixth century, there were found ſeveral arch-prieſts in the ſame dioceſe; from which time ſome will have them to have been called *deans*.

In the ninth century, they diſtinguiſhed two kinds of cures or pariſhes: the ſmaller governed by ſimple prieſts; and the baptiſmal churches by arch-prieſts; who, beſide the immediate concern of the cure, had the inſpection of the other inferior prieſts, and gave an account of them to the biſhop, who governed the chief, or cathedral church in perſon.

There are arch-preſbyters ſtill ſubſiſting in the Greek church, veſted with moſt of the functions and privileges of *chorepiſcopi*, or rural deans.

ARCH-PRIOR, was a name ſometimes given to the maſter of the order of TEMPLARS.

ARCH-TREASURER, *archithеſaurarius*, the great treaſurer of the German empire.

This office was created with the eighth electorate, in favour of the elector Palatine, who had loſt his former electorate, which was given to the duke of Bavaria by the emperor Ferdinand II. who took it away from Frederick V. elector Palatine, after the battle of Prague, where he was defeated in maintaining his election to the crown of Bohemia. Since the treaty of Weſtphalia, the elector Palatine has been arch-treaſurer. The elector is protector through all Germany of the order of St. John, can raiſe noblemen and gentlemen to the degree of counts, and alſo admit as bondmen, in places ſubject to his juriſdiction, all thoſe that are illegitimately born, and other perſons of foreign countries, on condition of their binding themſelves to the duties of the electorate, and to the payment of a certain tribute and mortuaries.

The dignity of arch-treaſurer was conteſted between the elector of Brunſwick, now king of Great Britain, who claimed it in virtue of his deſcent from the elector Frederic, and the elector Palatine. This elector ſtill ſtyles himſelf arch-treaſurer, till another ſuitable arch-office be aſſigned him. He enjoys the ultimate ſucceſſion in the biſhoprick of Oſnaburg, together with ſome other rights and privileges. His electoral juriſdiction extends to the territories of Hanover, and to thoſe of Zell. Although the illuſtrious houſe of Hanover was raiſed to the electoral dignity by the emperor Leopold, in 1692, it obtained neither voice nor ſeat in the electoral college till the year 1708.

ARCHYTAS, in *Biography*, a Pythagorean philoſopher and diſtinguiſhed mathematician of Tarentum, was a contemporary with Plato, who interpoſed for his reſcue from death, under the tyranny of Dionyſius of Sicily; and the eighth preceptor of the Pythagoric ſchool, in ſucceſſion from Pythagoras. Accordingly, he flouriſhed about the ninety-fifth Olympiad, or 400 years before Chriſt. Such was the celebrity of this philoſopher, that among his diſciples are reckoned Philolaus, Eudoxus, and Plato. Archytas was in ſuch high eſteem among his countrymen for wiſdom and valour, that he was choſen ſeven times general of their armies, and chief magiſtrate of Tarentum, in direct oppoſition to an eſtabliſhed law; and in the exerciſe of his office he invariably recommended himſelf by his moderation, and alſo by his affability and condeſcenſion. As a ſpeculative philoſopher, he followed the doctrine of Pythagoras: and Ariſtotle is ſaid to have borrowed from him the general arrangements known under the appellation of the "Ten Categories." To Archytas, this great philoſopher was alſo indebted for many of his ethical principles and maxims; and more eſpecially for the notion which he repeatedly inculcates, that

virtue conſiſts in avoiding extremes. Virtue, according to Archytas, is to be purſued for its own ſake, in every condition of life; and he taught, that all exceſs is inconſiſtent with virtue; that the mind is more injured by proſperity than by adverſity; that there is no peſtilence ſo pernicious to human happineſs as pleaſure; and that the love of it is a deſtructive diſeaſe of the human mind. To his ingenuity, as a mathematician, we owe, according to Eutocius, the method of finding two mean proportionals between two given lines, and the duplication of a cube; and we derive, from his ſkill in mechanics, the invention of the ſcrew, and crane, and various hydraulic machines; to ſay nothing of his flying pigeon, or winged automaton. See AEROSTATION. The aſtronomical and geographical knowledge of Archytas is celebrated by Horace in a beautiful ode, recording alſo his death, which was occaſioned by a ſhipwreck on the coaſt of Apulia, where his unburied corpſe was found:—

"Te maris et terræ, numeroque carentis arenæ
Menſorem cohibent, Archyta,
Pulveris exigui prope litus parva Matinum
Munera; nec quidquam tibi prodeſt
Aërias tentaſſe domos, animoque rotundum
Percurriſſe polum, morituro."
Lib. I. Od. 28.

"Archytas, what avails thy nice ſurvey
Of ocean's countleſs ſands, of earth and ſea?
In vain thy mighty ſpirit once could ſoar
To orbs celeſtial, and their courſe explore;
If here, upon the tempeſt-beaten ſtrand,
You lie confin'd, till ſome more liberal hand
Shall ſtrew the pious duſt in funeral rite,
And wing thee to the boundleſs realms of light."
FRANCIS.

As to his moral diſpoſition and conduct, Archytas was diſtinguiſhed by modeſty and ſelf-command; and in his language he is ſaid to have ſhewn a degree of regard to decency, not often found among the ancients. He never chaſtiſed a ſervant, or puniſhed an inferior in wrath. To one of his dependents, who had offended him, he ſaid, "It is well for you that I am angry; otherwiſe I know not what you might expect." None of the writings of Archytas are extant, except a metaphyſical work, entitled, "Περὶ τῶν πάντων φύσεως," or "On the univerſe," in which he diſtributes all things into ten claſſes or categories; written in the Doric dialect, and publiſhed in Greek and Latin at Venice, in 1571, 8vo. Several fragments "on Wiſdom," and "on the good and happy Man," have been preſerved by Stobæus, and edited by Gale, apud Opuſc. Mythol. p. 673. Laertius, l. viii. c. 79—86. Val. Max. l. iv. c. 1. Strabo, l. vi. Aul. Gell. l. x. c. 12. Ælian, l. vii. c. 14. l. xii. c. 19. l. xiii. c. 55. l. xiv. c. 19. Suidas. Fabr. Bibl. Græc. l. ii. c. 13. § 1. t. i. p. 493. Brucker's Hiſt. Phil. by Enfield, vol. i. p. 410.

ARCIADES, in *Ancient Geography*, a river of Italy in Brutium, near Rhegium.

ARCILAUS, a town of Spain in Bœtica, ſituate, according to Ptolemy, in the territory of the Turduli.—Alſo, a town of Hiſpania Tarragonenſis, called *Archiſana*, in the territory of the Baſtitani, according to Ptolemy.

ARCILEUTO. See ARCHILEUTO.

ARCINA, in *Ancient Geography*, a town placed by Ptolemy in Dacia.

ARCINELLA, in *Conchology*, a ſpecies of CHAMA found in the American ocean. It is grooved, muricated, and marked with excavated dots; hinge with a ſeſſile callus. Gmelin. The breadth is about two inches, and the length nearly the ſame; it is white, with the ſpines rarely of a roſe colour; within it is yelloviſh; the margin crenated; poſterior excavation cordated, warted, rugoſe, and large, with an appendage in general on one ſide.

ARCIROESSA, in *Ancient Geography*, a town of Aſia upon the Euxine ſea.

ARCIS *ſur Aube*, in *Geography*, a town of France, in the department of the Aube, and principal place of a diſtrict, five leagues north of Troyes. The place contains 2,520, and the canton 9,386 inhabitants: the territory comprehends 377½ kiliometres and 21 communes. N. lat. 48° 33′, E. long. 4° 2′.

ARCISA, a town of Italy in the Milaneſe, 11 miles weſt of Como.

ARCIVÆ *aves*, in *Antiquity*, birds which gave bad omens, either by their flight, noiſe, or manner of eating.

They were called *arciva*, ſometimes alſo *arcula*, *quia arcebant ne quid fieret*, prevented or forbad things being done.

ARCO, in *Geography*. See ARCH.

ARCOBRIGA, in *Ancient Geography*, a town of Spain in the country of the Celtiberians, between Segontia and Bilbilis.—Alſo, a town of Spain, in Luſitania, according to Ptolemy.

ARCONATO, in *Geography*, a town of Italy in the duchy of Milan, 18 miles W. from Milan.

ARCONCEY, a town of France, in the department of the Côte d'Or, and chief place of a canton in the diſtrict of Arnay le Duc, five miles N. from Arnay le Duc.

ARCOS *de la Frontera*, a town of Spain, in the country of Seville, ſeated on a ſharp rock near the river Guadalete, and fortified by both art and nature; anciently *Arcobriga*: 40 miles S. S.W. from Seville. N. lat. 36° 49′. W. long. 4° 55′.

ARCOS, a town of Spain in Old Caſtile, on the river Xalon, and at the foot of a mountain in the road from Siguenza to Saragoſſa, two leagues eaſt from Medina-Celi.

ARCOS *de Valdevez*, a ſmall town of Portugal, in the province of Entre-Minho and Douro. It is the ancient *Arcobriga Luſitanica* of Ptolemy.

ARCOT, a city of Hindoſtan and capital of the Carnatic, is ſeated on the river Paliar, at 56.6 geographical miles in horizontal diſtance from Madras, according to the meaſurement of major Rennell, and in N. lat. 12° 51′ 30″, E. long. 79° 28′ 15″. It appears to be a place of great antiquity, becauſe it is taken notice of by Ptolemy as the capital of the Soræ, or Sora—mandalum; whence by corruption is derived Choro-mandel. Arcot is a pretty large city, and its citadel is eſteemed a place of ſome ſtrength for an Indian fortreſs. The defence of this place by Clive, in 1751, eſtabliſhed the military fame of this nobleman. The Nabob of Arcot, or of the Carnatic, is an ally of the Eaſt India Company, and his dominions commence on the ſouth of the Guntoor Circar, and extend along the whole coaſt of Coromandel to Cape Comorin. See CARNATIC. The revenue of the nabob is ſtated at about a million and a half ſterling per annum; out of which he pays a ſubſidy of 160,000 *l.* per annum, to the Eaſt India Company, towards the expence of their military eſtabliſhment. Rennell's Memoir, Pref. p. 137.

ARCS, LES, a town of France in the department of the Var, and the chief place of a canton, in the diſtrict of Draguignan, 10 miles from Frejus.

ARCTANES, in *Ancient Geography*, a people of Epirus.

ARCTAPELIOTES, in *Coſmography*, the wind which blows at the 45th degree from the north toward the eaſt. In this ſenſe, *arctapeliotes* amounts to the ſame with that we call the north-eaſt wind.

ARCTIC, in *Aſtronomy*, an epithet given to the north pole, or the pole raiſed above our horizon. It is called the arctic pole, on account of the conſtellation of the *Little Bear*, in Greek called ἄρκτος, the laſt ſtar of the tail whereof nearly points out the North Pole.

ARCTIC *circle*, is a leſſer circle of the ſphere, parallel to the

the equator, paſſing through the north pole of the ecliptic, and 23° 28′ diſtant from the north pole, from whence its name. This and its oppoſite, the antarctic, are called the two polar circles; and may be conceived to be deſcribed by the motion of the poles of the ecliptic, round the poles of the equator, or of the world. The arctic circle is the boundary of the north frigid zone.

ARCTICA, in *Conchology*, a ſpecies of MYA that inhabits the north ſeas. The ſhell is ſtriated; and keeled with two ſub-ſpinous ridges; hinge without teeth, Müll. Gmelin, &c. This is Mya teſta ſtriata, valvulis carinis duabus ſpinuloſis ſæpe obſoletis, cardine obſolete dentato. *O.* Fabr. Fn. Groen. The length of this ſhell is from one line and an half to ſeven lines; of a pale yellow colour; within, milky white. It reſembles an Arca; the anterior part is impreſſed and rather flattiſh; very obtuſe in front; and behind, ſhorter, and rather ſharp.

ARCTICA, a ſpecies of ARGONAUTA that inhabits the Greenland ſeas. The ſpecific character is conciſe. Shell perforated; keel entire. Gmelin. This is Clio helicina of Pallas. In ſpring and autumn it is ſeen ſwimming on the ſurface of the water; is very fragile, finely grooved, and about three lines and an half in diameter.

ARCTICA, in *Ornithology*, a ſpecies of ALCA, known in England by the name of *puffin*. The bill is compreſſed, ſharp-edged, with four grooves; orbits of eyes and temples white; with a ſharp-pointed, and ſomewhat triangular protuberance upon the upper eye-lid; Linnæus, Pallas, Brünnick, Gmelin, &c. This bird is called *Pica Marina* by Aldrovandus, *Pſittacus Marinus* by Marten, *Ipatka* by Kratchenn, *Macareux* by Buffon, and *Puffin* by Pennant, Latham, and Donovan, Brit. Birds, &c. The length from the point of the bill is twelve inches, breadth twenty-one; weight twelve ounces. The bill is an inch and a quarter long, and is of a ſingular ſhape, much compreſſed on the ſides, and nearly an inch and a half deep at the baſe, from whence both mandibles tend to a point, which is a little curved: acroſs the upper mandible are four oblique furrows; on the under, three; half of the bill next the point is red; that next the baſe is blue grey; and at the baſe is a ſort of riſing cere, full of minute holes; in the noſtrils is a long and narrow ſlit on each ſide, near the edge of the upper mandible, and parallel to it; the irides are grey; the edges of the eye-lids crimſon; on the upper a callous protuberance of a triangular ſhape; and on the under one, another callofity, but of an oblong form; the top of the head, hind part of the neck, and all the upper part of the plumage are black, paſſing round the throat in a collar; the ſides of the head, chin, and all the parts beneath, are of the pureſt white; the legs are orange; in ſome birds there is a great portion of a duſky mixture on the cheeks, and a patch of the ſame on each ſide of the under jaw, and theſe have been ſuppoſed to be the females. They vary exceedingly in regard to the bill, according to age; in the firſt year it is ſmall, weak, deſtitute of any furrow, and of a duſky colour; in the ſecond, larger, ſtronger, and lighter coloured, with a faint veſtige of a furrow at the baſe; but in thoſe of a more advanced age the colours are brighter; hence theſe birds are ſuppoſed not to be perfect, or at leaſt not to breed, till the third year; eſpecially as not a ſingle one has ever been obſerved at Prieſtholm which had not the bill of an uniform growth.

Theſe birds are frequent upon ſeveral of the rocky coaſts of England, as Prieſtholm Iſle, the Needles, Iſle of Wight, Beachy Head, &c. They are common in Ireland alſo, and in North Britain; inhabit Iceland and Greenland; frequent Carolina in America in winter; were met with by our late voyagers in Sandwich Sound, where the natives ornament the fore parts and collar of their ſeal-ſkin jackets with the beaks of them; and in Oonalaſhka, where they make gowns of their ſkins. On the coaſt of Kamtſkatka, and the Kurile iſlands they are common, even on the Penſchinſki Bay almoſt as far as Ochotka; the nations of the two firſt wear the bills about their necks faſtened to ſtraps, and, according to the ſuperſtition of theſe people, their ſhaman or prieſt muſt put them on with a proper ceremony, in order to procure good fortune.

The puffins arrive at their breeding places about the rocks of Prieſtholm the firſt week in May, and endeavour to diſlodge the rabbits to ſave the trouble of making holes for themſelves. Except in this reſpect, and the tenderneſs they have for their young, they are conſidered as a ſtupid race of birds. The female lays but one egg, which is of a white colour; the young are hatched in the beginning of July, and about the middle of Auguſt they take flight. The young that are late hatched become the prey of the falcons and hawks that live on theſe rocks, for the old ones leave the place, to a ſingle bird. Notwithſtanding their neglect of the young at this time, on every other occaſion they ſhew great attention to them. They will ſuffer themſelves to be taken by the hand, and uſe every means of defence in their power to ſave them; and if laid hold of by the wings, will give themſelves moſt cruel bites on any part of their body within reach, as if actuated by deſpair; and when releaſed, inſtead of flying away, will often hurry again into the burrow to their young. They feed on ſprats, crabs, ſea-weeds, &c. and the fleſh is exceſſively rank, though the young, when pickled, are admired by ſome people.

A variety of this ſpecies is deſcribed by Dr. Latham from a ſpecimen in the collection of Sir Joſeph Banks, that was met with at Bird iſland between Aſia and America. The length is ſixteen inches; the bill is two inches long, much the ſame colours as the laſt, but not ſo deep at the baſe; crown of the head, as far as the nape, aſh colour; ſides of the head white; throat, neck, and all the upper parts of the body, wings, and tail, black; breaſt and under parts, white; legs, orange. The other ſex has the bill more ſlender; the crown of the head, black brown; ſides of the head white, paſſing bakwards almoſt to the nape; thighs aſh-coloured; and is in other reſpects like the former ſpecies.

ARCTICUS, a ſpecies of COLYMBUS. The head is hoary white; under the throat violaceous black, with a white interrupted band. Gmelin. This is Colymbus (Arcticus) capite colloque cinereis, gutture nigro-violaceo, dorſo nigro maculis quadrangularibus albis; Brunnick. Colymbus Arcticus, Lumme, of Willughby. Colymbus Arcticus, Hymber. Gunner Act. Nidroſ. Mergus gutture nigro of Briſſon. Hirundinis aquaticæ ſpecies exotica, Beſl. muſ. Lumme, of Worm. muſ. &c. Lumme ou petit plongeon de la mer du nord, of Buffon. Speckled Loon, of Edwards: and Black-throated Diver, of Pennant and Latham.

The length of this bird is two feet; bill near an inch long, ſlender and black; the forepart of the head and throat black; hind part of the head and neck, aſh-colour, ſides of the laſt, white ſpotted with black: on the forepart of the neck a large patch of black, five inches in length, changing to purple and green in different lights; the back and upper parts black: ſcapulars marked with ſquare ſpots of white; wing-coverts the ſame, but the ſpots are round; breaſt and belly white; quills duſky; tail ſhort and black; legs black, with a caſt of red on the inſide.

This bird is common in the northern parts of Europe, as Norway, Sweden, and Denmark. Frequent in the inland lakes of Siberia, eſpecially thoſe of the Arctic regions: alſo in Iceland, Greenland, and the Ferro iſles; and likewiſe,

at

at Hudſon's Bay in America. It is ſuppoſed to cry and be very reſtleſs againſt rain; hence the Norwegians think it impious to deſtroy this ſpecies; but the Swedes, leſs ſuperſtitious, dreſs the ſkins, which, like all of this genus, are exceeding tough, and uſe them for gun-caſes, and facings for winter caps. Vide Latham, &c.

ARCTIUM (ἄρκτιον, Dioſcor.), in *Botany*, Burdock. Lin. gen. 923. Schreb. 1253. Juſſ. 173. Claſs, *Syngeneſia Polygamia æqualis*. Nat. Ord. *Compoſitæ capitatæ. Cinarocephalæ*. Juſſ. Gen. Char. *Cal.* common, globoſe, imbricate; ſcales lanceolate, ending in long ſubulate prickles, reflex and hooked at the end. *Cor.* compound, tubular, uniform; corollules hermaphrodite, equal. Proper, monopetalous, tubular; tube ſlender, very long; limb ovate, quinquefid; diviſions linear, equal. *Stam.* filaments five, capillary, very ſhort; anther cylindric, tubular, the length of the corolla, five-toothed. *Piſt.* germ oblong, with a villoſe top. *Style*, filiform, longer than the ſtamens. *Stigma* bifid, reflex. *Per.* none. *Calyx* converging. *Seeds* ſolitary, vertically pyramidal, with the two oppoſite angles obliterated, gibbous on the outſide. *Down* ſimple, ſhorter than the ſeeds. *Rec.* chaffy, flat; chaffs ſetaceous. Eſſ. Gen. Char. *Cal* globular, the ſcales at the end hooked, inflected.

Species 1. A. *Lappa*, common burdock or clot-burr; "leaves cordate unarmed petioled." Curt. Lond. faſc. 4. 55. Woodv. Med. Bot. 15. Bardana major. Ger. Pharm. Lond. &c. Root biennial, fuſiform. Stem three or four feet high, erect, branched, round, grooved. Leaves alternate, large, rough, undulated. Flowers in panicles, terminal. The outer ſcales of the calyx by their hooks lay hold of animals, cloaths, or any ſoft ſubſtance with which they come in contact. Corolla purple. It is common on the ſides of roads, flowering in July and Auguſt. There is a woolly-headed variety of this ſpecies: it alſo varies much in the ſize of the heads. *Medicinal properties.* The pharmacopœias direct the root for medical uſe; it has no ſmell, but taſtes ſweetiſh and mixed as it were with a ſlight bitteriſhneſs and roughneſs. Its virtues, according to Bergius, are cleanſing, diuretic, and diaphoretic. It has been employed in chronic caſes, as ſcurvy, rheumatiſm, gout, lues venerea, and pulmonic complaints. We have never had an opportunity of obſerving the effects of this root, except as a diuretic, and in this way it has proved very effectual in dropſies. The ſeeds alſo poſſeſs a diuretic quality, and have been given with advantage in the doſe of a dram, in calculous and nephritic complaints; and in the form of emulſion, as a pectoral. The root is generally uſed in decoction, which may be made by boiling two ounces of the freſh root in three pints of water, two of which, in dropſical caſes, ſhould be taken in the courſe of twenty-four hours. Woodv. Med. Bot. p. 42. 2. A. *Perſonata*, cut-leaved burdock. "Leaves decurrent, ciliate, ſpiny; root-leaves pinnate; ſtem-leaves oblong-ovate." Carduus perſonata, Jac. auſt. 4. 25. t. 348. Root biennial, woody. Stem two feet high, angular leaves on the ſtem, tomentoſe beneath, ſerrate, ſpined at the edges. Lower leaves petioled, conſiſting of three or four pairs of pinnas, with a very large leaf at the end. Flowers in terminal bunches on tomentoſe peduncles, armed with little ſpines. Scales of the calyx reflex at the point, but not hooked; florets ſix or ſeven, of a violet purple colour. A native of Switzerland, Auſtria, Sileſia, and Siberia; flowering in July and Auguſt. Introduced here in 1776 by J. N. de Jacquin, M.D. 3. A. *Carduelis*, "leaves pinnatifid prickly;" ſtem upright, prickly, grooved, about a cubit high; leaves ſtem-claſping, deeply laciniate; calyces terminating, peduncled, with linear briſtle-ſhaped ſcales ſpreading and bending inwards. A native of the mountains in Upper Carniola, and in Sileſia. Theſe plants are ſeldom admitted into any but botanic gardens, where they may be readily increaſed from ſeed.

ARCTOMYS *Paleſtinorum*, in *Zoology*, the name of an animal of the rat kind, but very large, being of a middle ſize between the rat and the rabbit; it lives in caves, and feeds on vegetables, and is a fierce and bold creature. It uſes its fore-feet as hands, and has a cuſtom of ſitting on the buttocks, and in this poſture looks very like a bear. Ray.

ARCTONESUS, or ARCONESUS, in *Ancient Geography*, a deſert iſland in the Ægean ſea. Alſo, a town of Aſia, near Halicarnaſſus, according to Strabo and Pliny.

ARCTONNESSUS, a town of Cyzicum, according to Steph. Byz.

ARCTOPHYLAX, from ἄρκτος, *bear*, and φυλάττω, *I guard*, in *Aſtronomy*, a conſtellation, otherwiſe called BOOTES.

ARCTOPUS, (ἄρκτου πους, Bear's-foot), in *Botany*, Lin. g. 1465. Schreb. 1601. Juſſ. 225. Claſs, *polygamia dioecia*. Nat. Ord. *Umbellatæ*.

Eſſ. Gen. Char. Male, *Umbel*, compound. *Involl.* five-leaved. *Cor.* five-petalled. *Stam.* five. *Piſt.* two abortive. Female (or androgynous), on a diſtinct plant. *Umbel* ſimple. *Involl.* four-parted, ſpiny, very large, containing very many male floſcules in the diſk, and four female ones in the ray. *Male*, pet. five. *Stam.* five. *Fem.* pet. five. *Styles* two. *Seed* one, bilocular, inferior.

Species 1. *A. echinatus*, prickly-leaved Arctopus. A handſome plant from the Cape of Good Hope; introduced in 1774, by Mr. F. Maſſon. The leaves are crowded, ſinuate, and ciliate with ſpines on the upper ſurface diſpoſed ſtarwiſe at the ſinuſes; flowers terminating among the leaves. It has the general appearance of Eryngo.

ARCTOSTAPHYLOS. See VACCINIUM.

ARCTOTHECA. See GORTERIA and ARCTOTIS.

ARCTOTIS, in *Botany* (from ἄρκτος, *a bear*, on account of the ſhagginеſs of the plant). Lin. g. 991. Schreb. 1340. Juſſ. 190. Claſs, *ſyngeneſia polygamia neceſſaria*. Nat. Ord. *Compoſitæ; corymbiferæ*. Juſſ. Gen. char. *Cal.* common, roundiſh imbricate; lower ſcales more lax, ſubulate; middle ovate; inmoſt oblong, ſcarioſe, rounded, and concave at the end. *Cor.* compound, radiate; corollules hermaphrodite, very many in the diſk; females ligulate, near twenty, longer than the diameter of the diſk; proper of the hermaphrodites funnel-ſhaped; border quinquefid; ends reflex, equal; of the females ligulate, lanceolate, very finely three-toothed; tube very ſhort. *Stam.* of the hermaphrodites; filaments five, capillary, very ſhort; anther cylindric, tubular, five-toothed, the length of the corolla. *Piſt.* of the hermaphrodites, germ ſcarcely viſible; ſtyle cylindric, a little longer than the corolla; ſtigma ſimple: of the females, germ ovate-four-cornered, villoſe, crowned with its proper calycle; ſtyle filiform; ſtigmas ovate, oblong, thickiſh, erect. *Per.* none. *Cal.* unchanged. *Seeds* in the hermaphrodites none; in the females, ſolitary, roundiſh, villoſe, crowned with a calycle, uſually of five leaves; leaflets ovate, ſpreading. *Rec.* villoſe or chaffy, flattiſh. *Obſ.* In ſome of the ſpecies the female floſcules of the ray are barren, and the floſcules of the diſk fertile, while in others the former are fertile, and the latter barren. The leaflets of the calycle alſo vary from four to eight.

Eſſ. Gen. Char. *Rec.* villoſe or chaffy; down with a five-leaved crown. *Cal.* imbricate, with ſcales ſcarioſe at the end.

Species 1. A. *calendulacea*, marygold-flowered Arctotis.

Of

Of this ſpecies we find the following varieties, viz, α. A. *calendula*, with "radiant florets twelve-fold, nearly entire." β. A. *hypochondriaca*, with radiant florets trifid, the middle inflected." γ. A. *triſtis*, with "radiant florets four-parted." δ. A. *coruſcans*, with "radiant florets three parted, the exterior one trifid. ε. A. *ſuperba*, with "radiant florets barren, five parted; leaves runcinate and rather tomentoſe." Of the firſt, the peduncles are villoſe, nodding, beſet with red briſtles; ray yellow, purpliſh underneath, twiſted during the night; the corollules of the diſk black on the outſide, and with black anthers; the outer ſcales of the calyx ſpreading, ſubulate, ſhort, hiſpid. Cultivated in 1752, by Miller. The ſecond is ſuppoſed to be the ſame as A. *ſulphurea* of Gaertner. The third has ſpreading hirſute ſtems, with runcinate thick ſerrate leaves; diſk of the flower black, with yellow florets, black at top; ray with four or five parted yellow florets, lead-coloured beneath. The fourth variety has not been deſcribed. Of the fifth the peduncles are villoſe, with hyaline briſtles, decumbent in the night, but never nodding; ray greeniſh underneath, converging during the night; corollules of the diſk yellow; anthers yellow. Theſe are all annual, and, as well as all the other plants of this genus, are natives of the Cape of Good Hope. 2. A. *ſerrata* "radiant florets barren; leaves lanceolate, undivided, tooth-ſerrate;" ſtems upright, ſimple, woody, ſubpubeſcent; leaves ſeſſile, ſcarcely pubeſcent, ſomewhat crowded; peduncles terminating, many very long; calyx ſcarioſe, yellow; corollas yellow; crown of the ſeeds white. 3. A. *tenuifolia*, "radiant florets barren; leaves linear, undivided, naked;" ſtems herbaceous, few; leaves filiform or linear, naked; peduncles long, ſolitary, naked, filiform; bracte ſmall, filiform; calyx imbricate; ray yellow; perennial. 4. A. *grandiflora*, "radiant florets fertile; leaves pinnatifid, toothletted, cobwebbed, three-nerved;" ray very large; petals ſtraw-coloured, with a tinge of red underneath, yelloviſh near the baſe, with a dark purple mouth; biennial. Introduced in 1774. Diſcovered by Maſſon. 5. A. *plantaginea*, plantain-leaved arctotis; "radiant florets fertile;" leaves lanceolate-ovate, nerved, toothletted, ſtem-claſping; leaves tomentoſe underneath; diſk barren; perennial; flowers appear from June till Auguſt. Cultivated by Miller in 1768. 6. A. *argentea*, ſilvery Arctotis; "radiant florets fertile; leaves lanceolate-linear, entire tomentoſe;" flowers yellow, appearing in Auguſt; biennial. Found by Maſſon, and introduced in 1774. 7. A. *anguſtifolia*, "leaves oblong, toothed;" florets of the diſk barren; receptacle very wooliy. β. A. *ſpontanea*, a variety in which the whole plant is white, ſtems creeping, and leaves lyrate with two teeth on each ſide. 8. A. *aſpera*, rough arctotis; "radiant florets fertile;" leaves pinnate-ſinuate, villoſe, diviſions oblong, toothed; ſtem ſtiff, perennial, villoſe, with purple ſtreaks; leaves white underneath; corollas of the ray yellow, with red ſtreaks beneath. There is a variety of this with narrow leaves and orange-coloured flowers. Cultivated in 1731, by Mr. Miller. The preceding eight ſpecies have the receptacle villoſe, but in thoſe which follow it is chaffy. 9. A. *paradoxa*; chamomile-leaved arctotis; "radiant florets barren; chaffs coloured, longer than the diſk; leaves bipinnate, linear;" chaffs elongate, coloured, almoſt the length of the ray; whence the flower appears to be a double one. Gaertner has removed this together with the twelfth and thirteenth ſpecies to a genus named Urſinia. This ſpecies was introduced here by Maſſon in 1774. It flowers in Auguſt. 10. A. *ſcarioſa*, ſouthernwood-leaved Arctotis; "radiant florets barren; chaffs equalling the florets of the diſk; leaves decompound;" ſtem ſhrubby; all the calycine leaflets obtuſe, ſcarioſe, ſcrew-ſhaped, ſquarroſe, ſpreading. It flowers from April till Auguſt, and was introduced in 1774, by Mr. Maſſon. 11. A. *paleacea*, chaffy arctotis; "radiant florets barren; chaffs equalling the florets of the diſk; leaves pinnate, linear;" ſtem ſhrubby, branching; peduncles axillary, long; with few linear ſimple leaves; calyx and corolla yellow, like a chryſanthemum; ray ſimple, barren. It was cultivated in 1768, by Miller. The flowers appear from April till Auguſt. 12. A. *dentata*, fine-leaved arctotis; "radiant florets barren; leaves pinnate; pinnas pinnatifid, indented;" ſtem branching; leaves alternate, ſomewhat rigid, and villoſe; pinnas recurved; peduncles long, one flowered; flowers ſmall, with the ray purple beneath; annual; flowers appear in July. Introduced by Mr. Haneman, in 1787. 13. A. *anthemoides*; "chaffs ſhorter than the florets; leaves ſupra-decompounded, linear." This plant, as its name imports, reſembles chamomile; ray barren, violet coloured. 14. A. *tenuifolia*; "radiant florets barren; leaves linear, undivided, ſmooth;" ſtem branching, browniſh, ſmooth; leaves linear, the length of the finger, ſmooth; peduncles very long, one-flowered; calyx hemiſpherical, ſmooth, with the inner ſcales ſcarioſe and white; flowers yellow. 15. A. *acaulis*, dwarf arctotis; "peduncles radical; leaves lyrate;" about ſix inches high. Flowers large, yellow, and appear from April to July. Cultivated by Miller, in 1759.

Propagation and Culture. Theſe plants are all natives of the Cape of Good Hope. The annual ſorts may be raiſed from ſeed, ſown in the ſpring, either in a warm border of light earth, about the middle of April, or in a moderate hot-bed, towards the end of March. In favourable ſeaſons the former will be the ſtrongeſt plants; but in cold ſeaſons they will ſeldom ripen their ſeeds. The latter muſt be tranſplanted, when they are fit, into pots; and as ſoon as they are well-rooted, enured gradually to the open air; they require much water in dry weather: they may alſo be propagated by cuttings or ſlips from the roots. The ſhrubby ſorts are propagated by planting cuttings in a bed of light freſh earth in any of the ſummer months, obſerving to ſhade them from the heat of the ſun, until they have taken root, and alſo to frequently refreſh them with water. In ſix weeks after planting they will be rooted ſufficiently to be tranſplanted into pots, which are to be placed in a ſhady ſituation, until the plants are new rooted; after which they may be expoſed to the open air, till the latter end of October (or later, according to the ſtate of the weather), when they muſt be removed into the green houſe. While they continue in the houſe they ought to have an open and dry ſituation, and be frequently ſupplied with water. They will alſo require to be ſhifted into other pots, two or three times every ſummer; and the pots ſhould be often removed to prevent the plants from ſtriking their roots through the holes into the ground. Several of theſe grow to the height of four or five feet, and as they ſend off ſeveral branches, they require to be frequently pruned. They are ſeldom without flowers, unleſs the winter be ſevere, which renders them very valuable, making a fine variety in the green-houſe or cape-ſtove; and when placed out in the ſummer, they produce flowers in great abundance. See Miller's Dict. by Martyn.

ARCTOTIS. See GORTERIA.

ARCTOUS, in *Entomology*, a ſpecies of PAPILIO (Dan. Feſt.) that inhabits New Holland. The wings are very entire, and brown; both above and beneath is an ocellar bipupillated mark on the anterior ones; and another on the poſterior ones, which is very faintly pupillated above. Fabricius, &c.

ARCTURUM *infra*, a ſmall ſtar of the ſeventh or eighth magnitude, to the ſouth of *arcturus*; obſerved by Mr. Flamſteed, and ſo named by him, whoſe place is not determined in the Britiſh Catalogue.

ARCTURUS, in *Aſtronomy*, a fixed ſtar of the firſt magnitude, in the conſtellation of ARCTOPHYLAX, or BOOTES.

The

The word is formed of αρκτος, and ουρα, *tail*, q. d. *bear's tail*; as being very near it.

This ſtar was known to the ancients, as in the following verſe of Virgil:

"Arcturum, pluviaſque hyades, geminoſque triones."

See alſo Job ix. 9. xxxviii. 32. Some critics have doubted whether the Hebrew word עיש, or עש, *aiſh*, d notes this ſtar. For various opinions concerning its meaning, ſee Schultens, in Job, vol. i. p. 2 9.

Mr. Hornſby concludes, that Arcturus is the neareſt ſtar to our ſyſtem viſible in the northern hemiſphere, becauſe the variation of its place, in conſequence of a proper motion of its own, is more remarkable than that of any other of the ſtars; and by comparing a variety of obſervations reſpecting both the quantity and direction of the motion of this ſtar, he infers that the obliquity of the ecliptic decreaſes at the rate of 58″ in one hundred years; a quantity which nearly correſponds to the mean of the computation framed by Mr. Euler and M. de la Lande, upon the principles of attraction. Phil. Tranſ. vol. lxiii. p. i. N° 14.

ARCTURUS, in *Botany*. See CELSIA.

ARCTUS, αρκτος, in *Aſtronomy*, a name given by the Greeks to two conſtellations of the northern hemiſphere; by the Latins called URSA *Major* and *Minor*, and by us the *Greater* and *Leſſer* BEAR.

ARCTUS, in *Entomology*, a ſpecies of CANCER, that inhabits the ſeas in moſt parts of the world. Its ſpecific character is thus concifely defined: ſcales of the antennæ ciliated, with ſpines. Fabricius and Gmelin. *Obſ.* To this may be added, that the front is retuſe, and armed with about ten unequal ſpines; the thorax oblong, and aculeated, and the poſterior part of it, together with the upper part of the body, tuberculated, brown, and ſpotted with yellow. This is called Poliquiquyixe, by Maregrave.

ARCUALIA OSSA, in *Anatomy*, a name uſed by ſome for the *oſſa ſyncipitis*, by others for the *oſſa temporum*.

ARCUALIS *ſutura*, among *Surgeons*, denotes the coronal SUTURE.

ARCUANA, in *Entomology*, a ſpecies of PHALÆNA (Tortrix) found in Europe. The wings are pale yellow; on the anterior pair are three curved black bands, and a ſpot of the ſame colour; with a black ſpot in the diſk, having three ſilvery dots upon it. Fabricius and Gmelin. *Obſ.* Linnæus deſcribes it as Phalæna Tortrix alis luteis, faſciis tribus arcuatis, macula nigra tripunctata lincoliſque duabus argenteis. Syſt. Nat. Fn. Su. &c.

ARCUANUS, in *Ichthyology*, a ſpecies of CHAETODON, found on the Indian and Arabian ſea coaſts. The tail is bifid; twelve ſpines in the dorſal fin, and body faſciated with brown. This ſpecies inhabits the ſhores among the coral rocks, and feeds on marine worms; it is ſilvery, back cinereous, with a deep brown or black band on the head, another on the breaſt, and a third extending from the dorſal to the anal fin. The fleſh of this kind is eatable.

The head is large; front, and iris of the eye, white; gape narrow: jaws equal; teeth minute, and wedged; branchioſtegious aperture ample; operculum ſimple, mucronate in the middle; ventral fins long, black; anal fin black; dorſal fins cinereous.

ARCUARIA, in *Entomology*, a ſpecies of PHALÆNA (Geometra). The wings are fuſcous, with a thin ſtreak, and a lunated ſpot of white near the poſterior margin. Gmelin. Inhabits Europe.

ARCUATA, a ſpecies of COCCINELLA. This is of an ovate form; wing-caſes red, with four dots, two bands and a dot at the apex black. Inhabits China. Fabricius. It is of the middle ſize; the body black, and head whitiſh; thorax black, whitiſh in front and on the ſides.

ARCUATA, a ſpecies of CASSIDA, that inhabits Rio Janeiro. It is whitiſh, with a common black diſk; border oval, ring, and arched mark behind, yellowiſh. This is about the middle ſize; and the breaſt and abdomen are black.

ARCUATA, a ſpecies of LEPTURA, in the Linnæan ſyſtem, that inhabits Europe. The thorax is rounded; ſhells with four yellow bands, the firſt formed of three ſpots; the others curved downwards. Linn. and Donov. Brit. Inſ. Gmelin has removed this, and ſome others of the Lepturæ, to the Cerambyx genus; it is therefore CERAMBYX ARCUATUS of that author, and is arranged in the diviſion *Callidium*.

ARCUATA, a ſpecies of CICADA (foliacea, Gmelin. Membracis, Fabricius) This inſect inhabits Surinam. It is black brown; thorax compreſſed above, with a yellowiſh arch. Degeer, and Gmelin.

ARCUATA, a ſpecies of CIMEX, (oblongus, Gmelin). It is black; beak arched; wing-caſes whitiſh, with a white ſpot, and black arched mark; four of the thighs clavated and red. Degeer. Inhabits Surinam, and is the ſize of the common houſe-fly, muſca domeſtica. Gmelin.

ARCUATA, a ſpecies of PHALÆNA, (noctua). The wings are whitiſh; the curved mark in the middle, and marginal ſpot behind are black. Fabricius. This moth inhabits Tranquebar, and in ſize and appearance ſomewhat reſembles Phalæna albicoſtis.

ARCUATA, a ſpecies of VESPA, that inhabits New Holland, and is deſcribed by Fabricius. The body is black, variegated with yellow; the petiole connecting the thorax and abdomen is incurvated, and marked with four yellow ſpots.

ARCUATA, a ſpecies of MUSCA, found in Germany. It is teſtaceous; with two ſpots and a black curve at the apex of the wing; and a white dot at the tip. Fabricius. This greatly reſembles Muſca ſtylata. Gmelin alſo deſcribes another inſect under the name Muſca arcuata (in the ſubdiviſion SYRPHUS). It is black, with long antennæ; thorax ſpotted on the ſides with yellow, and four curved belts of the ſame colour on the abdomen.

ARCUATA, in *Ornithology*, a ſpecies of FRINGILLA, that inhabits the Cape of Good Hope, and is deſcribed by Dr. Latham as being of a cheſnut colour above, beneath white; head and lower part of the neck black; collar and ſtripe behind the eyes white. This is alſo FRINGILLA *arcuata* of Gmelin, but his ſpecific character is certainly leſs expreſſive than that of the preceding author; it is likewiſe *Paſſer Capitis Bonæ Spei*, of Briſſon; *Croiſſant*, of Buffon; *Moineau du Cap de Bonne Eſpérance*, of the ſame author; *Pl. enl.* and creſcent finch of Latham, Gen. Syn.

It is the ſize of a houſe-ſparrow; length ſix inches; bill black; head and neck before as far as the breaſt are alſo black; at the eye begins a ſtreak of white, which paſſes down on each ſide of the neck, and growing broader, paſſes round the fore-part like a creſcent; hind part of the neck pale brown; back, ſcapulars, and leſſer wing-coverts, cheſnut; the middle coverts black, tipped with white; the greateſt coverts and quills brown, edged with grey; tail deep brown; legs brown.

ARCUATION, from *arcus*, *a bow*, is uſed by ſome writers in *Surgery*, for an incurvation of the bones; ſuch as we ſee in the caſe of rickets, &c.

ARCUATION, in *Gardening*, a term formerly applied to the practice of raiſing trees by layers. Switzer obſerves that in his time, it was the general method of producing ſuch trees as could not be raiſed from ſeeds; as the lime, alder, willow, &c. See LAYERS, and LAYING.

ARCUATUS, in *Entomology*, a ſpecies of SCARABÆUS, found in Saltſburg. It is black, and gloſſy; ſhield rufous

in front; wing-cafes ftriated with punctures; future, marginal dot at the bafe, and abbreviated band inflected towards the future, reddifh; breaft obfcure; abdomen yellowifh; palpi, antennæ, and legs ferruginous. Moll. naturh. Br. 1160. n. 7. Gmelin.

ARCUATUS, in *Ichthyology*, a fpecies of CHÆTODON, that inhabits Brafil. The tail is entire; eight fpines in the dorfal fin; and four white arched bands acrofs the body. Gmelin. This is *Chætodon fufcus arcubus 5 nigris* of Muf. ad Fr.; *Guaperva* of Marcgrave; *Acaraunna exigua nigra*, &c. of Willughby. The length is about four inches. *See* ACARAUNA.

ARCUATUS, in *Ornithology*, a fpecies of TURDUS, that inhabits China; and was firft defcribed by Dr. Latham under the name of the *Crefcent Thrufh*. Gmelin gives us this fpecific character. Above chefnut; the eye-brows, lore, chin, and vent, white; cheeks, and crefcent on the throat, white; tail rounded; towards the tip black; apex white. But as this author is indebted to Dr. Latham's account of this bird, his character fhould have read "cheeks and crefcent on the throat black." In the Index Ornithologicus the character runs thus;—rufo-fufcus, corpore fubtus fuperciliis lorifque albis, cervice jugulo pectoreque rubentibus, genis lunulaque fub gula nigris.

The length is eleven inches; bill lead-coloured, pale at the tip; upper parts of the body reddifh brown; over the eye a white line; lore and chin white; cheeks black paffing in a crefcent on the fore part of the neck; on the middle of the back part behind the eye, a patch of loofe white feathers; the hind part of the neck, and the breaft reddifh; belly reddifh white; vent plain white; tail long; legs lead-coloured; claws white.

ARCUBALISTA, in the *Military Art*, a kind of *baliſta*, probably made after the faſhion of a bow.

It is mentioned by Vegetius; but the defcription of it omitted by him, as too well known then, though now hard to be guefſed at.

Thofe who fought with this weapon were called *arcubaliſtarii*, fometimes *manubaliſtarii*.

ARCUCCIO, ARCUTIO, a machine made of board, covered with pieces of hoops like the tilt of a waggon: ufed in Italy to prevent children from being overlaid and fmothered by nurfes, or others.

Every nurfe in Florence is obliged to lay her child in an arcutio, under pain of excommunication.—See a figure and defcription of the arcutio, given by Mr. St. John, in Phil. Tranf. N° 442. Abridg. vol. vii. part iv. p. 46.

ARCUDIO, PETER, in *Biography*, a learned Italian; was born in the ifland of Corfu, and flourifhed in the feventeenth century. Having ftudied in the college of the Greeks at Rome, where he made great proficiency in literature, he fo much recommended himfelf by his zeal for the holy fee, that he was fent to Ruffia by Pope Gregory XIV. and by pope Clement VIII., in order to induce that nation to fubmit to the Roman pontiff; but in the courfe of twenty years, during which he remained in the country, his utmoft efforts were only fufficient for obtaining fome indulgences for thofe who obferved the Romifh ritual. After his return he diftinguifhed himfelf by his endeavours to refute the Proteftants on the fubject of the Sacraments; and for this purpofe he publifhed a work, intitled "On the harmony of the weftern and eaftern churches in the adminiftration of the feven facraments," printed at Paris in 1672, 4to. Among his other works were, "On the exiftence of Purgatory," printed at Rome in 1632, 4to.; "On the fire of Purgatory," Rome 1637, 4to.; and "A collection from the Greek theologians on the proceffion of the holy fpirit," Rome 1630, 4to. In all his performances he difcovers talents and erudition, and at the fame time ftrong traces of paffion and bigotry. They are written in Greek; but without any pretenfion to Attic elegance. Arcudio was an indefatigable ftudent, and his fole amufement was derived from his library. He died at Rome about the year 1632 or 1633. Nouv. Dict. Hiftor. Fabr. Bib. Græc. l. v. c. 43. § 12. t. x. p. 417.

ARCUEIL, in *Geography*, a town of France, one league from Paris.

ARCULARIA, in *Conchology*, a fpecies of BUCCINUM in the fection *Cullofa*, (that in which the pillar lip is dilated and thickened). It inhabits the Indian fea, and is thus defcribed by Gmelin: fhell plaited, and crowned with papillæ. This fhell is fometimes white, cinereous, or brown, with a white ftripe: and is *Arcularia major* of Rumphius, and *Buccinum fafciolatum* of Cronovius.

ARCULPHUS, in *Biography*, a theologian of France, flourifhed about the year 690. Having vifited, on account of religion, the Holy Land, Conftantinople, Alexandria, and other places, he was thrown by a ftorm, on his return to France, on the coaft of Britain, and hofpitably entertained by Adammon, an abbot. To him Arculphus communicated the refult of his travels; and the account which he obtained from him in converfation formed three volumes, which were publifhed under the title of "Libri de Situ Terræ Sanctæ," at Ingolftadt in 1619. Cave. Hift. Lit. t. i. p. 599.

ARCUS, in *Entomology*, a fpecies of PAPILIO (Dan. Feft.) The wings are very entire, and blue; anterior ones fpotted with white; a large black fpot, terminating in another of white near the margin of the pofterior ones. This kind inhabits Surinam. *Obf. Papilio Arcus* of Efper is a different infect; viz. *Papilio Alcon* of Gmelin.

ARDA, a fpecies of TERMES, that inhabits Africa. We are chiefly indebted to Mr. Smeathman, who difcovered them in Sierra Leona, for the hiftory of thefe deftructive creatures. In their economy they greatly refemble *Termes fatale*, and *deſtructor*; for like them they attack and devour proviſions, clothes, and furniture, and indeed they are in fuch numbers, and fo rapacious, that where they fettle, few things can efcape them. They can perforate a piece of timber of the greateft magnitude, and in a few hours leave nothing but a thin outer fhell of it. The nefts are cylindrical, and from two to three feet high; they are formed of brown clay intermixed with grafs, and various other vegetables, and have a vaulted dome at top, with a prominent entire margin furrounding it. The *larvæ* are the labourers, and have a pale head; moniliform antennæ; no eyes; jaws fhort and toothed; thorax and abdomen ovate; are of a cinereous lead colour; and the legs pale. The *Pupæ*, are the foldiers to protect them; their head is large and teftaceous, elevated and gibbous in front, and obtufely ovated behind; the jaws project, and are forked, black; antennæ moniliform teftaceous, as long as the head; no eyes; thorax fmall; abdomen ovated, cinereous lead-colour; legs teftaceous. *Imago*, or perfect infect, is black; margins of the fegments of the body white; wings incumbent, black, all the legs pale teftaceous. Fabricius. The character of this fpecies, according to the laft-mentioned author, is thus defined, black; fegments of the abdomen white at the tips; legs pale. Gmelin adopts this Fabrician defcription.

ARDA, in *Geography*, a town of European Turkey, in Romania, 60 miles fouth of Filippopoli.—Alfo a river of European Turkey, which runs into the Mariza, 10 miles north of Trajanopoli.

ARDABIGANA, in *Ancient Geography*, a country of Aſia, between Aſſyria and Perfarmenia, according to Procopius.

ARDACHAT, in *Geography*, a place in Armenia, fo called from the name of Artaxias, denominated in the eaft Ardechier; in which are feen fome ruins of the ancient ARTAXATA.

ARDACHER, or ARDAGGER, a town of Germany, in the arch-duchy of Auſtria, near the Danube, ten miles ſouth-weſt of Ips.

ARDAGH, in the county of Longford in Ireland, ſo called from its elevated ſituation, at preſent an inſignificant village, but formerly of ſo much conſequence as to have given name to a barony, and to have been a biſhop's ſee. The church is one of the moſt ancient in Ireland, but cannot be called a cathedral. The ſee was founded in the middle of the fifth century. In 1658, it was united to the biſhoprick of Kilmore; from which it was ſeparated in 1741, and has been ſince held in commendam by the archbiſhops of Tuam. Collectanea de reb. Hibernicæ.

ARDAL, a town of Norway, 24 leagues north of Chriſtiania.

ARDAMON, or ARDAMA, from ἄρδω, *I water*, in *Antiquity*, a veſſel of water placed at the door of a perſon deceaſed till the time of burial, as a token that the family was in mourning, and to ſerve to ſprinkle and purify perſons as they came out of the houſe.

ARDANIS, in *Ancient Geography*, a town of Africa, in Marmarica, according to Ptolemy.

ARDASSES, in *Commerce*, the coarſeſt of all the ſilks of Perſia; and, as it were, the refuſe of each kind. In this ſenſe, they ſay, the *legis*, the *houſets*, the *chouſs*, and the *payas ardaſſes*, to ſignify the worſt of thoſe four ſorts of Perſian ſilk.

ARDASSINES, in *Commerce*, called in France *ablaques*; a very fine ſort of Perſian ſilks, little inferior in fineneſs to the *fourbaſtis*, or rather *cherbaſſis*; and yet it is little uſed in the ſilk manufactures of Lyons and Tours, becauſe that kind of ſilk will bear hot water in the winding.

ARDATOF, or ARDATOV, in *Geography*, one of the thirteen diſtricts of the government of Niſhnei Novogorod in Ruſſia, ſituate on the river Teſh, falling into the Occa.—Alſo, a town of this diſtrict, ſixty miles S. S. W. of Niſhnei-Novogorod. N. lat. 50° 20'. E. long. 43° 4'.—Alſo, a diſtrict of the government of Simbirſk, ſituate on the Alator.—Alſo, a town of this diſtrict, ninety-two miles weſt of Simbirſk. N. lat. 54° 45'. E. long. 45° 44'.

ARDAXANUS, in *Ancient Geography*, a river of Illyria near Liſſus, according to Polybius.

ARDEA, a town of Perſia, according to Ptolemy, and Ammianus Marcellinus.

ARDEA, a very ancient town ſituate on an eminence ſouth-weſt of Lavinium; at the time of the arrival of Æneas, it was the capital of the Rutuli, governed by Turnus. The Romans eſtabliſhed a colony in this place in the year 311. The territory of Ardea was marſhy and unhealthy. In its vicinity was a temple dedicated to Venus.

ARDEA, in *Ornithology*, a genus of the fourth order GRALLÆ. The bill is ſtraight, pointed, long, ſlightly compreſſed, with a furrow extending from the noſtrils towards the tip; noſtrils linear; tongue acuminated; feet four-toed. Gmelin. Dr. Latham gives another character for this genus, viz. a long, ſtrong, ſharp-pointed bill; noſtrils linear; tongue pointed; toes connected by a membrane, as far as the firſt joint; the middle claw of ſome of the ſpecies pectinated.

Gmelin divides his genus into five ſections; and the following are the characters of thoſe ſections, with the ſpecies reſpectively referred to each.

* *Criſtatæ;* roſtro vix capite longiore (creſted; bill ſcarcely longer than the head.)—Pavonina & Virgo.

** *Grues;* capite calvo, (cranes; head bald) canadenſis grus, americana, antigone, & gigantea.

*** *Ciconiæ*, orbitis nudis (ſtorks; orbits naked,) ciconia, maguari, & nigra.

**** *Ardeæ;* ungue intermedio introrſum ſerrato, (herons; middle claw ſerrated inwardly,) dubia, torquata, nycticorax, griſea, jamaicenſis, caledonica, cayennenſis, purpurea, major, cinerea, garzetta, leucogaſter, ruſeſcens, egretta, agami, cocoi, johannæ, hoactli, hohu, herodias, ludoviciana, violacea, cærulea, rubiginoſa, hudſonias, comata, erythrocephala, ohula, cyanocephala, candidiſſima, caſtanea, ſquaiotta, galatea, ferruginea, erythropus, ſtriata, vireſcens, ſtellaris, botaurus, ſolomenſis, marſigli, danubialis, undulata, braſilienſis, tigrina, lineata, flava, bononienſis, alba, nivea, helias, ſacra, atra, purpurata, ſpadicea, æquinoctialis, cracra, leucocephala, rufa, ſinenſis, virgata, cana, carunculata, malaccenſis, cinnamomea, pumila, badia, philippenſis, novæ guineæ, cyanopus, maculata, gardeni, ſenegalenſis, exilis & minuta.

***** roſtro in medio hiante, (bill, gaping in the middle.) pondiceriana, coromandeliana & ſcolopacea. Which ſee reſpectively.

ARDEA, *exotica aurita*, Petiver Gaz. 68. t. 43. f. 2. This is the Linnæan *Colymbus criſtatus*.

ARDEÆ, in *Natural Hiſtory*, the ſpecific name of that kind of ECHINORHYNCHUS which infeſts ardea cinerea, (the common heron.) It is ſtriated, and has the proboſcis clavated. Goeze. Gmelin, &c. *Obſ.* The body is conic behind, and ſituated on each ſide in the middle.

ARDEBIL, or ARDEVIL, in *Geography*, a town of Perſia, in the province of Aiderbeitzan, or Aderbijan; ſituate in the midſt of a large plain, and ſurrounded by mountains which form a kind of amphitheatre. It was formerly a ſtrong city, and had conſiderable trade; but it was plundered and burnt by the troops of Jenghiz Kham, about the year of the Hegira, 619. A. D. 1222. Its grand ſquare, called "Meidan," has a caravanſera, and various conveniences for merchants, who frequent the city, from Turkey, Tartary, Hindoſtan, and other countries; and near it is a bazar or market, in which are ſold the moſt valuable merchandize of the produce and manufactures of the country, as well as other articles, European and Aſiatic. The tomb of Scheik Sefi, a celebrated ſaint, is an inviolable aſylum, frequented by pilgrims from all parts of Perſia. Caravans are frequently paſſing through this town from and to Conſtantinople and Smyrna. N. lat. 37° 20'. E. long. 47° 5'.

ARDEBIL, LITTLE, a town of Perſia, in the province of Fariſtan, 18 leagues north of Schiras.

ARDECAN, a town of Perſia, in the province of Irak, 43 leagues eaſt of Iſpahan.

ARDECHE, one of the departments of France, derives its name from a river of the Vivarais, which riſes near Vals, and diſcharges itſelf into the Rhone, near Pont St. Eſprit. This department is one of the ſeven formed of Languedoc, Cominges, Nebouzan, and Riviere Verdun. It is bounded on the north by the departments of the Dromé, Iſere, and Lower and Upper Loire; on the eaſt by that of the Dromé, which is ſeparated from it, from one extremity to the other, by the Rhone; on the ſouth, by the department of Gard; and on the weſt by the departments of Lozere and Upper Loire. Its ſuperficies is about 1,077,929 ſquare acres, or 550,004 hectares; the population conſiſts of about 273,255 perſons; and it is divided into three communal diſtricts. The chief town is Privas.

ARDEE, or ATHERDEE, a ſmall town in the county of Louth in Ireland, much declined in importance. Near it is a mount of great magnitude called Caſtle-guard. It is artificial and encompaſſed with a double ditch. It is now all planted with wood, and has a very romantic appearance. The perpendicular height of the mount from the bed of its foundation, is nearly ninety feet, and the depth of the main trench betwixt thirty and forty. The circumference at the top is not leſs than 140; and round the foundation it is upwards of 600 feet. There appear, from foundations yet remaining, to have been two concentric octagonal buildings upon

upon the ſummit of it. The Danes are ſuppoſed to have been the original authors of this and ſimilar mounts; the deſign of which, whether for defence, or for burial places, or for holding aſſemblies of the people, has not been aſcertained. Latitude, from obſervation of Dr. J. Hamilton, 53° 50′ 30″.

ARDELICA or ARIOLICA, now *Peſchiera*, in *Ancient Geography*, the place in Italy, at the conflux of the lake Benacus with the river Mincius, where Attila had an interview with Leo the Great, and the deliverance of Italy was purchaſed by the immenſe ranſom or dowry of the princeſs Honoria.

ARDELL, MAC, JAMES, in *Biography*, an eminent engraver, was born either in Ireland or in England, of Iriſh parents, and reſided chiefly in London, where he died, June 2, 1765. Baſan calls him "one of the beſt engravers in Mezzotinto that England ever produced." His works are chiefly portraits, from the moſt celebrated painters of his time. His beſt engravings are ſaid to have been from Vandyke. Two moſt beautiful prints from this maſter are, "Time clipping the wings of Love," and "Moſes in the ark of bulruſhes."

ARDEN, or ARDON, in *Geography*, a county of Swiſſerland, and one of the baiſiwicks of the Valais.

ARDENBURGH, a town of Flanders, and formerly one of the moſt conſiderable maritime towns of the country; but now much decayed; four leagues N. E. of Bruges, and two S. E. of Sluys.

ARDENELLA, a town of Hindooſtan, in the country of Coimbetore, forty miles ſouth of Seringapatam.

ARDENNES, a foreſt of France, of ancient fame for events of chivalry, extends from Rheims to Tournay, and in the north-eaſt to Sedan. Its extent, however, has been very variouſly aſſigned. From this foreſt one of the departments of France derives its name. It is one of the four compoſed of the former Champagne, Charleville, Sedan, Carignan or Mouſon, Philippeville, Marienbourg, Givet, and Charlemont. It is bounded on the north by the department of Sambre and Meuſe, and of Jemappe; on the eaſt, by thoſe of Sambre and Meuſe, of the Foreſts, and of the Meuſe; on the ſouth, by thoſe of the Meuſe, the Marne, and the Aiſne; and on the weſt, by thoſe of the Aiſne and of the Jemappes. Its ſuperficies is about 1,029,189 ſquare acres, or 525,281 hectares: the population conſiſts of 253,902 perſons; and it is divided into five communial diſtricts. Its chief town is Mezieres.

ARDENSAN, a town of Aſia, in the province of Aladulia, thirty-eight miles north-weſt of Arzingan.

ARDENT, ARDENS, from *ardere, to burn*, ſomething hot, and as it were burning.

ARDENT *fever* is a burning FEVER, otherwiſe called CAUSUS.

ARDENT *ſpirits* are thoſe diſtilled from fermented vegetables; thus called becauſe they will take fire and burn; ſuch as brandy, ſpirit of wine, rum, arrack, &c.

ARDENTES, in *Middle Age Writers*, an appellation given to thoſe afflicted with the *ignis ſacer*, or ERYSIPELAS. They are thus called, as ſeeming to be ſcorched or burnt with the diſeaſe.

Hence alſo the abbey of St. Genevieve at Paris is called *domus ardentium*, becauſe, as it is ſaid, great numbers were cured of that diſtemper at the ſhrine of this ſaint, in the reign of Louis VI.

ARDEOLA, and ARDEOLA *Naevia*, in *Ornithology*, the names by which Briſſon calls the Linnæan ARDEA *minuta*.

ARDERN, JOHN, in *Biography*, contemporary with Guido of Chauliac, acquired conſiderable reputation for his ſkill in the practice of ſurgery and medicine. He was ſettled at Newark in the year 1349, when the plague broke out, and continued there until the year 1370, when the fame of his practice occaſioned him to be called to London, where he was employed by perſons of the firſt rank and conſequence. He was ſucceſsful in the cure of fiſtula in ano, having very much improved the method of performing the operation for that complaint, which, before his time, was effected either by the actual cautery, or by ſawing through the rectum with a thread, which muſt have been a very painful operation. His treatiſe on fiſtula in ano, the only part of his large work that has been printed, was tranſlated and publiſhed by John Read in the year 1588. He invented a new inſtrument for giving glyſters, upon which he valued himſelf much, and with reaſon, as it ſeems to have been productive of much profit to him, "having gained much credit (he ſays) for his ſkill in injecting them an hundred times, and in diſtant places:" whence we learn the practice of giving them was little uſed or underſtood in this country at that time. He was very careful to make a good bargain with his patients, before he entered on the cure; "to ſtipulate for as large a ſum as he could get, and to take ſecurity for the payment;" a practice, Aikin obſerves, that prevailed in France at the beginning of the laſt century. We are told in the eloge of M. Mareſhal, publiſhed in the memoirs of the Royal Academy of Surgery, that when he was appointed firſt ſurgeon to Louis the Fourteenth, in the year 1703, he generouſly threw into the fire obligatory bonds from his patients, to the value of 20,000 livres. Friend's Hiſt. of Phyſic, vol. ii. p. 325. Aikin's Biog. Mem. of Med.

ARDERO, in *Geography*, a town of Italy in the kingdom of Naples, and province of Calabria Ultra, ſeven miles ſouth of Gierace.

ARDERS, in *Agriculture*, a term provincially applied to ſignify fallowings or repeated ploughings of land.

ARDES, in *Geography*, a narrow peninſula in the county of Down in Ireland, formerly a county of itſelf. It lies between Strangford lough and the North Channel, and is reckoned tolerably fertile. The people of the whole diſtrict, in general, are fiſhermen, ſailors, and farmers, by turns. There are ſome weavers, and the women in general ſpin; but there are no bleach-greens, for want of water. The collecting of ſea-wrack, for kelp, is alſo found a profitable employment.

ARDES. See ARDRES.

ARDESIA. See *Iriſh* SLATE.

ARDFERT, in *Geography*, though now a ſmall decayed village, was formerly the principal town of the county of Kerry in Ireland, and, till the union, retained the privilege of returning two members to parliament. It is alſo a biſhop's ſee, which includes the whole county of Kerry and a ſmall part of Cork. It is ſuppoſed to have been founded in the fifth century; and was at an early period ſo incorporated with Aghadoe as to form but one dioceſe, which was ſometimes called the biſhoprick of Kerry. In the civil wars of 1641, the cathedral was demoliſhed, and the town in a great meaſure deſtroyed. Soon after the reſtoration, in 1663, it was annexed to the ſee of Limerick, and has ever ſince continued united to it. There are ſeveral ruins in the neighbourhood of the church, which is very old; and a round tower, one of the loftieſt in the kingdom, built of a dark kind of marble, fell in 1770, tumbling at one craſh into a heap of ruins. Ardfert is near the ſea, and is 144 miles S. W. from Dublin. Dr. Smith's account of Kerry. Dr. Beaufort's Memoir.

ARDGLASS, a decayed town of the county of Down, in Ulſter, Ireland; about ſeven miles from Downpatrick, ſituated on a ſmall harbour of the ſame name. It was, in

the reign of queen Elizabeth, a place of considerable trade; and gave the title of earl to a branch of the Cromwell family. The duties of its port were let to farm so lately as the beginning of Charles the first's reign. The customs here are very considerable. There is a long range of building, called by the inhabitants, the New Works; though they have no tradition of its design or use. It extends 234 feet in length, but is only 20 broad. It has three towers in front joined to it, one at each end, and one in the center. There are also the remains of several other castles, towers, and gates; and within the N. E. point of the harbour, there is a curious natural cave, with a large entrance on the shore. Tour through Ireland.—Dublin, 1780.

ARDIA, or ARDEIA, in *Ancient Geography*, a river of Illyria, according to Stephan. Byz. and Strabo.

ARDIERE, in *Geography*, a river of France, which runs into the Saone, in the principality of Dombes.

ARDILA, a river which rises in Spain, and discharges itself into the Guadiana, near Moura, in Portugal.

ARDISIA, in *Botany*. Lin. g. Schreb. 1731. Swartz. prodr. 48. called also *Anguillaria* and *Badula*. Juss. 420. Class, *pentandria monogynia*. Gen. Char. *Cal.* perianth one-leafed, five-cleft; clefts subulate, upright, coloured, permanent. *Cor.* one-petalled; tube short, the length of the calyx; border five-parted; parts lanceolate, acute, spreading, at length reflex. *Stam.* filaments five, subulate, upright; anthers acute, upright, bifid at the base, converging at top round the style. *Pist.* germ superior, ovate, very small; style subulate, longer than the stamens, upright, at length ascending; stigma simple, acute, permanent. *Per.* berry roundish, large. *Seed* single, roundish, covered with a hard, brittle bark, like a nut.

Eff. Gen. Char. *Cal.* five-cleft. *Cor.* one-petalled, five-parted; reflex. *Stigma* simple. *Berry* roundish, one-seeded.

Species 1. A. *excelsa*, laurel-leaved ardisia; anguillaria bahamensis. Gærtn. fruct. 1. 372. "Racemes axillary, simple; leaves obovate, cartilaginous, serrate at the edge; clefts of the corolla almost twice as long as the leaflets of the calyx; stamens inserted into the corolla." This tree is a native of Madeira, where it was discovered by Masson, and introduced here in 1784. 2. A. *zeylandica;* "flowers terminating panicled, leaves ovate, subpetioled, entire; stem arboreous;" leaves thick, oval, entire, evergreen, shining, very smooth, alternate, almost sessile, attenuated at the base; flowers at the tops of the branches, in numerous racemes, wheel-shaped, with a long tube of a red colour; berry smaller than that of the preceding species. A native of Ceylon. 3. A. *tenuifolia.* Swartz. prodr. Sloane jam. 2. 98. t. 205. f. 2. "Flowers panicled; leaves elliptical, entire, nerved; stem arboreous." This tree rises to about 30 feet high, having an ash-coloured smooth bark; leaves very smooth, of a dark green, four inches long, on short foot-stalks; flowers purplish. A native of Jamaica. 4. A. *coriacea;* "flowers panicled; leaves oblong, entire, veinless, coriaceous." 5. A. *serrulata;* "flowers panicled; leaves ovate-lanceolate, acuminate, wrinkled; stem shrubby, pubescent." 6. A. *lateriflora;* "racemes lateral, or axillary compound; flowers umbelluled; leaves oblong, acuminate, entire; stem shrubby." 7. A *parasitica;* "racemes axillary, simple; leaves sessile, lanceolate-ovate, marked with lines; stem shrubby." The four last-mentioned species are natives of the West Indies, and are hitherto only known from Swartz's catalogue.

ARDISTAMA, in *Ancient Geography*, a town of Asia, in Galatia, according to Ptolemy.

ARDMORE HEAD, in *Geography*, a noted promontory on the south coast of Ireland, in the county of Waterford, a little to the east of Youghall bay. N. lat. 51° 56′, W. long. 7° 42′. Near this is the village of Ardmore, an ancient episcopal see, and thought to have been a Danish settlement. Its round tower is still in existence. The name Ardmore, signifies a great eminence. Smith's Waterford and Collectan. de Reb. Hib.

ARDOIS, a mountain in Nova Scotia, between Windsor and Halifax, 13 miles N. W. from the latter; reckoned the highest land in the province, and affording a fine prospect of all the high and low lands about Windsor and Falmouth, and the distant country bordering the bason of Minas.

ARDONA, a town of Italy, in the kingdom of Naples, and province of Capitanata, 12 miles north of Ascoli.

ARDOR *ventriculi*, a heat of the stomach, usually expressed by the term HEART-*burn*, or CARDIALGY.

ARDOTIUM, in *Ancient Geography*, a town of Illyria, far from the sea, in the territory of the Liburnians, according to Ptolemy.

ARDOYE, in *Geography*, a town of France, in the department of Lys, and chief place of a canton in the district of Bruges. The place contains 5,875, and the canton 12,165 inhabitants: the territory includes 77½ kiliometres and 4 communes.

ARDRAH, or ARDER, in *Geography*, a kingdom of Africa, on the Slave coast, bordering on Whydah. This kingdom extends for a considerable distance into the northern and interior country, abounds with populous towns and villages, and is in general fertile and well cultivated. The inhabitants are warlike. It is bounded on the west by the Rio Volta, on the east by the kingdom of Benin proper, on the south by the ocean, and on the north-north-west by the kingdoms of Oyeo and Alghemi or Ulcaim. To the south, or sea coast, Ardrah is very confined; and as it extends northward, widens into the form of a triangle. The coast, commencing four leagues east of Great Popo, and ending at Acqui, comprehends the space of twenty-five leagues, if the province of Jachen, which has a prince of its own, tributary to Ardrah, be included. Bosman and Barbot divide it into Great and Little Ardrah; comprehending under the latter the whole maritime coast, and under the former the interior country. Little Ardrah ascends up the country as far as Offra; and Great Ardrah includes the petty state of Torri. From Whydah to Little Ardrah, the coast is low and flat, but rises by a gentle ascent towards Jachen. North of Jachen, are Offra, Great Foro, and Assem, the capital of Ardrah. The other principal towns are Iajo and Ba. Iajo or Iago has two gates to the south, and is washed by the river on the north, that falls into the Rio de Formosa, or river of Benin, at Ba, where the Dutch have a small fishery. Between all the cities are great roads, and canals are cut from one river to another, which, by the canoes that traverse them, indicate wealth and industry. The vallies of Ardrah are pleasant, and produce wheat, millet, yams, potatoes, lemons, oranges, cocoa-nuts, and palm-wine. In the low and marshy grounds near the sea, they make salt by evaporation of the stagnated water; and with this they carry on a considerable trade with Alghemi and Oyeo, by the great canal of Ba, which is the finest in the kingdom. The air is, in general, unwholesome. The vulgar, who can neither read nor write, use a small cord tied in knots, to each of which they affix certain ideas, and thus they convey their sentiments to a distance. The manners, dress, and religion of the Ardrans resemble those of the inhabitants of WHYDAH; and polygamy is equally allowed in both countries. The inhabitants of the sea-coast are employed in fishing, and manufacturing salt; and those of the interior country in husbandry. But they have no ploughs nor instruments of agriculture; the whole labour being performed with the spade and mattock. Instead of a public burying-place, the inhabitants of Ardrah are interred in a family-vault constructed in their own houses.

As

As to the government of Ardrah, it is monarchical and deſpotic. The court is numerous and ſplendid; and the chief-prieſt is ſecond in dignity, and prime miniſter in temporals as well as in ſpirituals. The crown is hereditary; and its revenues ariſe from heavy capitations on the natives and foreigners, the ſale of ſlaves, duties on foreign trade, taxes upon markets and the neceſſaries of life, and the confiſcation of the eſtates of governors. Diſobedience to the king's commands incurs the puniſhment of beheading; and the conſequence is, that the wives and children of the offender become the ſlaves of the crown. Inſolvent debtors are ſold at the pleaſure of the creditors; and the violation of the marriage-bed is puniſhed with ſervitude. The goods proper for importation to Ardrah, are large white beads, glaſs or cryſtal ear-rings, gilt hangers, iron bars, ſailors' knives, copper bells, guns, copper and braſs baſons, coloured taffeties, ſtriped printed ſilks, coloured handkerchiefs, long white horſe tails, looking glaſſes, large umbrellas, brandy, china, Indian ſilks, gold and ſilver in duſt, with Engliſh and Dutch coins. Mod. Un. Hiſt. vol. xiii. p. 359—374.

ARDRE, a river of France, which joins the Loire at Nantes.

ANDRES, a town of France, in the department of the Straits of Calais, and chief place of a canton in the diſtrict of Calais. On an open plain between Ardres and Guiſnes, was the celebrated interview of Henry VIII. of England with Francis I. king of France, in 1520. The two kings and their attendants diſplayed their magnificence with an emulation and profuſe expence, which procured it the name of "the field of the cloth of gold." Feats of chivalry, parties of gallantry, and ſuch exerciſes as were reckoned in that age manly or elegant, rather than ſerious buſineſs, occupied both courts during eighteen days that they continued together. After the wreſtling between the French and Engliſh was concluded, in which the latter gained the prize, the two kings retired to a tent, and when they had drank together, the king of England ſeized the king of France by the collar, ſaying to him, "My brother, I muſt wreſtle with you;" and he endeavoured once or twice to trip up his heels; but the king of France, who was a dexterous wreſtler, twiſted him round, and threw him on the earth with prodigious violence. The king of England wiſhed to renew the combat, but was prevented. Robertſon's Ch. V. v. ii. p. 110. ——Alſo a town of France, in the department of Puy de Dome, and chief place of a canton in the diſtrict of Iſſoire, on a ſmall river which runs into the Allier, nine miles ſouth-weſt of Iſſoire. The place contains 1636, and the canton 10,582 inhabitants; the territory includes 300 kiliometres and 16 communes.

ARDROSSAN, the name of a ſmall promontory on the weſt coaſt of the county of Ayr, terminating in a ridge of rocks running out into the ſea, twelve miles W. N. W. of Ayr.

ARDSALLIS, a village in the county of Clare, Ireland, near which is the abbey of Quin, the whole building of which, including the cloiſters, dormitories, halls, &c. as well as the chapel, is ſtill in a ſtate of tolerable repair, except the roof. The buildings are in a good ſtyle of Gothic architecture, well contrived and neatly executed.

ARDSCHIR, or ARTAXERXES BABEGAN, in *Biography*, and *Ancient Hiſtory*, a Perſian king, and founder of a new dynaſty, under the appellation of Saſſanides; was deſcended, as his enemies ſay, illegitimately from an obſcure family; or, by the flattery of his adherents, from a branch of the ancient kings of Perſia, reduced to an humble ſtation. If we credit the former, his mother was the wife of a tanner, whoſe name was Babec, and his father a common ſoldier, of the name of Saſſan: from the former, Artaxerxes obtained the ſurname of Babegan; and from the latter, all his deſcendants have been ſtiled Saſſanides. However this be, he was well educated, and ſerved with great reputation in the armies of Artaban, the laſt king of the Parthians: but being driven into exile and rebellion by royal ingratitude, he fled into Perſia proper, where it is ſaid his grandfather had been governor, and took up arms, in order to aſſert his right to the throne, as lineal heir of the monarchy, and alſo to reſcue Perſia from the yoke of the Parthians, under which they had groaned above five centuries, ſince the death of Darius. The Parthians were defeated in three great battles; and in the laſt of them their king Artaban was ſlain; ſo that in conſequence of it, the ſpirit of the nation was for ever broken. Ardſchir then aſſumed the ſovereignty, with the title of "King of Kings," which had been enjoyed by his predeceſſor; and his authority was ſolemnly acknowledged in a great aſſembly held at Balch in Khoraſan. This great revolution, which eſtabliſhed the empire of the Saſſanides over Perſia, till the invaſion of the Arabs and the fatal influence of which was ſoon experienced by the Romans, happened in the fourth year of Alexander Severus, 226 years after the Chriſtian æra. Ardſchir having aſcended the throne, extended his conqueſts, and ſwayed the royal ſceptre with ſingular reputation. Whilſt he was active and enterpriſing in war, he cultivated the arts of peace, and adminiſtered the government with equal firmneſs and lenity. He reformed exiſting abuſes, built new cities, promoted agriculture, diſtributed the people into claſſes, under appropriate inſtructors and magiſtrates, and aboliſhed the frequency of capital puniſhments, agreeably to the maxim which he adopted, "that the ſword ought not to be employed when the cane would anſwer the purpoſe." He likewiſe reſtored the Magian religion in its purity, and ſuppreſſed idolatry and ſchiſm. The articles of the national faith were eſtabliſhed by a committee of ſeven Magi, ſelected from an aſſembly of 80,000, convened from all parts of his dominions. Ardſchir, not content with his victories over the Scythians and Indians, engaged in a more perilous conteſt with the Romans, under Alexander Severus; but in his endeavour to regain thoſe provinces of Aſia, which had formerly belonged to the Perſian empire, he loſt the flower of his army, and was obliged to withdraw into his own territories. His domeſtic ſecurity was interrupted by the daughter of his predeceſſor Artaban, whom he married. Retaining her family hatred againſt him, ſhe made an attempt to poiſon him; but her deſign being diſcovered, ſhe was condemned to ſuffer death, but reſpited on the plea of pregnancy, till ſhe was delivered of a ſon, afterwards called Sapor, who ſucceeded his father in the kingdom. One circumſtance ought to be mentioned, which much redounds to his honour, and this was his practice of keeping a record or journal, in which all his actions were impartially noted down; and this journal was read to him daily. He likewiſe drew up a ſet of maxims, intitled "Rules for living well," adapted to all conditions of ſociety, which were publiſhed by one of his ſucceſſors. They are evidently the dictates of wiſdom and benevolence. "When the king renders juſtice (ſays Ardſchir), the people pay him with love and obedience." "The worſt of princes is he who excites fear in the good, and hope in the bad." "The royal authority muſt be ſupported by military force; this force muſt be maintained by money; money can only ſpring from the culture of the land; and this cannot flouriſh without juſtice and good order." Ardſchir, according to the moſt probable account, cloſed his life about the year 240; after a reign of 14 years. D'Herbelot. Bib. Or. p. 115. Gibbon's Hiſt. vol. i. p. 317. n.

ARDUBA, in *Ancient Geography*, a city of Dalmatia, which was taken by Tiberius.

ARDUINA, in *Botany*, a plant ſo named in honour of Pietro Arduini, curator of the œconomical garden at Padua. Lin. g. Schreb. 304. Lycium. Mill. fig. t. 300. Claſs, *Pentandria monogynia*. Nat. Ord. *Contortæ. Apocineæ* Juſſ. Gen. Char. *Cal.* perianth five-parted, erect, acute, ſmall, permanent. *Cor.* one-petalled, funnel-ſhaped; tube cylindrical, a little curved inwards at the top; border five-parted, acute, ſpreading. *Stam.* filaments five ſimple, ſhorter than the tube, and inſerted into the lower part of it; anthers oblong, within the throat of the corolla. *Piſt.* germ. ſuperior, ovate; ſtyle filiform, the length of the tube; ſtigma bifid, thickiſh. *Per.* berry globular-oval, two-celled. *Seeds*, ſolitary, oblong, hard.

Eſſ. Gen. Char. *Cor.* one-petalled; ſtigma bifid; berry two celled. *Seeds*. ſolitary.

Species 1. A. *biſpinoſa*, two-ſpined arduina; *Lycium cordatum*. Mill. t. 300. A ſhrubby plant, about four or five feet high. It is armed with ſtrong ſpines, which appear in pairs or double pairs upon the ſame foot-ſtalks, immediately below the leaves. The leaves are heart-ſhaped, about an inch long; they continue green all the year, and are placed oppoſitely in pairs. The flowers are ſmall, white, fragrant, in cluſters at the ends of the branches, and appear in July and Auguſt. It is a native of the Cape of Good Hope, and was cultivated by Miller, in 1760.

Propagation and Culture. It may be increaſed by cuttings planted in July, and ſhaded from the ſun; when they have taken root, they ſhould be removed into ſmall pots, and placed in the ſhade, till they have taken root again; they may then be removed to a ſheltered ſituation till autumn, when they muſt be put into a green-houſe, or under a hot-bed frame; this plant being too tender to live in the open air. See Miller's Dict. by Martyn.

ARDUINNA, in *Entomology*, a ſpecies of Papilio deſcribed by Fabricius. The wings are indented fulvous, with black ſpots; the poſterior ones, beneath, white, with two fulvous bands, and ſpeckled behind with black. This is *papilio arduinna* of Eſper, and inhabits Ruſſia. *Obſ.* In the Fabrician arrangement, it belongs to the ſection *Satyri*.

ARE, in *French Meaſure*, is a ſuperficial unit, or a ſquare, the ſide of which is 100 metres in length, or 10,000 ſquare metres; and the rectilineal metre being 3 feet 11.44 lines, the are will be 94831 ſquare feet. The tenth of an are, called deciare, is a ſuperficies 100 metres long, and 10 broad, or 1000 ſquare metres=9483.1 ſquare feet; and the centiare, equal to 100 ſquare metres, is 948.31 ſquare feet. See Measure.

ARE, or A-la-mi-re, in *Muſic*, denotes a ſound in the ſcale of Guido, which is expreſſed by the abbreviation A in the muſical ſcale or gammut, and implies the ſound in the firſt ſpace, and on the fifth line, in the baſe; the third ſound below each tenor cliff; and that in the ſecond ſpace, and on the ſixth line, in the treble. This is the ſound to which all inſtruments are tuned at an opera concert, or other muſical performance. But A in the Italian muſical language, when it precedes a ſubſtantive, has the power of *in*, as A *battuta*, A *capella*. See the articles.

AREA, in general, denotes any plain ſurface, whereon we walk, &c.

The word is Latin, importing more properly a threſhing floor; and is derived from *arere, to be dry*.

The area, or threſhing floor, among the Romans, was ſometimes paved with flint ſtones, but uſually laid with clay, conſolidated with great care, and ſmoothed with a large and heavy roller. Virg. Georg. i. 278.

Area, in *Architecture*, denotes the ſpace or ſcite of ground, on which an edifice ſtands. It is alſo uſed for inner courts, and thoſe portions of ground.

Area, in *Geometry*, denotes the ſuperficial content of any figure.

Thus, if a figure, e. gr. a field, be in form of a ſquare, and its ſide be 40 feet long, its area is ſaid to be 1600 ſquare feet: or it contains 1600 little ſquares, each a foot every way. Hence to find the area of a triangle, ſquare, parallelogram, rectangle, trapezium, rhombus, polygon, circle, or other figure, is to find the magnitude or capacity thereof in ſquare meaſure.—To do which, ſee the article Triangle, &c. To find the area of fields and other incloſures, they firſt ſurvey or take the angles thereof, then plot them on paper, and thus caſt up their contents in acres, roods, &c. after the uſual manner of other plain figures. The areas of all ſimilar figures are in the duplicate ratio; or as the ſquares of their like ſides, or of any like linear dimenſions.

The law by which the planets move round the ſun is this; that a line, or radius, drawn from the centre of the ſun to the centre of the planet, always ſweeps or deſcribes elliptic areas proportional to the times. Thus the ſun being ſuppoſed in S, and a planet in A, (*Plate* I. *Aſtronomy, fig.* 12.) and letting it proceed in any given time to B; in ſuch progreſs, its radius AS will have deſcribed the area ASB. Suppoſe again the planet to be arrived to P, then the elliptic ſpace PSD being made equal to the other ASB, the planet will move through the arc PD in the ſame time as through the arc AB. This law of the planetary motions, diſcovered by Kepler, lies at the foundation of aſtronomy. Sir I. Newton demonſtrates, that whatever bodies do obſerve ſuch law in their motions about any other body, do gravitate towards ſuch body.

Area is alſo uſed, in *Medicine*, for a diſeaſe which makes the hair fall. The area is a general kind of depilation; and is diſtinguiſhed into two ſpecies, *Alopecia* and *Ophiaſis*.

Area, in *Optics*. See Field.

AREALU, in *Botany*. See Ficus Religiosa.

AREAS, D', an iſland, in *Geography*, lies on the weſt coaſt of the gulf of Mexico, in N. lat. 20° 45', and W. long. 92° 40'.

AREATA, in *Entomology*, a ſpecies of Phalæna, in the *Geometra* family, that inhabits Surinam. The wings are ſnowy white, with a marginal brown ſpot on the anterior pair, and four approximate ſtreaks of the ſame colour on the poſterior ones. Fabricius. Gmelin. Obſ. This is Phalæna *area* of Cramer.

AREATUS, a ſpecies of Scarabæus (*Cetonia* ſection of Gmelin) found in Virginia. It is black and downy, with the diſk of the wing-caſes rufous. Fabricius.

AREB, a kind of imaginary money, uſed in the dominions of the great mogul.

Four arebs are equal to one crou, or 100 lacs; one lac to 100,000 rupees.

AREBICO, in *Geography*, a town of the iſland of Porto Rico, ten leagues from the town of St. John.

AREBO, or Arbon, a town of Africa, and capital of Benin, ſituate about ſixty miles from the mouth of the river Formoſa, to which ſhips of burthen may ſail by means of the branches of that river, and collateral creeks. Arebo is repreſented as a large and populous city, and the centre of the commerce of Benin. The Engliſh and Dutch had formerly a ſettlement, with agents and factors in this place; but the Engliſh have neglected theirs, and carried on little or no trade to Arebo for ſeveral years paſt. The city and adjacent country are under the government of a viceroy and council. N. lat. 6° 0'. E. long. 5° 5'.

ARECA, in *Botany*, a genus of palms. Schreb. 1696. Gærtn. 7. Juſſ. 3. Claſs, *palmæ, monoecia enneandria*. Gen. Char. male flowers. *Cal.* ſpathe bivalve; ſpadix branched; proper

proper perianth three-leaved. *Cor.* petals three, acuminate, rigid. *Stam.* filaments nine, the three outer longer than the others. Female flowers, in the ſame ſpadix; proper perianth and petals the ſame as in the male. *Per.* berry ſubovate, fibroſe, ſurrounded at the baſe with the imbricate calyx. *Seed*, ovate.

Eſſ. Gen. Char. *Cor.* three-petalled; male nine-ſtamened; female a drupe with an imbricate calyx.

Species 1. A. *catechu*, "fronds pinnate; leaflets folded back, oppoſite, end bitten." A. *faufel.* Gærtn. fr. 1. 19. *Pinanga*, Rumph. Amb. 1. 26. t. 4. *Cauuga*, Rheed. Mal. i. p. 9. t. 5—8. This palm grows to the height of forty or fifty feet; trunk ſtraight, round, about ſix or eight inches in diameter, and covered with a ſmooth aſh-coloured bark marked with parallel rings. The fronds ſpring forth in pairs, decuſſated, encircling at their baſe the top of the trunk, and forming an oblong head larger than the trunk itſelf; they are about ſix or ſeven, unarmed, reclining, ſix feet long, on a ſtipe four feet in length. From the axils of the fallen fronds iſſue the ſheaths which incloſe the flowers and fruits. Theſe ſheaths are ſimple, ſharpiſh, white, coriaceous, thin, ſtreaked, deciduous, nearly two feet in length, ſix inches broad, and defended by a wide involucre, formed of the dilated baſe of the frond involving the ſpadix and ſpathe; ſpadix axillary, branched, reclining; ſpikes linear, containing male and female flowers confuſedly mixed; flowers white, very ſmall, triangular, ſmelling ſweet but faintly morning and evening; the calyx of the male is three-leaved, but that of the female ſix-leaved, imbricate and unequal. The fruit, according to Gærtner, is a berried drupe, or berry, having a thin cuticle and a thick filamentous pulp; ſhell very thin, brittle, white, with arched red veins; ſeed of a rounded conical form. A native of the Eaſt Indies. The Indian drug formerly called terra japonica, and now catechu, was very generally conſidered to be an extract prepared from the ſeeds of this palm; and hence Linnæus in his Mat. Med. has referred the catechu to the areca here deſcribed; but it is well known at preſent that this drug is manufactured from a ſpecies of mimoſa. The trivial name of catechu, as tending to miſlead, ſhould therefore be aboliſhed here, and confined to the mimoſa. The fruit of the areca (betel-nut) is in general uſe by the Indians, who cut it into ſlices, and preſent it with a portion of terra japonica and ſhell-lime to their gueſts in all viſits, wrapped in the leaf of a ſmall tree called paun. It is chewed like tobacco, and tinges the ſaliva of a red colour, hence the following lines in Miſc. Nat. Cur.

"Quis foliis credat commixta calce tenellis,
Cum fructu hoc Indos veſci, unde ore cruento
Purpureum ejiciunt ſuccum, tam dentibus atris
Horrendum arringunt, et dentibus ore minantur?"

2. A. *oryzæformis*, "fronds pinnate; leaflets ſmooth, three-nerved." Gærtn. fr. 1. 20. A. *ſylveſtris*. Lour. Cochinch. 568. *Pinanga oryzæformis*, Rumph. Amb. 1. 40. t. 5. f. c. This is a ſlender palm, growing to the height of ten feet; fronds more than three feet in length, without prickles; ſtipes triangular, dilated at the baſe, coriaceous, embracing the ſtem and fructification; leaflets two feet long, oppoſite, triplicate, diſtant, either pointed, or end bitten; ſpathe membranaceous, white, ſtiff; ſpadix ſpiked; ſpikes linear, with the flowers regularly diſpoſed, one female between two males; calyx of the male three-leaved, with ſubulate unequal leaflets; corolla three-petalled, almoſt cloſed; anthers twenty-four, linear, without filaments; calyx of the female permanent; its leaflets broad, obtuſe; germ oblong-ovate; ſtyle none; ſtigma three-cleft; berry ovate, red, ſcarcely larger than a grain of wheat; pulp or rind thin, fibroſe, ſmooth, adhering to the ſeed, ſo that the cell is not inveſted with its proper coat, as in the preceding ſpecies; ſeed ovate, conical, hollowed, at the baſe within which is a very minute teat; it is ſolid, horny, and half an inch in length. A native of Cochinchina, Amboina, &c. Its fruit, though much ſmaller than that of the preceding, is alſo uſed in pauns. Although this palm has the habit and fruit of the areca, yet the ſtamens and poſition of its flowers ſhew it to be very nearly allied to the caryota. 3. A. *oleracea*, cabbage-tree; "leaflets quite entire." Jacq. Amer. 278. t. 170. pict. 135. *Palma altiſſima*. Mill. Sloane, Browne. The cabbage-tree is the higheſt of the American palms. Some authors ſay that it frequently riſes to above 200 feet in height, with a trunk no bigger that a man's thigh, and covered with a coat which is impenetrable to a muſket ball. Modern writers, however, deſcribe it from thirty to one hundred feet. It is very different from the Eaſt Indian areca. The ſheaths of the leaves are very cloſe, and form the green top of the trunk, a foot and a half in length. Below this come out green ſhining ſpathes, which fall off when the branching ſpadix burſts forth. The calyx is one-leafed, cut to the middle into three ſegments. The fruits are oblong, obtuſe, berries of a blue purple colour, and about the ſize of an olive, containing a ſtone or nut which is oblong, membranaceous, ſmooth, brittle, incloſing a very hard cartilaginous kernel. Within the leaves, at the top of the palm, is found a white heart of eight or nine inches in circumference, which is called cabbage, and which is eſteemed a great luxury by the inhabitants, who eat it either raw as ſallad, or fried with butter, as well as boiled, and compare its taſte to that of artichoke. The ſeeds of this beautiful tree were firſt carried to Jamaica by admiral Knowles, when governor of the iſland, and it has ſince been cultivated with great care. It is there planted for its beauty, and ſeldom or never cut down for the cabbage or for any other purpoſe. The Weſt Indian cabbage-tree was introduced into the king's garden at Kew by Hinton Eaſt, eſquire, in 1787. There is alſo a ſpecies of palm, called by Solander *Areca Sapida*, which grows ſpontaneouſly in New Zealand, and abounds in Norfolk iſland: but the fructification of it is not known. Martyn's Miller's Dict.

Areca, in *Ancient Geography*, a town of Syria, in the Commagine, not far from Antioch, at the foot of mount Taurus.

Areca, or *Karek*, in *Geography*, an iſland of Aſia, on the eaſt coaſt of the gulf of Perſia, between Abuſchiehr and Bender Rigk, one league ſouth-weſt of Ormus, about three leagues in circumference. It contains only a ſingle village; but the aqueducts cut in the rocks, which ſtill remain, ſhew it to have been more populous in proportion to its extent. The Dutch attempted to eſtabliſh a factory and build a fort here, but they were expelled by the Arabs under the conduct of Mir Mahanna, in the year 1765.

ARED, Arad, or *Arud*, one of the two principal diſtricts of the province of Neged or Nedsjed in Arabia; the other being called Kerje or Kerdsje. This diſtrict borders on Hejar or Lahſa to the eaſt, and contains a diſtrict called Haniſa, anciently celebrated and ſtill known under the ſame name. Its dependencies are Aijæne or Aijana, a town which produced Abud al Wakheb the new prophet, and Munſoha. Niebuhr mentions other towns of Ared, among which is Jebrin on the confines of Lahſa. See Arad.

AREIRA, in *Botany*. See Schinus.

AREKEA, ſee Arkeeko.

ARELATE, Arelatus, now *Arles*, in *Ancient Geography*, a city of Gaul, ſituate to the left of the Rhone, at the place where it divides itſelf into three branches, near its

its mouth, and belonging to the Salyii. At this city Cæfar, when he determined to lay fiege to Marfeilles, fitted a fquadron of twelve long veffels; and Strabo fpeaks of this place as a commercial emporium. Pomponius Mela fpeaks of it as one of the richeft cities in Gallia Narbonenfis; and Pliny, Suetonius, and Strabo reprefent it as a colony. The colonies conducted thither under the father of Tiberius were detachments of the fixth legion, whence it was called "Colonia Sextanorum." When the Roman province was divided into Narbonenfis and Viennenfis, Arelati belonged to the latter: and in the time of Conftantine, it was extended, by means of a bridge, from the left to the right fide of the Rhone; and this emperor celebrated on it the Circenfian and Olympic games, in 3[illegible]4. The emperors Valentinian and Honorius honoured it with many fignal privileges, whence the poet Aufonius called it "the Rome of the Gauls." It became at length the feat of a prætorian prefect, and was in reality the chief city of the Gauls. Whilft its civil ftate was improved by its population and commerce, and the diftinguifhed patronage of the Roman emperors, its ecclefiaftical power was alfo augmented by the activity of its bifhops. By the council of Turin, in 397, it was erected into a metropolis; the fine arts likewife flourifhed in this city; and the fertility of its territory gave it the appellation of "Thelina," from the Greek word θηλη, the breaft. The amphitheatre of this city, though it was never completed, is ftill one of the fineft monuments of antiquity belonging to the Gauls. By an infcription it appears, that the fhows of the gladiators were exhibited in this place. See Arles.

ARELI, in *Botany*. See Nerium.

AREM, or Al-Arem, a vaft mound or dam, which formed a ftupendous refervoir above the city Saba, whofe rupture caufed an inundation, famous in eaftern writers. Sale's Prel. Difc.

The word *arem* is Arabic, and literally fignifies any mound, or dam, for the containing of water.

AREMBERG, in *Geography*, a town of Germany, in the circle of the lower Rhine, and capital of a duchy to which it gives name, fituate on the Ahr in the Eiffel, fixteen miles S.S.W. of Bonn, and twenty-fix fouth of Cologn. N. lat. 50° 32′. E. long. 6° 34′.

AREMBUS, in *Ancient Geography*, a town of India, on this fide of the Ganges, according to Ptolemy.

ARENA, among the Romans, fometimes fignified the fame with an amphitheatre; viz. a place where the gladiators had their combat. The word is Latin, and fignifies *fand*; becaufe the place was always ftrewed with fand or faw-duft, to prevent the gladiators from fliding, and to conceal from the view of the people the blood fpilt in the combat. Properly fpeaking, arena was only the pit or fpace in the middle of thofe places where the athletæ and gladiators performed. The arena was the fame thing with regard to the gladiators, that the campus, or field, was to foldiers and armies; viz. the place where they fought.—He who fought in the arena was called arenarius. Nero is faid to have ftrewed the arena with gold-duft.

Arena, in *Architecture*, is the middle or body of a temple, and comprehends the whole fpace between the antæ and the extreme wall of the building.

Arena Giuseppe, in *Biography*. See Giuseppe.

Arena, in *Geography*, a river of Sicily, which runs into the fea near the town of Mazara.—Alfo a town of Italy, in the kingdom of Naples, and province of Calabria ultra, fixteen miles eaft of Nicotera.

Arena, is alfo a port in the ifland of Puna, in Guiaquil bay on the weftern coaft of South America, eight leagues E.N.E. from Santa Clara, where all fhips bound into the bay take pilots.

ARENACEA, in *Entomology*, a fpecies of Phalæna, in the *Bombyx* family. The wings are yellowifh: the firft pair fprinkled with black fpecks above. Inhabits the Cape of Good Hope. Gmelin.

ARENACUM, or Arenatium, in *Ancient Geography*, *Aert* or *Arth*, the name of a Batavian fort conftructed on the Rhine, not far from the place where this river feparates to form the Vahal. Tacitus informs us, that Aquileius affembled an army in this place to attack the Batavi.

ARENÆ, or Ar[illegible], a people of Afia Minor in Lydia, in the vicinity of Thyatira.—Arenæ was alfo a place of Spain in Bætica, on the coaft of the Turdetani, extending from the mouth of a fmall river, where was feated Onoba, to the moft eaftern part of Bœtis.

[illegible] (from *arena, fand*), in *Botany*, fandwort. [illegible] 579. Schreb. 774. Gærtn. t. 130. Juff. 301. [illegible] *trigynia*. Nat. Ord. *Caryophyllei*. Gen. Char. [illegible] five-leaved; leaflets oblong, acuminate, fpreading, permanent. *Cor.* petals five, ovate, entire. *Stam.* filaments ten, fubulate, five, alternately interior; anthers roundifh. *Pyf.* germ ovate; ftyles from erect reflex; ftigmas thickifh. *Per.* capfule ovate, covered, one-celled, three or fix-valved. *Seeds* very many, kidney-fhaped. *Obf.* The number of ftamens is not conftant.

Eff. Gen. Char. *Cal.* five-leaved, fpreading; petals five, entire. *Capf.* fuperior, one celled, many-feeded.

Species 1. A. *peploides*, fea fandwort, or chick-weed. Hudf. With. Eng. Bot. t. 189. Flor. Dan. t. 624. "Leaves ovate, acute, flefhy;" calyx obtufe, nervelefs, Smith; root creeping, long, perennial; ftems proftrate, branched, angular, fmooth; leaves oppofite, feffile, ovate, acute, recurved, fmooth, entire; flowers white, appearing in June and July; capfule roundifh, three-valved; feeds large, black, obovate. Common on the fea-coaft. 2. A. *tetraquetra*, fquare fandwort; "leaves ovate, keeled, recurved, imbricate four ways;" ftems almoft upright, and very numerous, fhorter than the flowering ftems; flowers marked with lines, in a head, upon terminating bifid peduncles. A native of the Pyrenean mountains, flowering in July. Introduced into Kew garden in 1776, by Dr. Ortega. *β. gypfophila aggregata*, Lin. fp. 581. Amæn. Acad. 3. 23. Allion. pedem. n. 1718. t. 89. f. 1. Schreb. Act. Nov. Acad. N. C. 4. 140. A variety with "pointed recurved leaves, and aggregate flowers." 3. A. *biflora*, two-flowered fandwort: leaves obovate, obtufe; ftems procumbent, peduncles two-flowered, lateral; its leaves refemble thofe of wild thyme, roundifh, even; two linear bractes at the divifion of the peduncle, and alfo on the other pedicel. A native of the high Alps of Savoy and Switzerland near the melting fnow. 4. A. *lateriflora*, fide-flowering fandwort; "leaves ovate, obtufe; peduncles lateral, two-flowered. Its ftem is fhort, fmall, fimple; leaves fmooth, on fhort footftalks; peduncles fingle, long, bifid, axillary; corolla longer than the calyx. Difcovered by Gmelin in Siberia. 5. A. *trinervia*, plantain-leaved fandwort. Hudf. With. Curt. Lond. fafc. 4. t. 31. Flor. Dan. 429. "Leaves ovate, acute, petiolate, nerved," with the keel of the calyx rough, and obfcurely trinerved, Smith; root fibrous, annual, ftems about a fpan high, flender, erect, branched, round, hairy, and befet with leaves; leaves three or five-nerved, ciliated; peduncles one-flowered, long; flowers fmall, white; leaflets of the calyx lanceolate, acute, keeled, trinerved, rough on the back, and at the edges membranaceous and ciliated; petals obovate, fcarcely the length of the calyx; capfule ovate, with an hexifid mouth; feeds fmall, fmooth, black. This, like

like the firſt, is a Britiſh ſpecies; it grows in woods and wet ſhaded ſituations, flowering in May and June. 6. A. *ciliata*, ciliate ſandwort. Flor. Dan. 346. Jacq. Vind. 75. "Leaves ovate, nerved, ciliate, acute;" leaves ſeſſile, pointed, ciliate at the baſe; corolla twice the ſize of the calyx; leaflets of the calyx oval, pointed, nerved; the ſtamens are placed on a circle of nectariferous glands. See Villars' Dauph. 620. According to Linnæus, it is a native of mount Abraham in the Rhætian Alps (Griſons); and Villars ſtates it to grow on the high mountains of Dauphiné. In the Kew catalogue, however, we are told that it is a native of Iceland, whence it was introduced by Sir Joſeph Banks in 1773. 7. A. *balearica*, majorca ſandwort. L'Heritier, Stirp. Nov. 29. t. 15. "Leaves ovate, ſhining, rather fleſhy; ſtem creeping; peduncles one-flowered." A perennial growing in tufts, creeping and taking root at the joints; leaves oppoſite, petioled, acuminate, entire, nerveleſs, beſet with ſhort hairs; peduncles terminating, ſolitary, long, erect, one-flowered; flowers large, white, with two oppoſite, ſeſſile, lanceolate bractes. A native of Majorca and Minorca. 8. A. *multicaulis*, many-ſtalked ſandwort; *alſine*, Hall. helv. n. 6. t. 17. "Leaves ovate, nerveleſs, ſeſſile, acute; corollas larger than the calyx;" leaves more or leſs ciliate; flowers very large. Some botaniſts conſider this as a variety of the *ciliata*, and Villars thinks it a variety of the *ſerpyllifolia*. 9. A. *ſerpyllifolia*, thyme-leaved ſandwort. Hudſ. With. Curt. Lond. faſc. 4. t. 32. Flor. Dan. 977. "Leaves ovate, ſubſeſſile, rough; calyx hirſute and common, only five-nerved;" root fibrous, ſmall, annual; ſtems many, about ſix inches high, ſpreading, rigid, branched, round, pubeſcent, dichotomous at the top; leaves ſmall, ovate, pointed, entire, obſcurely nerved; peduncles erect; flowers ſmall, white; petals ſhorter than the calyx; leaflets of the calyx, ovate, acute, hirſute, thoſe that are exterior five-nerved, interior three-nerved; capſule ovate, ſix-parted at the mouth; ſeeds of a yelloviſh brown, ſubrugoſe. A common Britiſh plant; growing on walls, and dry barren or ſandy ſituations. It flowers in June or July. 10. A. *triflora*, three-flowered ſandwort; "leaves lance-ſubulate, ciliate;" branches moſtly three-flowered; petals marked with lines, obtuſe; its ſtems are numerous, about four inches high, diffuſed, round, pubeſcent; leaves like thoſe of juniper; peduncles terminating, three-flowered; bractes two, ovate, ciliate; petals obovate, twice the length of the calyx, white, marked with lines; piſtil ſhorter than the ſtamens. A native of the ſouth of Europe, on rocks, perennial. 11. A. *montana*, mountain ſandwort; "leaves linear, lanceolate, rugged; ſtems barren, very long, procumbent." Its leaves form a tuft about the root, briſtle-ſhaped, ſpreading, of a ſhining green; thoſe on the ſtem are ſhorter than the internodes, ſtem-claſping; flower-ſtems half a foot high, hairy, bearing two or three flowers at the top on long peduncles; calyx three-ſtreaked, with the leaflets ſeparate; petals twice as long as the calyx, white, marked with lines, ovate, and ſlightly emarginate; fruit long, ſubcylindric. Linnæus remarks that the flowers are very large, and the fruit pendulous. A native of the ſouth of France, Spain, and the Col de Tende. 12. A. *rubra*, purple ſandwort. Hudſ. With. *ſpergula purpurea*. Raij. Syn. 351. "Leaves linear, pointed; ſtipules membranaceous, ſheathing;" ſeeds compreſſed, angular, roughiſh, Smith. Its root is ſmall, fuſiform, branched, annual; ſtems proſtrate, divaricate, branched, round, ſmooth; leaves linear, very narrow, acute, with a ſharp point, glaucous or whitiſh, nearly the length of the internodes; ſtipules from under the leaves, oppoſite, ſtem-claſping, rigid, white, acute, jagged; panicles terminal, dichotomous; flowers of a bluiſh fleſh-colour; the diviſions of the calyx lanceolate, hirſute, with dry edges; petals ſhorter than the calyx; capſule ovate, three-valved; ſeeds many, brown, angular, rough, with little tubercles. A Britiſh plant growing in ſandy fields, and flowering in July and Auguſt. 13 A. *marina*, ſea ſandwort. Flor. Dan. t. 740. A. *media*. With. A. *rubra*, β. ſp. pl. 606. Light. Hudſ. 193. (*media*) β. A. *media*. ſp. pl. excluſis ſynonymis. Alſine ſpergulæ facie media. Ray. Syn. 351. "Leaves ſemicylindrical, fleſhy, ſmooth; ſtipules ſcarioſe, ſheathing; ſeeds compreſſed, marginated, ſmooth." Smith. Its root is ſpindle-ſhaped, annual; ſtems proſtrate, very ſmooth; ſtipules ſimilar to thoſe of the rubra; flowers larger, of a pale fleſh or purpureſcent colour; capſule three-valved, longer than the calyx; ſeeds in β having a dilated membranous white ſtriated margin. This ſpecies and the rubra are found ſometimes to approach as cloſely to the ſpergula as to the arenaria. A Britiſh plant, grows in paſtures and ſandy grounds waſhed by the ſea, flowering in June and July. 14. A. *bavarica*, Bavarian ſandwort. "Leaves ſemicylindric, fleſhy, obtuſe; petals lanceolate; peduncles terminal; moſtly binate." Its ſtems are proſtrate, with many ſlender divided branches, and a pair of leaves at each joint; theſe leaves are oblong, narrow, and of a pale green; petals white, acuminate, ſometimes fringed and purpliſh; ſeeds minute, compreſſed, black, ſhining; perennial. A native of Bavaria, Monte Baldo, and Little St. Bernard. 15. A. *gypſophiloides*, "leaves linear, ſhort, at the root briſtly; panicle ſubpubeſcent; petals lanceolate;" root perennial; ſtem erect, jointed, a ſpan high; ſtem leaves largeſt, and longer than the internodes; panicle terminating, brachiate, dichotomous; petals three times as long as the calyx. A native of the Levant. 16. A. *ſaxatilis*, rock ſandwort; *alſine*, Gmel. ſib. iv. p. 157. t. 63. f. 2. "Leaves ſubulate; ſtems panicled; leaflets of the calyx ovate, obtuſe;" root perennial; ſtems exceedingly numerous, forming a very thick tuft half a foot high, and very full of flowers. A native of France, Germany, Swifferland, &c. 17. A. *verna*, vernal ſandwort. Hudſ. With. Lightf. Eng. bot. 512. "Leaves ſubulate, rather obtuſe; ſtem panicled; petals obovate, longer than the calyx, three-nerved; nerves diſtant, equal, Smith." Root perennial, long, much branched; ſtems numerous, five or ſix inches high, round, ſomewhat pubeſcent and viſcid, branched at the baſe, and panicled above; leaves erecto-patent, ſubulate, rather obtuſe, three-nerved beneath, and above channelled, connate, and ſpreading at the baſe; bractes ovate, three-nerved, ſhort; peduncles, erect, pubeſcent; leaflets of the calyx acute, hairy, three-nerved; margins membranous; petals longer than the calyx, obovate, obtuſe; anthers fleſhy; capſule longer than the calyx; cylindrical, three-valved; ſeeds almoſt kidney-ſhaped, rough, compreſſed. It grows on mountains in England, Scotland, and Wales, flowering from May till Auguſt. 18. A. *hiſpida*, hiſpid ſandwort; "leaves ſubulate, hiſpid underneath:" this bears much affinity to ſpurry: ſtems ſimple, with ſcattered hairs; leaves oppoſite, flat, with a few hairs underneath; panicle firſt dichotomous, then branching, with alternate peduncles. A native of Montpellier. 19. A. *juniperina*, juniper ſandwort, Smith. Icon. ined. 2 t. 35. "Leaves ſubulate, thorny; ſtems erect, calyx ſtriated; capſules oblong;" root perennial; ſtems numerous, half a foot high, ſlightly pubeſcent; leaves ſpreading, connate at the baſe, three-nerved, almoſt triangular, mucronate; root leaves very ſhort, blunt, without prickly points; flowers in terminal panicles, on ſmooth, filiform, one-flowered peduncles; bractes acute, three-nerved, with a ſcarioſe waving edge; leaflets of the calyx lanceolate, mucronate, three-nerved; petals obovate, lanceolate, obtuſe, white, ſcarcely twice as long as the calyx, ſtreaked; capſule

capſule three-valved, obtuſe, ſhining; ſeeds ſmall, compreſſed, roundiſh, black; native place unknown. 20. A. *tenuifolia*, fine-leaved ſwardwort. Huds. With. Eng. Bot. 219. Fior. Dan. 389. *Alſine tenuifolia*, Ray Syn. 350. "Leaves ſubulate, acute; ſtem panicled; capſules erect, three-valved; petals lanceolate, ſhorter than the calyx;" its root is ſmall, annual; ſtems erect, commonly ſmooth, panicled, dichotomous; leaves three-nerved, connate, and dilated at the baſe; peduncles capillary, erect; flowers ſmall, white; leaflets of the calyx lanceolate, acuminate, three-nerved, membranaceous at the edges; petals very ſmall, lanceolate, obtuſe, half the length of the calyx; ſtamina very ſhort; capſule cylindrical, three valved; ſeeds ſmall, nearly of the ſhape of thoſe of the A. *rubra*. It flowers in June, and grows in barren ſandy fields, eſpecially in Cambridgeſhire, Norfolk, Worceſterſhire, and Oxfordſhire. 21. A. *laricifolia*, larch-leaved ſandwort; "leaves briſtly; ſtem nakediſh above; calyx rather ſhaggy;" root perennial; ſtems many, half a foot high, harſh, and rough; peduncles roughiſh, one-flowered; calyx marked with lines, pubeſcent; petals ovate, large, marked with lines, twice the length of the calyx; fruit long, cylindric. A native of France, Swiſſerland, &c. but not of Britain; the A. *laricifolia* of Withering being, according to Dr. Smith, a variety of the A. *verna*. 23. A. *ſtriata*, ſtraited ſandwort. Allion pedem. n. 1712, t. 26. f. 4. Villars' Dauph. t. 47. "Leaves linear, erect, preſſed to the ſtem; calyx oblong, ſtriated." Allioni and Villars differ much in their repreſentations of this ſpecies, and we have not the means of deciding which is right. It is a native of Swiſſerland. 23. A. *faſciculata*, cluſter-flowering ſandwort. Jacq. Auſt. 2. t. 182. *Stellaria rubra*, Scop. Carn. n. 538. t. 17. "Leaves ſubulate;" ſtem erect, ſtiff; flowers in cluſters; petals very ſhort; root annual; ſtem four inches high, pubeſcent; leaves linear, acuminate, erect, ſubcylindrical; flowers in bunches, dichotomous, on very ſhort pedicles; leaflets of the calyx long, ſubulate, ſtriated; petals very ſmall, ovate, white; capſule half the length of the calyx. A native of the ſouth of France, &c. introduced here by Mr. Zier in 1787. 24. A. *grandiflora*, great-flowered ſandwort. Allion. pedem. n. 1711. t. 10. f. 1. "Leaves ſubulate, flat, ſtiff; radical leaves crowded; ſtems one-flowered." A native of the ſouth of France, Swiſſerland, &c. Gouan remarks, that Linnæus and Allioni have made their deſcriptions from dwarf plants. His deſcription of the plant conſequently differs much from theirs. See Gouan illuſt. p. 30. 25. A. *auſtriaca*, auſtrian ſandwort. Jacq. Auſt. 3. t. 70. Allion. ped. n. 1708. t. 64. f. 2. "Stems under ſhrubby, proſtrate, thin, herbaceous, and erect; leaves ſubulate; flowers twin; petals emarginate;" perennial. Stems dichotomous or trichotomous; leaves linear, ſubvilloſe, pointed, connate at the baſe; ſtems, peduncles, and calyx villoſe; capſule five-valved, ſhorter than the calyx; ſeeds browniſh. A native of the mountains of Auſtria, Swiſſerland, and Piedmont. 26. A. *liniflora*, flax-flowered ſandwort. Jacq. Auſt. 5. t. 445. "Stems erect, branched below, under ſhrubby; leaves ſubulate; flowers twin;" perennial. Stems ſhort, diſtorted, perennial; branches annual, ſimple, erect; peduncles ſubpubeſcent, terminal, generally two; leaflets of the calyx lanceolate, two ſtreaked; petals obovate, white. A native of the ſouthern countries of Europe. 27. A. *recurva* Allion. ped. n. 1713. t. 89. f. 3. Ger. prov. 405 n. 7. t. 15. f. 1. "Radical leaves heaped, recurved, ſubulate; ſtem ſimple, bearing about three flowers;" perennial. Stems three inches high, ſimple; leaves towards the root aggregate, (in tufts,) briſtle-ſhaped; ſtem-leaves ſetaceous, unequal, flattiſh above, with the edges rolled back, two-ſtreaked. A native of Provence and Alpine mountains. 28. A. *obtuſa*. Allion. ped. 1714. t. 64. f. 4. "Leaves linear, flat, obtuſe; calyx viſcid;" perennial. Stems procumbent, branched; leaves connate, ſoft, green; branches uſually terminating by two flowers on long peduncles; leaflets of the calyx ovate-lanceolate, green; petals entire, ſcarcely larger than the calyx; fruit conical, five-valved. A native of the high Alps of Swiſſerland. 29. A. *lanceolata*. Allion. ped. n. 1715. t. 26. f. 5. "Leaves lanceolate, three-nerved, acute; calyx lanceolate, three-nerved;" root perennial, dark coloured, tough, creeping; ſtems filiform, in a tuft, branched, creeping, beſet with fine hairs; leaves lanceolate, acute, with three raiſed nerves; corolla ſpreading, large; ſtamens alternately ſhorter, longer than the petals; anthers ſmall, purple; fruit conical, five-valved. This and many other ſpecies of the genus are involved in much confuſion, from which they cannot eaſily be extricated. 30. A. *dianthoides*, Smith ic. ined. t. 16. "Leaves linear, ſcabrous at the edge; flowers capitated; bractes ventricoſe, longer than the peduncles." *Alſine, &c.* Tournef. cor. 17. Root woody, perennial; ſtems a foot high, ſix or ſeven jointed; leaves connate; ſtem claſping, acute, ſerrulate, and rough at the edges; flowers monoecious, in a head or terminal ſpike, on ſhort filiform peduncles, fenced with the bractes; petals obovate with claws; three times as long as the calyx. Found in Armenia by Tournefort. 31. A. *cucubaloides*, Smith ic. ined. t. 17. *Alſine orient. &c.* Tourn. cor. 17. "Leaves linear, ſcabrous at the edge; panicles dichotomous, pubeſcent; petals obovate;" root perennial; ſtems a foot high, round, ſmooth; leaves connate; ſtem claſping, acute; panicle ſpreading, terminating, viſcid; flowers the ſize and appearance of thoſe of common flax; bractes acute, ſcariofe at the edge, only one fourth of the length of the peduncles; leaflets of the calyx ovate, acute, keeled, ſtriated, viſcid, pubeſcent; petals white, with ſubpellucid ſtreaks; five of the ſtamens longer than the others; capſule one-celled, ventricoſe, ſhining, cloathed with the calyx; ſeeds numerous. Found in Armenia by Tournefort.

Propagation and Culture. The greater part of theſe plants are natives of Europe, and moſt of them affect mountainous ſituations. They have neither ſize nor brilliancy to be generally cultivated in gardens; many of them, however, are neat elegant plants. The perennial ſorts may be eaſily increaſed by ſlips, or parting the roots; but both theſe and the annual ſorts may be propagated from ſeeds. They require no other care than what is neceſſary for all hardy vegetables. Martyn's Miller's Dict.

ARENARIA, in *Ancient Writers*, is uſed for ſand-pits, or ground out of which ſand is dug. Vitruvius.

ARENARIA, in *Conchology*, a ſpecies of HELIX of the minute kind, found on the ſandy ſhores of Armenia. This ſhell is whitiſh, gloſſy, with extremely thin longitudinal ſtriæ; ſpire reverſed and hemiſpherical. Spengl. Gmelin. &c.

ARENARIA, a ſpecies of SERPULA that inhabits India and Africa. The ſhell is articulated, entire, diſtinct, and flattiſh beneath. Gmelin. It is white or whitiſh, and ſometimes marked with pale brown undulated rays; the inſide is ſmooth, outſide cancellated; the ſtriæ about one hundred in number, and frequently nodulous. The ſhell is twiſted ſpirally. *Obſ.* Gmelin doubts whether it may not be a Teredo inſtead of Serpula.

ARENARIA, in *Entomology*, a ſpecies of VESPA that lives in the ſands in America. This inſect is black; thorax ſpotted with yellow; abdomen faſciated on each ſegment with a ſix-dentated yellow band; the firſt linear, and interrupted. Fabricius, Gmelin, &c. *Obſ.* Gmelin has another ſpecies of Veſpa, under the ſame ſpecific name, viz. *ſphex arenaria*

arenaria of Linnæus: Fn. Suec. which he removes to this genus. It is black, with four yellow bands on the abdomen and two yellow dots on the firſt ſegment. This is found in Denmark and Sweden, and belongs to the ſection of the Vespa, genus *Crabro*, in Gmelin's arrangement.

Arenaria, a ſpecies of Formica found in the moveable ſands in Barbary. This is a large kind; has a great ovate head, and ſubgloboſe pubeſcent abdomen. The ſpecific character is this, black; thorax impreſſed behind and furniſhed with two ſpines; ends of the legs piceous. Fabricius and Gmelin.

Arenaria, in *Ornithology*, the name given by Briſſon to the bird called by Linnæus and Gmelin, *Tringa Interpres*; and *Turnſtone* or *Sea Dotterel*, by Engliſh writers.

Arenaria, a ſpecies of Tringa that inhabits the ſandy ſhores of Europe and the Caſpian ſea. The beak and legs are black; body grey, beneath white; lores grey. This is calidris griſea minor of Briſſon, Gmelin, &c.

ARENARII, in *Antiquity*, gladiators who combated with beaſts in the *arena* or amphitheatre. The *arenarii* were ſlaves of the loweſt rank, ſo that, though manumitted, they were not capable of being Roman citizens. They were the ſame with what were otherwiſe called Bestiarii.

ARENARIUM, in *Eccleſiaſtical Writers*, denotes a cæmetery or burying-ground. The *arenaria* were properly a kind of pits, or holes under ground, wherein the ancient Chriſtians not only buried their dead, but held their religious aſſemblies, in times of perſecution. Baron. Annal. and Du-Cange.

ARENARIUS, in *Entomology*, a ſpecies of Curculio reſembling C. liguſtici, but only about half the ſize of that inſect. The head is hoary; thorax granulated, and with the legs, black; wing-caſes connate, grey, and ſtriated with punctures. Herbſt. apud Fueſsli: inhabits Berlin.

Arenarius, a ſpecies of Cimex, very common in the northern parts of Europe. It is black; wing-caſes cinereous; wings white. Linnæus, Fabricius. *Obſ.* This belongs to the ſection *oblongus* in Gmelin's arrangement.

Arenarius, in *Ornithology*, a ſpecies of Tetrao, called by Latham the ſand grous. The collar, belly, and vent are black; two middle tail-feathers rather tawny, the reſt faſciated with brown and grey, and white at the tip. Pallas Nov. Comm. Gmelin, &c.

According to Dr. Latham, this bird is bigger than a partridge; length, more than nineteen inches; bill, blue-grey; tip black; head pale aſh-colour; crown and nape clouded yellowiſh-grey; chin deep yellow, terminated by a triangular black mark about the middle of the neck; the feathers of the throat and neck ſingularly truncated, and gloſſy like thoſe of a dove; the upper parts of the neck and body teſtaceous white; each feather ſurrounded with a brown border, encircling an oval yellowiſh ſpot; on the lower part of the neck a creſcent of black; the breaſt is white; belly, vent, and thighs, black; wings hoary, with a deep yellow ſpot on the ſecondaries; quills browniſh, obliquely white at the baſe; the tail has ſixteen feathers; the two middle ones pointed and yellowiſh, croſſed with brown lines; the others brown with grey lines; the tips white; legs ſlender, feathered to the toes, and are ſhort, naked, and callous beneath; claws black; behind is a ſpur, which turns inwards, and is prominent and pointed. The female is rather bigger; of a paler yellowiſh colour throughout; dotted on the head, neck, and throat, with black, and faſciated with the ſame on the back; the markings are leſs diſtinct than in the male, but it much reſembles it.

This ſpecies is found only in the middle of the deſerts extending towards the Caſpian ſea. It is very common about Aſtrachan in ſummer, and paſſes the winter in Perſia. Their food is the ſeeds of various kinds of aſtragali, and particularly of the ſpecies Alopecuroides, Cicer, and Phyſodes. They are ſeen in pairs in June; and as they drink much water, are obliged to frequent thoſe parts of the deſert where it is found. It is ſaid they go to the pools three times in the day, when they are ſo eager that they do not mind the ſportſman, though at other times they are very ſhy. They are no where more common than about the ſalty fountains at Barlu chuduk; fly like pigeons; and have a ſhrieking though not unpleaſant cry. The eggs are bigger than thoſe of a pigeon, and white.

ARENAS Islands, in *Geography*, are iſlands that lie 20 leagues north from Cape Condeceedo, or the North-weſt point of Campeachy bay in the gulf of Mexico.—Alſo four iſlands, ſituate on the coaſt of Terra Firma, on the north coaſt of the Spaniſh main or South America, before the bay of Bamba, weſt from St. Martha river and harbour; and ſheltering the bay from all winds.

ARENATA, in *Entomology*, a ſpecies of Phalæna, in the *Geometra* family. It is of the middle ſize, and inhabits Tranquebar. The wings, above, are without ſpots, beneath, ſpeckled and ſtreaked with brown. Fabricius.

ARENATION, a term that has been uſed by ſome phyſicians to denote a kind of dry bath, in which the patient only ſits with his feet in dry ſand.

ARENDÆ, in *Ancient Geography*, a town of Lycia, according to Ptolemy.

ARENDATOR, or Arrendator, is a term uſed in Livonia, Eſthonia, and ſome other parts of the Ruſſian empire, for a farmer of the farms, or a perſon who contracts with the crown for the rents of the farms; and the crown arendator is one who rents an eſtate belonging to the crown. The term "Arende" denotes both the eſtate that is let out, and the ſum for which it is let. Arende-corn, is corn paid as rent by admodiation.

ARENDONCK, in *Geography*, a town of Brabant, belonging to the French department of Deux Nèthes, and chief place of a canton in the diſtrict of Turnhout, two leagues eaſt of Turnhout. The place contains 2482, and the canton 6,662 inhabitants: the territory includes 237½ kiliometres and 6 communes.

ARENDSEE, a town of Germany, in the circle of Upper Saxony and old mark of Brandenburg, ten miles weſt of Seehauſen.

ARENE, or Aerné, in *Ancient Geography*, a town mentioned by Pauſanias (Meſſen. c. 2.); and, according to him, founded by Arpharæus, the grandſon of Perſeus, but he does not give its ſituation. Stephanus of Byzantium mentions two cities of this name, one in Meſſenia, and the other in Triphylia.

ARENIUM, a place of Italy, upon the Via Flaminia, near the Adriatic gulf.

ARENOSA, in *Conchology*, a ſpecies of Murex, found on the ſandy ſhores of India. The whorls of the ſpire are decuſſated with ribs, the firſt of which is large, and the three outermoſt ones ſmooth; beak, acute; aperture, oval; and the lip toothed exteriorly. Gmelin, &c. This is a minute ſhell.

Arenosa, in *Entomology*, a ſpecies of Sphex, found in Germany. It is black and hairy; ſecond and third ſegment rufous; wings as long as the body. Fabricius, Gmelin, &c.

Arenosa, in *Natural Hiſtory*, a ſpecies of Madrepora, that inhabits ſome parts of Africa. It is white; the ſtars contiguous, flattiſh; rather large and ochraceous. Brander, &c.

Arenosus, in *Entomology*, a ſpecies of Scarabæus, in the ſection *Trox* of Gmelin. The thorax is ſomewhat

canaliculated; wing-cafes, ftriated; body obfcure. Fabricius. Inhabits Saxony; and refembles fcarabæus fabulofus, but is not more than half its fize.

ARENSBERG, in *Geography*, a town of Germany, in the duchy of Weftphalia, fortified with a caftle; the capital of a county incorporated with the electorate of Cologn. It is fituated on the Roer, and divided into the old and new town; 48 miles north-eaft of Cologn, and 40 S. S. E. of Munfter. N. lat. 51° 23'. E. long. 7° 41'.—Alfo, a town in the circle of Weftphalia, and county of Schauenburg, 5 miles north of Rinteln.

ARENSBURG, a fea-port town and diftrict on the fouth fide of the ifland of Oefel in the Baltic fea, feparated from Ambrook ifland by a bay, and belonging to the government of Riga or Livonia.

ARENSWALDE, a town of Germany, in the circle of Upper Saxony and new mark of Brandenburg, 94 miles north-eaft of Berlin, and 50 north-north-eaft of Kuftrin. N. lat. 53° 10'. E. long. 15° 28'.

ARENTIA, in *Ancient Geography*, a river of Italy, near the frontiers of Etruria and Liguria. It fprung to the north-eaft of Luna, and difcharged itfelf into the fea near Carara.

ARENUSA, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Calabria ultra, 16 miles W. of St. Severina.

AREOLA, or AREOLA *mamillaris*, in *Anatomy*, the coloured circle which furrounds the nipple. See BREAST.

AREOLA, in *Conchology*, a fpecies of BUCCINUM, that inhabits the Mediterranean, and India. This fhell is fometimes fmooth; fometimes ftriated; and the ftriæ are larger, or fmaller in different fpecimens: its fpecific character is thus defined by Linnæus and Gmelin; fhell fomewhat ftriated, with four bands of fquare fpots; aperture dentated; beak recurved. This is *areola* of Rumphius, and *faburon* of Adanfon. The length is three inches.

AREOLA, a fpecies of TROCHUS defcribed by Chemnitz and Gmelin. It is convex, and ftriated tranfverfely; white, with fquare reddifh fpots; umbilicus crenulated; the whorls of the fpire are feparated by a white ftreak. Its native country is not afcertained.

AREOLA, in *Natural Hiftory*, a fpecies of MADREPORA without ftalk; undulations dilated, and in fome places doubled, with narrow truncated margin. This is madrepora fimplex fubpedunculata, ftella crifpato laciniofa lamellis crenulatis, of Pallas, and madrepora (areolata) conglomerata, anfractibus dilatatis, diffepimentis exefis fubinæqualibus, ambulacris duplicatis hinc dilatatis, lamellis denticulato crenulatis of Solander and Ellis. Petiver calls it corallium album fungoides ovale; and Sloane, fungus lapideus undulatus. It is amaranthus marinus of Valent; morille of Molin.; cariophilloides of Argenville; mycedium cavatum undulatum of Hill: and cerebrites of Knorr. It inhabits India and South America.

AREOLATA, in *Conchology*, a fpecies of PATELLA, refembling P. magellanica, but is more depreffed, and broader at the bafe; and by the direction of the ftriæ which crofs each other, is divided into triangular fpaces; the longitudinal ftriæ are about twenty-one in number; the habitat is unknown. Gmelin defines its fpecific character in thefe words; fhell pyramidal and reddifh grey, with very thin circular ftriæ, croffed by others which are longitudinal; vertex violet.

AREOLATA, in *Ichthyology*, one of the varieties of perca fummana, an Arabian fifh defcribed by Forfk. Fn. Arab.—Gmelin thus mentions it, areolata γ Perch, body whitifh-cinereous, with yellowifh-brown fpots. See PERCA SUMMANA.

AREOMETER. See ARÆOMETER.

AREON, in *Ancient Geography*, a torrent which difcharged itfelf into the Perfian gulf, near a place called *Gogana*.

AREONESUS, an ifland of the Euxine fea, called by Pomponius Mela, *Aria*. The inhabitants were deemed excellent archers.

AREOPAGUS, or ARÆOPAGUS, in *Antiquity*, a fovereign tribunal at Athens, famous for the juftice and impartiality of its decrees; to which the gods themfelves are faid to have fubmitted their quarrels.

Authors are divided, as to the reafon and origin of the name: feme imagine areopagus the proper name of the court of juftice, which was fituate on a hill near the citadel in Athens; and that in this court the fenate of that illuftrious city aflembled.—Others fay, that areopagus was the name of the whole fuburbs of Athens, wherein ftood the hill on which the court was built; and the name areopagus feems to countenance this laft opinion; for it fignifies literally, the hill or rock of Mars; from παγος, *hill*, and αρειος, *belonging to Mars*. In effect, the denomination might either arife hence, that the areopagus was built in a place where had been a temple of Mars; or, becaufe the firft caufe pleaded there was that of this god, who was accufed of killing Halirrhotius the fon of Neptune, and tried here before twelve gods, and acquitted by a majority of voices; or, finally, becaufe the Amazons, whom the poets feign to have been the daughters of Mars, when they befieged Athens, pitched their tents, and offered facrifices to the god of war in this place.

This tribunal was in great reputation among the Greeks, fo that it was denominated "the moft facred and venerable tribunal;" and Socrates fays that it was deemed fo facred, that if thofe who had been vicious were elected into it, they immediately gave up their former practices, and conformed to the rules of the fenate, becaufe they could not refift the authority of example, but were conftrained to appear virtuous. The Romans themfelves had fo high an opinion of it, that they trufted many of their difficult caufes to its decifion. Demofthenes fays, that in his time neither plaintiff nor defendant had any juft reafon to be diffatisfied with their proceedings. Innocence, fummoned to appear before it, approached without apprehenfion; and the guilty, convicted and condemned, retired without daring to murmur. Authors are not agreed about the number of the judges who compofed this auguft court. Some reckon thirty-one, others fifty-one, and others five hundred; in reality, their number feems not to have been fixed, but to have been more or lefs in different years. By an infeription quoted by Volaterranus, it appears they were then three hundred. At firft, this tribunal only confifted of nine perfons, who had all difcharged the office of archons, had acquitted themfelves with honour in that truft, and had likewife given an account of their adminiftration before the *logiftæ*, and undergone a very rigorous examination. Thofe who were admitted members of this aflembly were ftrictly watched, and their conduct was fcrutinized and judged by the court to which they belonged, without partiality. Trivial faults did not efcape cenfure. A fenator, it is faid, was puniftied for having ftifled a little bird, which from fear had taken refuge in his bofom: he was thus taught, that he who has a heart fhut againft pity fhould not be allowed to have the lives of the citizens at his mercy. The members of this auguft aflembly were not allowed to wear crowns, or to obtain any marks of honour conferred by the people, as a recompence for their fervices; nor were they allowed to folicit any; but they were rewarded by a bounty from the public, which they called χρεας; and they had alfo three oboli for every caufe in which judgment was given.

The

The areopagites were judges for life.—They never ſat in judgment but in the open air, and that in the night time; to the intent that their minds might be more preſent and attentive; and that no object, either of pity or averſion, might make any impreſſion upon them. However, ſome maintain, that the building in which the areopagites aſſembled, was not wholly uncovered; and they obſerve, that among the ruins, large ſtones have been found, whoſe joints are in the ſame angle with the pediment that muſt have been uſed for a covering. Mr. Spon, who examined the antiquities of that illuſtrious city, found ſome remains of the areopagus ſtill exiſting in the middle of the temple of Theſeus, which was heretofore in the middle of the city, but is now without the walls. The foundation of the areopagus is a ſemicircle, with an eſplanade of 140 paces round it, which properly made the hall of the areopagus. There is a tribunal cut in the middle of a rock, with ſeats on each ſide of it, where the areopagites ſat, expoſed to the open air. At firſt they only took cognizance of criminal cauſes; but in courſe of time their juriſdiction became of greater extent. This court is recorded as the firſt that ſat upon life and death; and the trial of wilful murder ſeems to have been the original deſign of its inſtitution. In later ages, all incendiaries, aſſaſſins, conſpirators, deſerters of their country, treaſons, and moſt capital cauſes in general, fell under its cognizance. The opinion which the ſtate entertained of the wiſdom, gravity, and ſanctity of its members, gained for them an unlimited power; inſomuch that, according to Solon's regulation of this aſſembly, the inſpection and cuſtody of the laws, the management of the public funds, the guardianſhip of young men, and the education of youth according to their rank, were committed to them. Their power extended to perſons of all ages and ſexes, to puniſh the idle and profligate, and to reward the ſober and virtuous, according to their own pleaſure. For this purpoſe they were empowered, by entering and examining private houſes, to condemn every uſeleſs perſon as dangerous, and every expence not proportioned to the means of the citizen as criminal. Beſides they took cognizance of religious matters, blaſphemy, contempt of holy myſteries, the erection and conſecration of temples and altars, and the introduction of new ceremonies: nevertheleſs, they interfered in public affairs only in caſes of emergency or danger. As this aſſembly exhibited the greateſt firmneſs in puniſhing crimes, and the niceſt circumſpection in reforming manners; as it never employed chaſtiſement till advice and menaces were ſlighted; it acquired the eſteem and confidence of the people, even whilſt it exerciſed the moſt abſolute power. Its meetings were held three times in every month, viz. on the 27th, 28th, and 29th days, but on any urgent buſineſs, the ſenators aſſembled in the royal portico.

The Court was divided into ſeveral committees, each of which took cognizance of ſeparate cauſes, if the multiplicity of buſineſs would not allow time for them to be brought before the whole ſenate: and this was done by lots, that the cauſes might not be prejudged. In crimes that concerned religion or the ſtate, the power of this court was limited to preparing the matter for a trial; and it then made its report to the people, without coming to any concluſion. The accuſed then had it in his power to offer new pleas in his defence; and the people named orators to conduct the proſecution before one of the ſuperior courts.

Trials in the Areopagus were preceded by tremendous ceremonies. The two parties, placed amidſt the bleeding members of the victims, took an oath, which they confirmed by dreadful imprecations againſt themſelves and families. They called to witneſs the Eumenides, who, from a neighbouring temple dedicated to their worſhip, ſeemed to liſten to the invocation, and prepare to puniſh the perjured. They then proceeded to the trial; requiring all pleadings to be conducted in the ſimpleſt terms, without exordium, epilogue, or appeal to the paſſions. After the queſtion had been ſufficiently diſcuſſed, the judges ſilently depoſited their ſuffrages in two urns, one of braſs called the urn of death, and the other of wood called the urn of mercy. This mode of giving votes was afterwards abandoned, and they were delivered in public, by caſting their calculi or flints upon two tables, one for thoſe that acquitted, and the other for thoſe condemned: when the numbers were equal, an inferior officer added, in favour of the accuſed, the ſuffrage of Minerva, ſo called, becauſe, according to an ancient tradition, this goddeſs being preſent in the court of areopagus at the trial of Oreſtes, gave her caſting vote to turn the ſcale of juſtice. In ſome cauſes the ſentence of this court was not final; but an appeal might be made to the courts to which they reſpectively belonged.

This court is ſaid by ſome, as by Plutarch and Cicero, to have been inſtituted by Solon; but others carry it much higher, and aſſert it to have been eſtabliſhed by Cecrops, about the year before Chriſt 1556, or by Cranaus, one of his ſucceſſors; maintaining alſo, that Solon only made ſome new regulations in it, increaſed its power and privileges, and made it ſuperior to the ephetæ, another celebrated court inſtituted by Draco.—In effect, Demoſthenes himſelf, in his oration againſt Cteſiphon, owns himſelf at a loſs on the point: "The inſtitutors of this tribunal (ſays he), whatever they were, whether gods or heroes," &c.

This court preſerved its authority uncorrupted and entire till the time of Pericles, who, not having borne the office of archon, could not be admitted into it; and therefore employed all his art and intereſt to undermine it. This at length he ſo effectually did, that his contempt of it ſerved to leſſen its dignity: and from that time the ſame exceſſes and vices which were practiſed in the city gained ground among the areopagites themſelves, until by degrees they loſt all their former power and eſteem.

When the apoſtle Paul was ſummoned to appear before the court of areopagus, under a charge of being "a ſetter forth of ſtrange gods," (ſee Acts, xvii.) and conſequently of having violated the law that ſubſiſted at Athens, which made it capital to introduce or teach any new gods, his conduct exhibited an admirable union of wiſdom and fortitude. In ſuch a caſe an impoſtor would have retracted his doctrine to ſave his life; and an enthuſiaſt would have loſt his life, without trying to ſave it by innocent means. St. Paul did neither the one nor the other: he availed himſelf of an altar which he had found in the city, inſcribed, "To the unknown God;" and pleaded that he did not propoſe to them the worſhip of any new god, but only explained to them one whom their government had already received; "whom therefore ye ignorantly worſhip, him I declare unto you:" by this he avoided the law, and eſcaped being condemned by the Areopagus, without departing in the leaſt from the truth of the goſpel, or violating the honour of God. "An admirable proof, in my opinion," ſays Lord Lyttleton, (on the Converſion of St. Paul, in Miſc. Works, vol. ii. p. 60.) "of the good ſenſe with which he acted, and one that ſhews there was no mixture of fanaticiſm in his religion." See ALTAR.

AREOPOLIS, in *Ancient Geography*, a city of Arabiæ Petræa, ſituate on the river Arnon, and called alſo Ar and Rabbath-Moab.

AREOSTYLE. See ARÆOSTYLE.

AREOTICS. See ARÆOTICS.

AREQUIPA, or ARIQUIBA, in *Geography*, is one of the largeſt

largeſt cities in Peru South America; and was founded by Don Franciſco Pizarro, in 1539. It ſtands in the valley of Quilca, about twenty leagues from the ſea, in a fertile country. Near it is a dreadful volcano. The air is very temperate, and the beſt in the country; but it has been four times laid in ruins by earthquakes. It is very populous, and well built, contains a convent and two nunneries, and had a college of Jeſuits. It has a biſhoprick in Lima, and lies 290 miles ſouth by eaſt from that city. S. lat. 16° 40'. W. long. 75° 30'.

ARES, a town in Germany in the county of Tyrol, eleven miles ſouth-weſt of Tyrol.

ARES, a term framed by Paracelſus, to expreſs a hidden diſpoſer, in the three principles of things, from which each being receives its proper form and ſubſtance, and aſſumes its own ſpecific nature, not that of any other being. Paracelſus diſtinguiſhes the *ares* into *archeical*, which is *natural*; and *chemical*, which is artificial. See ARCHÆUS.

ARESCHE, in *Geography*, a town of France, in the department of Jura, and chief place of a canton in the diſtrict of Arbois, ſix miles eaſt of Arbois.

ARESKUTAN, is the name of a ſolitary mountain of Jamtland, in Norway, about four or five Swediſh miles from the higheſt Alps which ſeparate Norway from Sweden; and it is ſaid to be 6162 Engliſh feet above the neareſt rivers.

ARESTI, FLORIANO, in *Biography*. See FLORIANO.

ARESTINGA, an iſland of the Indian ocean, towards Kerman and the town of Dulcinda, ſuppoſed to be the Liba of Ptolemy.

ARETALOGI, in *Antiquity*, a ſort of philoſophers, chiefly of the cynic or ſtoic tribe, who having no ſchool or diſciples of their own, haunted the tables of great men, and entertained them in their banquets with diſputations on virtue, vice, and other popular topics. Pitiſcus Lex. Theſe are ſometimes alſo denominated *circulatores philoſophi*. Calvin. Lex. Jur.

ARETÆUS of *Capadocia*, in *Biography*, an early Greek writer, practiſed medicine at Rome, but at what period is not exactly known. That he lived after the time of Andromachus, phyſician to the emperor Nero, is evident from his mentioning the Theriaca, a medicine invented by that writer, and that he did not live long after that time, Haller conjectures from the purity of his ſtyle. Dioſcorides, who lived a little before the time of Galen, quotes Aretæus. Hence we may infer that he flouriſhed ſome time between the reigns of Veſpaſian and Adrian. Eight of his books, on the cauſes, ſigns, and method of treating acute and chronical diſeaſes, have been preſerved, but all of them, as it appears, mutilated and imperfect; Ætius having quoted ſeveral paſſages from his works, which are not found in the copies that have come to our hands. The works, however, are in high eſtimation, as well for the accuracy with which the diſeaſes are deſcribed, as for the judicious practice recommended in curing them. Aretæus was a bold and deciſive practitioner, and made much uſe of hellebore and other draſtic medicines. He is one of the earlieſt writers who recommends cantharides for raiſing veſications on the ſkin. The tranſlation of the works into Latin by Junius Paulus Craſſus, was publiſhed in 8vo. at Venice in 1552, and continued in uſe, being frequently republiſhed, until 1723, when Dr. Wigan of Oxford made a new verſion. This was publiſhed in folio, with the Greek text in the oppoſite page, and enriched with a preface, notes, and critical diſſertations. A Greek edition by Jacobus Goupylus, was printed at Paris in 1554, 8vo.; and reprinted by H. Stephens. A Greek and Latin edition was publiſhed by Heniſchius, in 1603, fol. It has been ſince edited by Boerhaave in 1731, with additional notes and obſervations; and again by Haller in 1771, with further emendations. An Engliſh tranſlation of Aretæus from the original Greek, was publiſhed by Dr. Moſſat in 1785, 8vo. Caſtellina Vitæ Illuſt. Medic. Haller Biblioth. med. pract.

ARETE, the daughter of Ariſtippus of Cyrene, was a female of talents and learning, entitling her to a place in the catalogue of philoſophers. She flouriſhed about 360 years before Chriſt, profeſſed and taught the doctrine of her father, and preſided over the Cyrenaic ſchool after his death. Laert. l. ii. § 86. Clem. Alex. Strom. l. iv. p. 523. Brucker's Hiſt. Phil. by Enfield, vol. i. p. 188.

ARETE, in *Entomology*, a ſpecies of PAPILIO (*Nymph.* Gme.) The wings are entire, brown, with a ruſous band; on the poſterior pair both above and beneath a ſtreak of whitiſh dots. Fabricius. Inhabits Auſtria.

ARETHAS, in *Biography*, biſhop of Cæſarea, was the author of a commentary upon the Revelation, collected, according to Mill, from that of his predeceſſor Andrew, and from the works of Irenæus, Hippolytus, Gregory Nazianzen, Cyril of Alexandria, and others. Cave, Mill, Lardner, and others, refer this writer to the middle of the ſixth century; but Caſimire, Oudin, and Fabricius, are of opinion that he lived in the tenth century. Dr. Lardner obſerves that he cites moſt or all the books of the New Teſtament, and hence infers, that he received all the ſame books which we acknowledge; he alſo quotes Solomon's ſong. Cave. H. L. t. i. p. 520. Lardner's works. vol. v. p. 274.

ARETHON, in *Ancient Geography*, a navigable river of Epirus, which had its ſource in Athamania, and diſcharged itſelf into the Ambracian gulph near Ambracia. Ptolemy calls this river Arachthus. Livy, l. xxxviii.

ARETHUSA, in *Botany*, a genus of plants belonging to the natural order *Orchideæ*. Lin. g. 1014. Schreb. 1373. Juſſ. 65. *Orchidion*. Mitch. 19. Claſs, *gynandria diandria*. Gen Char. *Cal.* ſpathe leafy, perianth none. *Cor.* ringent, petals five, oblong, ſubequal, two placed more outward than the others; all converging into a helmet. Nectary one-leafed, tubular at the baſe, within the bottom of the corolla, two-parted; lower lip reflex, broad, wrinkled, the length of the petals, hanging down forwards; upper lip linear, very tender, faſtened to the ſtyle, lobed at the top. *Stam.* filaments two, very ſhort, ſitting on the top of the piſtil; anthers ovate, compreſſed, covered with the folding of the inner lip of the nectary. *Piſt.* germ oblong, inferior; ſtyle oblong, incurved, cloathed with the inner lip of the nectary; ſtigma funnel-ſhaped. *Per.* capſule oblong-ovate, one-celled, three-valved, gaping at the angles. *Seeds*, numerous, chaffy.

Eſſ. Gen. Char. Nectary tubular, within the bottom of the corolla; lip faſtened to the ſtyle.

Species, 1. A. *bulboſa*, bulbous rooted arethuſa, "root globoſe; ſcape-ſheathed; ſpathe two leaved." It grows in watery places, as bogs, &c. in Virginia, Carolina, and Canada. Introduced here 1784, by Mr. William Young. 2. A. *ophioglooſſoides*, adders-tongue leaved arethuſa. Helleborine virg. &c. Pluk. Alm. t. 93. f. 2. Cypripedium. Gron. virg. 1. 110. Hort. Cliff. 430. "root fibrous, leaf of the ſcape oval; ſpathaceous; leaflets lanceolate." A native of the ſame places as the preceding ſpecies. 3. A. *divaricata*, lily-leaved helleborine or arethuſa. *Serapias*, Gron. virg. i. p. 184. helleborine lilii folio, &c. Cateſb. car. i. t. 58. "root ſubpalmate; leaf of the ſcape and leaflet of the ſpathe lanceolate; outer petals riſing." It grows in the ſame countries and ſituations as the firſt and ſecond ſpecies. 4. A. *capenſis*, cape arethuſa, ſupp. 405.; "bulb round; ſtem two-leaved; ſimple, one-flowered; leaves two, alternate, ſheathing, awl-ſhaped." Found at the cape of Good Hope by Thunberg. 5. A. *villoſa*, villoſe arethuſa, ſupp. 405.; "bulb round; leaves ovate, ciliate, pubeſcent.' This was

alſo

alſo diſcovered at the Cape by Thunberg. 6. A. *ciliaris*, ciliated arethuſa; orchis burmanniana, ſyſt. ed. 13; "root fleſhy; leaf kidney-ſhaped, orbiculate; lip ciliate;" bulb villoſe, double; ſcape ſix or ſeven inches high; leaf one, ſubradical, heart-ſhaped, nerved, ſtem claſping; flower one, nodding; germ hairy, the length of the petals; upper petals rather erect, lanceolate; two lower longer, lanceolate, enſiform; horn of the nectary moon-ſhaped, ſhorter than the germ; lip large, ſubtripartite, ciliated, middle diviſion bifid; raments ſetaceous, longer than the lip itſelf; column of the ſtamens riſing half the length of the petals. Found at the Cape, by Sparrman; introduced in 1787, by Mr. Maſſon. 7. A. *biplumata*, two-feathered arethuſa, Smith, ic. ined. t. 23.; "ſcape ſheathed; ſpathe cowled; the two lower petals elongated, bearded on the upper ſide;" ſtem ſimple, erect, a foot high; radical leaves linear-lanceolate, equitant at the baſe; ſtem-leaves ſix or ſeven, membranaceous, acute, ſheathing, alternate; flower terminal, ſolitary, erect, purple: germ inferior, obconical, ſmooth: three outer petals of the corolla longer, irregular: the upper ſomewhat vaulted, acute, naked; the two lower ones ſubulate, broad at the baſe, bearded on the upper ſide near the top with club-ſhaped hairs, or ſtipulate glands; the two inner petals ſhorter, oppoſite, ſomewhat rhomb-ſhaped, acute, netted with purple veins; roots faſciated or in bundles.

Propagation and Culture. The three firſt are hardy and will endure the rigour of our climate. The three next muſt be kept in the conſervatory or cape-ſtove. The laſt muſt be preſerved in the bark ſtove. But none of theſe plants have yet been introduced into England, except the firſt and ſixth. Conſidering their places of growth, in bogs and watery places, it will be no eaſy matter to preſerve them long with us. See Martyn's Miller's Dict.

ARETHUSA, in *Entomology*, a ſpecies of PAPILIO (*Nymphalis*, Gm.). The wings are dentated, above brown, with a band ſpotted red; the anterior with a ſingle ocellus on each ſide. Inhabits Germany, and is very like the Semela.

ARETHUSA, in *Ancient Geography*, a town of Aſia, in Syria, ſituate on the river Orontes, ſouth-eaſt of Epiphania, between this town and Emeſa, and diſtant from Antioch, according to Antonine's Itinerary, 16,000 paces. It was a biſhop's ſee ——Alſo a town of Macedonia, in the diſtrict called Amphaxitis.——Alſo, a town of Judæa, mentioned by Joſephus, and reſtored by Pompey to its original inhabitants.

ARETHUSA, a lake of Aſia, in the greater Armenia, ſouth of the mountain Niphates, and not far from the ſource of the Tigris, which traverſes it. According to Pliny (H. N. l. vi. c. 27.) it exhaled nitrous vapours.——Alſo a fountain of Greece, in Bœotia, not far from the city of Thebes.——Alſo, a fountain in the iſland of Eubœa.——Alſo, a fountain of Magna Græcia, in Brutium, now the gulf of Squilaci, according to Caſſiodorus.——Alſo, a fountain of the iſle of Ithaca, called Cypara, according to Stephanus Byz. ——Alſo, a famous ſpring in the iſland of Sicily, near Syracuſe. For an account of the fable relating to this fountain and Alpheus, ſee ALPHEUS. Virgil refers to it in his 10th Eclogue.

"Extremum hunc, Arethuſa, mihi concede laborem—
Sic tibi, cum fluctus ſubterlabêre Sicanos,
Doris amara ſuam non intermiſceat undam."

"Thy ſacred ſuccour, Arethuſa, bring,
To crown my labour: 'tis the laſt I ſing.
So may thy ſilver ſtreams beneath the tide,
Unmixed with briny ſeas, ſecurely glide."

The water of this fountain, formerly celebrated for its ſoftneſs and ſweetneſs, is now brackiſh, and fit for no purpoſe but waſhing linen. It is defended from the ſea by a wall, and almoſt hidden by houſes on every ſide. Rubbiſh has choaked up its ſalutary ſpring; the waves have found a paſſage through the rocks, ſplit by repeated earthquakes; and not a fiſh is to be ſeen in it. After an earthquake it has been left dry; and at other times its waters have been tainted by ſubterraneous effluvia. Its fountain-head probably lies among the neighbouring hills.

ARETHUSA, in *Mythology*, was one of the Heſperides.

ARETHUSUS, in *Entomology*, a ſpecies of PAPILIO. (Dan. Feſt. Gmel.) The wings are very entire, black, with blue ſpots; poſterior pair dotted with ſanguineous red beneath. Fabricius. *Obſ.* This is *papilio arethuſa* of Cramer; and *papilio laodamia* of the ſame author is ſuppoſed by Gmelin to be a variety (β) of this ſpecies likewiſe.

ARETHYREA, ARETHUREA, in *Ancient Geography*, a name given by Homer to a ſmall country of Peloponneſus, near Achaia.

ARETIA, in *Botany*, ſo called by Haller, in honour of B. Aretius, a clergyman of Berne in the fifteenth century, the teacher of botany to the famous Geſner; Haller, helv. t. 8. f. 1. Lin. gen. n. 195. Rich. 108. Schreb. 256. Juſſ. 96. Claſs, *pentandria monogynia*. Nat. Order of *preciæ; lyſimachiæ* Juſſ. 96. Gen. Char. *Cal.* perianth, one leafed, bell-ſhaped, ſemiquinquefid, bluntiſh, and permanent. *Cor.* monopetalous, ſalver-ſhaped, tube ovate, length of the calyx, contracted at the neck; limb five-parted; diviſions obovate: *Stem.* filaments five, conic, in the middle of the tube very ſhort; anthers erect, ſharpiſh, within the throat of the corolla. *Piſt.* germ roundiſh; ſtyle filiform, length of the tube; ſtigma flat-headed. *Per.* capſule, one-celled, five-valved. *Seeds* five, Jacq.; three and five, Reich.

Eſſ. Char. *Cor.* ſalver-ſhaped, five-cleft, tube ovate; ſtigma flat-headed; capſ. one-celled, globular, with about five ſeeds.

Species, 1. A. *helvetica*, imbricated aretia; diapenſia helvetica, Lin. Spec. 203. Mant. 205. Jacq. vind. 303. androſace diapenſia, Villars' Dauph. ii. 472. "leaves imbricate, flower ſubſeſſile; root perennial, with inumerable ſtems forming thick tufts, covering the rocks where it grows, each branch terminated by one flower; fruit roundiſh with angles; ſeeds longer, darker, and in number fewer than in primula and androſace, and germ containing rudiments of five ſeeds two or three of which are abortive. A native of the weſtern Alps of Swiſſerland, and of Dauphiné. 2. A. *alpina*, linear-leaved A. Androſace cauleſcens, &c. Amæn. Acad. andr. aretia, Villars' Dauph. "leaves linear, ſpreading, flowers pedunculated;" tufts of leaves, linear, harder, and wider than the other; fruit often abortive, with ſometimes ten or twelve ſeeds in dry airy ſituations. Haller enumerates three varieties; (α) harder and the leaves almoſt ſmooth; fruit round, compreſſed, five-valved; (β) more tender, leaves more villoſe, not ſpreading ſo much, and ſhorter; flower roſe-coloured with the leaves and calyx covered with a cloſe white ſcale; (γ) flowers purple; theſe are found on different parts of the Swiſs Alps; the ſecond on Mount St. Bernard, Simplon, &c.; the third in the Griſons, and valley of St. Nicholas. Villars gives three varieties, which he ſuſpects to be diſtinct ſpecies: (*a*) hoary, with the hairs of the leaves branching, flowers white, often terminating: (*b*) hirſute, hairs of the leaves branching, flowers purpliſh, axillary, (*c*) hirſute, hairs of the leaves ſimple, flowers white, with a purple eye: the ſecond forms fine tufts of red flowers on Mount St. Bernard, 1260 toiſes above the level of the ſea, and carries vegetation to the height of nearly 1700 toiſes, not much leſs than two miles. This ſpecies occurs alſo in Auſtria: this and the foregoing were introduced in

1775, by Dr. Pitcairn and Fothergill. 3. A. *vitaliana*, grafs-leaved aretia; viteliana perennis, &c. Seſt. epiſt. t. 10. f. 1. ſedum alpinum, &c. colum. ecphr. 2. t. 65. f. 1. Raii. hiſt. 1044. 1. Sanicula alpina, &c. Pluk. Alm. t. 108. f. 6. "leaves linear, recurved; flowers ſubſeſſile;" a ſmall plant, always lying on the ground; root perennial, with diſtinct tufts, forming roſes like the ſedum; corolla deep yellow, with a long tube, with five large glands in the opening; fruit round and ſmall, with five kidney-ſhaped ſeeds. Native of the Pyrenées, the High Alps, between the Valais and Italy, and in Dauphiné; introduced here in 1787, by Monſ. Cels.

Theſe are all ſmall perennial alpine creeping plants; the little ſtems are covered with leaves; the flowers are axillary, and almoſt ſolitary.

Propagation and Culture. Theſe plants are preſerved in gardens with difficulty. They require a ſhady ſituation: and the ſeeds, if preſerved, ſhould be ſown as ſoon as poſſible. They may be alſo propagated from offſets or ſlips, and by parting the roots. Martyn's Miller's Dict.

ARETINI, in *Ancient Geography*, a people of Italy, in Etruria. Pliny diſtinguiſhes them into three claſſes, viz. Aretini veteres, Fidentes, and Julienſes; and their territory was divided into three different diſtricts.

ARETINO, Francis, in *Biography*, ſee *Francis* Accolti.

Aretino, Guido. See Guido.

Aretino, John, ſurnamed *Tortellius*, a grammarian, flouriſhed about the middle of the fifteenth century, and was librarian and chamberlain to pope Nicholas V. He was the author of a grammatical work "De poteſtate literarum," and of a life of Athanaſius; and though not very much diſtinguiſhed by literary attainments, he never diſhonoured learning by fierce and injurious diſputes. The treatiſe of Laurentius Valla, "De latinâ elegantiâ," was dedicated to him. Voſſ. de Hiſt. Lat. l. iii. c. 7. Gen. Dict.

Aretino, Leonard, a learned hiſtorian, derived his name from Arezzo, where he was born of the family of Bruni, in the year 1370. Having acquired under the inſtruction of Emanuel Chryſoloras an accurate acquaintance with the Greek language, he was diſtinguiſhed as one of the firſt reſtorers of Greek literature in Italy. By his reputation for talents and learning, aided by the good offices of his friend Poggius, he obtained the office of ſecretary of the briefs under Innocent VII. which he enjoyed during this and the four ſucceeding pontificates. When pope John XXIII. whom he accompanied to the Council of Conſtance in 1415, was depoſed, he returned to Florence, and devoted his leiſure to the gratification of his taſte in the purſuits of literature, and in the compoſition of various works. He was afterwards employed in ſeveral embaſſies on the behalf of the republic of Florence, of which he was chancellor; and by his economy, or rather parſimony, he amaſſed a large fortune. He died at Florence in 1444; his funeral was magnificently celebrated at the public expence, and whilſt his funeral oration was pronounced, the orator, by order of the magiſtrates, crowned the coffin with laurel. Aretino was regarded as one of the firſt men of his age for genius and learning, and as one of thoſe who formed the epocha of the revival of literature. The Latin inſcription on his tomb in the church di St. Croce, is to this purpoſe: "Since Leonardo paſſed out of life, hiſtory mourns, eloquence is mute; and it is ſaid, that neither the Grecian nor Roman muſes could refrain from tears." His works, both as original compoſitions and tranſlations, are very numerous: to the former claſs may be referred "The hiſtory of ancient Greece," 8vo. Venice, 1543; "An attempt to ſupply in part the defect of the ſecond Decad of Livy," in two books, 4to. Augſburg, 1537; "An hiſtory of the tranſactions of his own times in Italy, from 1378 to 1440," 4to. Lyons, 1539; "Hiſtory of Florence," fol. 1746; "On ſtudies and letters," republiſhed by Naude in 1642; and "Epiſtles," republiſhed at Florence, with notes, and the life of the author, by Mehus, 8vo. 1741, which work is much valued for the hiſtorical information which it contains. His latin tranſlations are ſeveral of Plutarch's lives, and Ariſtotle's ethics and politics; the latter of theſe tranſlations was dedicated to Duke Humphrey of Glouceſter, and the copy preſented to him by the tranſlator, moſt elegantly illuminated, is now in the Bodleian library at Oxford. His "Hiſtory of the Goths," publiſhed, to his diſhonour as an original work, but diſcovered to be a tranſlation of the Greek of Procopius; and "Three books of the Punic war," publiſhed in 8vo. in 1537, another plagiariſm, as the work is for the greateſt part a tranſlation from Polybius, though the author denies this in his preface. Eraſmus, ſpeaking of Aretino's Latin ſtyle, ſays, "that his works are written neatly and with eaſe, and ſometimes are even Ciceronian; but his language wants ſtrength, and his Latinity is not always pure." Voſſ. de Hiſt. Lat. l. iii. c. 5. Gen. Dict. Nouv. Dict. Hiſt.

Aretino, Peter, denominated "the ſcourge of princes," was the natural ſon of Louigi Bacci of Arezzo, and born in the year 1492. His education was mean, and his knowledge did not extend even to the learned languages. The reputation which he acquired as a writer, was principally owing to the virulence of his ſatire. His career in this way commenced with attacks on the clergy; and he then proceeded to ridicule princes and ſovereigns, whom by this kind of talent he held in ſuch awe, that ſome of the firſt potentates in Europe, and particularly Charles V. and Francis I. became his tributaries. When the former came from his unfortunate and ill-concerted expedition into Africa, he purchaſed the ſilence of this profligate ſatiriſt by the preſent of a chain of gold that coſt 100 ducats: "a trifling gift indeed," ſaid Aretino, "for ſo great a folly!" So arrogant did his ſucceſs make him, that he cauſed to be iſſued a medal, bearing on one ſide "the divine Aretino;" and on the other, a figure of himſelf, ſeated on a throne, receiving the envoys of princes. Some of the Italian princes, however, leſs complaiſant than theſe two kings, found the threat of cudgelling the ſatiriſt a more effectual mode of ſilencing him than pecuniary bribes. Aretino, when it ſerved his intereſt, was no leſs profuſe in his adulation than in his abuſe; and whether he praiſed or blamed, his object was perſonal emolument. His works in proſe and verſe were very multifarious; but their diſtinguiſhing characteriſtics were far-fetched conceits and coarſe jeſts, blended with ſome ingenious turns, and expreſſed in pointed and forcible language. They have now ſunk, together with his ill-earned fame and influence, into merited oblivion. The performances which have entailed the chief diſgrace on his memory by their licentiouſneſs and indecency, were his "letters and ſonnets, accompanying the ſixteen poſtures," engraved by Marco Antonio of Bologna from the deſigns of Julio Romano; and his "Regionamenti," or diſcourſes of a ſimilar caſt, in three parts. Although his writings abound with indecent levities ſufficiently culpable, they contain no avowal of irreligious principles; and therefore the charge of atheiſm brought againſt him, muſt have been founded on his ſatirical and unwarrantable abuſe of the clergy. It may appear inconſiſtent and even aſtoniſhing that this licentious author was alſo employed in writing the lives of St. Catharine of Sienna and of St. Thomas Aquinas, and compoſing penitential hymns and other devotional pieces; but he thus contrived to ſeparate religion from

good

good morals. Aretino died at Venice in 1556, at the age of 66 years. An Italian wit wrote an epitaph for him, the turn of which was, "that he calumniated every one but God, whom he ſpared only becauſe he did not know him." Gen. Dict. Nouv. Dict. Hiſtor.

ARETOLOGY, Aretologia, that part of moral philoſophy which treats of virtue, its nature, and the means of arriving at it.

AREVA, in *Ancient Geography*, now the *Adaja*, a river of Spain in the country of the Arevaci. See Adaja.

AREVACI, a people of Spain, who inhabited the interior part of the country to the ſouth-eaſt of the Vaccæans, from the ſource of the river Nareva to the mountains in which was the ſpring of the Durius or Duero.

AREVALILLO, in *Geography*, a river of Spain, which runs into the Adaja, a little above Arevalos.

AREVALOS, a town of Spain, in Old Caſtile, on the confines of Leon, between the rivers Adaja and Arevalillo, ſix leagues S.E. of Medina del Campo.

AREUS, in *Ancient Geography*, a ſmall river on the coaſt of Aſia, in Bithynia.

AREZIBO, in *Geography*, a town of the iſland of Porto Rico, three leagues from St. John.

AREZZO, anciently Arretium, or Aretium, a town of Italy, in the duchy of Tuſcany, the ſee of a biſhop, ſuffragan of the archbiſhop of Florence, but exempt from his juriſdiction. It lies on a declivity in the midſt of a fertile plain, producing grain, wine, and oil. In the time of the Romans, it was one of the twelve principal cities of Etruria; but it was over-run and deſolated by Sylla, becauſe in the Social war it was leagued with the enemies of Rome; and he conducted thither the inhabitants who were denominated Aretini Novi. For ſome time it formed an ariſtocratic republic; afterwards it became incorporated with the territory of the Florentines; and at length was transferred to the dominion of the Medicis, with the reſt of Tuſcany. This city was the native place of Mæcenas, Guido Arezzo, Aretin, and Petrarch. It is ſituated thirty-four miles ſouth-eaſt of Florence, and twenty-five E. N. E. of Sienna. N. lat. 43° 28′. E. long. 11° 50′.

ARFARA, one of the ſmaller of the Shetland iſlands.

ARFAS, in *Ancient Geography*, a town of Judæa, in the half-tribe of Manaſſeh, on the other ſide of the Jordan. According to Joſephus, it was the boundary of Trachonitis to the eaſt.

ARFEUILLE, in *Geography*, a town of France, in the department of the Allier, and chief place of a canton, in the diſtrict of Cuſſet, four leagues eaſt of Cuſſet, and four ſouth of Donjon.

ARG, a river of Germany, in Suabia, paſſes to Wangen, and diſcharges itſelf into the lake of Conſtance. It is the Argus of the Latins.

ARGA, a river of Spain, riſes in the Pyrenées, in the frontiers of Lower Navarre, traverſes Pampeluna, and joins the Arragon over againſt Villa-Franca.

Arga, or *Algiar*, a ſmall town of Arabia Petræa, in the government of Medina, ſeated on the Arabic gulf, and weſt of Medina, to which it is conſidered as a ſea-port. Some call it Egra, and others ſuppoſe it to be the ſame with Dsjar.

Arga, a branch or rib of the Altay mountains which paſſes weſtward to the river Yus.

ARGADES, in *Ancient Geography*, a river of Aſia, in Sitacene, mentioned by Ælian, Hiſt. Anim. l. xvi.—Alſo, a tributary town of Attica, noticed by Herodotus, and by Plutarch called Ergades.

ARGADINA, a ſmall town of Aſia in Margiana, according to Ptolemy.

ARGÆUS, a mountain of Aſia, being the higheſt in Cappadocia, with its ſummit always covered with ſnow, according to Strabo.

ARGAIS, an iſland of the Mediterranean ſea, on the coaſt of Aſia Minor, in Lycia, according to Steph. Byz.

ARGAL, or Argol, the hard lees ſticking to the ſides of wine-veſſels; more frequently called tartar.

ARGALI, in *Zoology*, a name ſynonymous with Muſimon, Ovis Ammon, Wild ſheep, Mouflon, &c. See Ammon. It is the ſame animal from which it is believed all the varieties and domeſticated kinds of that uſeful creature, the common ſheep, have originated, and is found in a ſtate of nature in the Alpine regions of the great continent of Aſia.

Linnæus, in the twelfth edition of the Syſtema Naturæ, places it in the genus Capra, from which it has been inferred, that he thought it rather the parent of the Goat, than the ſheep; and Briſſon ſeems to be of the ſame opinion. "Hircus (Capra orientalis) cornibus ſupra rotundatis, infra planis, ſemicirculum referentibus." Briſſ. regn. an. p. 71. n. 12. Dr. Shaw, who has entered more minutely into the hiſtory of this creature than the generality of writers, obſerves with his uſual caution and diſcrimination, that, in fact, the two genera, Capra and Ovis, are ſo cloſely allied that the line of ſeparation is not very eaſily diſcoverable; but that whether we conſider the figure or manners of the preſent animal, it ſeems rather to be the parent or ſtock of the ſheep than the goat race.

The celebrated Buffon has enlarged with equal elegance and inaccuracy on the hiſtory of the common ſheep, and has ventured to advance one opinion at leaſt which proves the fallacy of theoretical obſervations in a ſtriking point of view:—after conſidering the weakneſs and ſtupidity of this animal in a domeſticated ſtate; reflecting that he is without defence; that he has for his enemies all devouring animals; and can alone find ſafety in flight; he is tempted to think, that from the beginning it was a creature confided to the care of man; that it was dependent upon his help, and could not have continued to ſubſiſt without it; and of this he is perſuaded, becauſe wild ſheep were never found in the deſert. The hiſtory of the Argali, conſidered as the parent of theſe creatures, proves this to be at beſt a viſionary idea; and thoſe who have ſeen the ſheep of the domeſticated kinds that are permitted to rove amongſt the mountains, well know with what addreſs theſe creatures guard to the beſt of their means againſt every enemy, and will not therefore give implicit credit to the reſt of his obſervations. The Argalis have a far wider range, and are perfectly in a ſtate of nature; they are endowed with greater ſtrength and activity; and their mode of life proves them to be neither that helpleſs or defenceleſs race we might be led to imagine;—they contribute to the comfort, but *can* live independently of the foſtering protection of man.

To Dr. Pallas we are indebted for much valuable information reſpecting the Argali; it was obſerved by him throughout the vaſt chain of mountains that extends through the middle of the Aſiatic continent, to the caſtern ſea; and on the teſtimonies of Steller, Cetti, Gmelin, and others, varieties of it, differing only in a few ſlight particulars of ſize and colour according to the climate, are found in Kamtſkatka, the Kurile iſles, and California; and alſo in Barbary, Sardinia, Corſica, and the mountainous parts of Greece.

The character of the ſpecies is taken from the ſtructure of the horns, which are arcuated, ſemicircular, and flat beneath, and the dew-laps being lax and hairy. From Pallas, Gmelin, Shaw, &c. it appears that the argali is about the ſize

of the fallow-deer; of a ferruginous aſh-colour, intermixed with grey above, and white tinged with grey beneath; the face whitiſh, and behind each ſhoulder not unfrequently a duſky ſpot; the body is large, neck long, legs ſlender but ſtrong, and the hinder ones longeſt; the tail is remarkably ſhort, ſcarcely exceeding three inches in length, and is brown at the tip: the horns in full-grown animals are extremely large, placed at the top of the head, and ſtand cloſe at their baſe, riſing firſt upwards, and then bending down and twiſting outwards as in the common ram. The body is covered with hair inſtead of wool, in which particular conſiſts its chief difference from the general aſpect of a ſheep; but it is woolly at the rudiments of the hair: the face, and about the tip of the noſe eſpecially, becomes whiter in winter; the back more ferruginous, and the hair rather more rough, wavy, and curled. The female is ſmaller than the male; and her horns are ſmaller and leſs curved. The horns of the old males grow to a vaſt ſize, and have been found of the length of two Ruſſian yards, meaſured along the ſpires, and weighing fifteen pounds each.

Like that analogous creature the goat, the argali entirely prefers the alpine regions in ſummer, and are ſeen in that ſeaſon feeding on the ſcanty herbage that covers the higheſt mountains; in ſpring and autumn they are obſerved in the little vallies between the loftier precipices, and deſcend to the bottoms as winter approaches. They go in ſmall flocks or parties, produce their young in the middle of March, and have one, and ſometimes two at a birth. When firſt born, they are covered with a ſoft, grey, curling fleece, which changes to hair towards the end of ſummer.

"The argali," ſays Dr. Shaw, "is a very timid animal; and when cloſely purſued does not run in a directly progreſſive courſe, but obliquely from ſide to ſide, in the manner of other ſheep, aſcending the rocky mountains with great agility, and, like the wild goat, going over the narroweſt and moſt dangerous paſſes with perfect ſafety. The males are ſaid to fight frequently among themſelves, and will ſometimes precipitate each other down the rocks in their conteſts. Their chaſe is dangerous and difficult, but it is an important object with ſome of the Aſiatics, ſince the animal furniſhes a great number of neceſſary articles; the ſkin being uſed for clothing, and the fleſh for food. Dr. Pallas informs us, that the fleſh of the lamb is excellent; that of the old animals good, but more particularly when roaſted."

"In Corſica, the argali is known by the name *muſro*; where it is ſo wild as to be rarely taken alive, but is ſhot by the hunters, who lie in wait for it among the mountains. When the young are taken, however, which is ſometimes the caſe when the parent is ſhot, they are obſerved to be very readily tamed. The Corſican argali, or moufflon of Buffon, is of a darker colour than the Aſiatic kind."

The bearded ſheep and Siberian goat of Pennant's quadrupeds, Dr. Shaw conjectures to be a variety of the argali; a ſpecimen of it was brought into England from Barbary in 1561, and is deſcribed by Caius or Dr. Kay, who named it tragelaphus, on a ſuppoſition of its being the ſame with the tragelaphus of Pliny; and the following account of it is given by Mr. Pennant.

"Sheep with the hair on the lower part of the cheeks, and upper jaws extremely long, forming a divided or double beard, with hairs on the ſides and body ſhort; on the top of the neck longer, and a little erect; the whole under part of the neck and ſhoulders covered with coarſe hairs, not leſs than fourteen inches long; beneath the hairs, on every part, was a ſhort genuine wool, the rudiments of a fleecy clothing; the colour of the breaſt, neck, back, and ſides a pale ferruginous; tail very ſhort; horns cloſe at their baſe, recurvated, twenty-five inches long, eleven in circumference in the thickeſt place, diverging and bending outwards, their points being nineteen inches diſtant from each other."

ARGAN, in *Botany*. See SIDEROXYLON.

ARGANA, in *Geography*, a town of Aſia, in the government of Diarbekir, under the dominion of the Turks. It is ſeated on an eminence, in a principality of the ſame name, abounds with vineyards, and furniſhes exports of good wine. N. lat. 37°. E. long. 39° 14'.

ARGANCY, a town of France, in the department of the Moſelle, and chief place of a canton in the diſtrict of Metz, 3 leagues S. of Thionville, and 1½ N. of Metz.

ARGAND's LAMP. See LAMP.

ARGANTA, in *Geography*, a town of Spain, in New Caſtile, and dioceſe of Toledo.

ARGANTE, in *Entomology*, a ſpecies of PAPILIO. (*Dan. Gaud.* Gmel.) The wings are rounded, and fulvous beneath, ſpeckled with ferruginous. Fabricius. This inſect inhabits Braſil. *Oſ.* This muſt not be confounded with *Papilio Arganthe* of Cramer, that being *Papilio Canthus* of Fabricius and Gmelin.

ARGANTAMAGUS, in *Ancient Geography*, now *Argenton*, a place of Gaul, between Fines and Erno lorum.

ARGANTONIUS MONS, a mountain of Aſia, in Myſia, near the town of Pruſa. Strabo ſays, that in his time the inhabitants of Pruſa held a feſtival, during which they ran upon this mountain, and called Hylas; probably in reference to Hylas, the friend of Hercules, who was carried off from this mountain by the nymphs.

ARGARADAUCA, a town of Aſia, in Media. Ptolemy.

ARGARI, a place of India, in the peninſula on this ſide of the Ganges, according to Ptolemy; whence probably was derived the name of the Argaric gulf, on which it was ſituated. This gulf was oppoſite to the iſland of Taprobana, and between the promontories of Colliis and Calligicum.

ARGAROSSA, in *Geography*, a river of Savoy, which runs into the Iſere, 3 miles north-weſt of Monſtier.

ARGASCH, a town of Ruſſia, in the government of Simbirſk, 64 miles W. S. W. of Simbirſk. N. lat. 55°. E. long. 47° 4'.

ARGE, in *Entomology*, a ſpecies of PAPILIO, (*Nymph. Gem.* Gmel.) The wings are indented, white, ſtreaked with black; a ſingular ocellar ſpot on the anterior wings, and five on the poſterior ones. This inhabits the deſerts of Ruſſia, Eſper. Gmelin, &c.

ARGE, in *Geography*, a town of Aſia, in the Arabian Irak, ſeated on the Tigris, 175 miles north-weſt of Baſſora.

ARGE, a river of Lithuanian Pruſſia, which runs into the Nemonin, 4 miles north-weſt of Wipe.

ARGE', in *Mythology*, ſiſter of Hebé and Vulcan, was born of Jupiter and Juno, when this god diſguiſed himſelf under the form of a cuckoo, and deceived his wife.

ARGEA, or ARGEI, in *Antiquity*, human figures made of ruſhes, thrown annually by the Veſtals, from the pons Sublicius, into the river Tiber, on the day of the ides of May.

This ceremony we learn from Feſtus and Varro; the latter of whom, however, ſays, they were caſt by the prieſts, unleſs by *ſacerdotibus* we ſuppoſe he meant *prieſteſſes*. He adds, that the number of figures was thirty. Plutarch, in his Roman queſtions, inquires, why they were called *argea?* There are two reaſons aſſigned: the firſt, that the barbarous nation who firſt inhabited theſe parts call all the Greeks they could meet with into the Tiber; for *Argians* was a common name for all Grecians; but that Hercules perſuaded them to quit ſo inhuman a practice, and to purge themſelves of the crime, by inſtituting this ſolemnity.—The ſecond, that Evander, an Arcadian, and a ſworn enemy of the *Ar-*

gians, to perpetuate that enmity to his poſterity, ordered the figures of *Argians* to be thus caſt into the river. Ovid ſpeaks of this ceremony in his Feſt. v. 621:

> " Sum quoque priſcorum virgo ſimulacra virorum
> Mittere roboreo ſcirpea ponte ſolet."

ARGEADES, in *Ancient Geography*, one of the nations comprehended under the name of Macedonians, according to Appian; and the appellation *Argeates* is expreſsly given to certain kings who reigned in Macedonia, and who came originally from Argos, in a verſe cited by Pauſanias (l. vii. c. 8.); and Herodotus alſo ſpeaks of theſe firſt Macedonians who came from Argos.

ARGELES, in *Geography*, a town of France, in the department of the eaſtern Pyrenées, and chief place of a canton in the diſtrict of Ceret, near the Mediterranean ſea; 12 miles ſouth of Perpignan. The place contains 1,360, and the canton 7,775 inhabitants: the territory includes 235 kiliometres and 12 communes.

ARGELLEZ, or ARGELÈS, a town of France, and principal place of a diſtrict in the department of the Higher Pyrenées, ſeven leagues S. S. E. of Pau. The place contains 810, and the canton 9,910 inhabitants: the territory includes 477½ kiliometres and 30 communes. N. lat. 45°. W. long. 0° 13'.

ARGEMON, or ARGEMA, in *Medicine*, an ulcer about the iris of the eye, comprehending part of the white, and part alſo of the black.

The argemon appears of a red colour, on the outſide of the iris, and white within it. When it ſpreads far, and eats deep, it ſometimes occaſions the uvea to fall.

ARGEMONE, Ἀργεμώνη, Dioſc. from Ἀργέμη, a diſorder of the eye, which this plant is ſaid to cure, in *Botany*. Lin. gen. n. 649. Schreb. 882. Tourn. 121. Gært. t. 60. Juſſ. 236. Claſs, *polyandria monogynia*. Nat. Ord. of *Rhoeadeæ*. *Papaveraceæ* of Juſſ. Gen. Char. *Cal.* perianth three-leaved, roundiſh; leaflets roundiſh, with a point, concave, caducous. *Cor.* petals, ſix, roundiſh; ſtem erect, ſpreading, larger than the calyx. *Stam.* filaments numerous, filiform, length of the calyx; anthers oblong, erect. *Piſt.* germ ovate, five-angled; ſtyle none; ſtigma thickiſh, obtuſe, reflex, quinquefid, permanent. *Per.* capſule ovate, five-angled, one-celled, half-valved. *Seeds* numerous, very ſmall; receptacles linear, faſtened to the angles of the pericarp, not gaping. *Obſ.* The half-valved capſule diſtinguiſhes this from "Papaver." The ſecond ſpecies is three-valved; the third four-valved; and the firſt ſix-valved.

Eſſ. Char. *Cor.* ſix-petalled. *Cal.* three-leaved. *Capſ.* half-valved.

Species 1. A. *mexicana*, prickly argemone, or poppy; papaver ſpinoſum of Bauh. Cluſ. Mor. Ger. Carduus of Park. Ray. "Capſules ſix-valved; leaves ſpiny." Annual, riſing to the height of two or three feet, with ſtems armed with prickles; valves of the capſule varying in number, as well as the petals, from four to ſix; common in Mexico, and all the iſlands of the Weſt Indies, where it is a troubleſome weed in their cultivated lands; firſt brought into Europe by the Spaniards, under the title of "figo del inferno," or devil's-fig; now found wild in ſome of the ſouthern countries of Europe; cultivated by Gerard in 1597, and flowering in July and Auguſt. It abounds with a milky glutinous juice, turning, in the air, into a fine bright yellow, and not diſtinguiſhable from gamboge; ſaid to be efficacious, in ſmall doſes, in dropſies, jaundice, and cutaneous eruptions; deemed to be very deterſive, and uſed in diſeaſes of the eyes; the infuſion is ſudorific and reſolutive; the ſeeds are a ſtronger narcotic than opium, and frequently adminiſtered in the ſugar-colonies in diarrhœas and bloody fluxes, working by ſtool and vomit. In the Weſt Indies it is called the yellow thiſtle. 2. A. *armeniaca*, papaver orientale, &c. Tournef. "Capſules three-valved;" diſcovered by Tournefort in Armenia. 3. A. *pyrenaica*; "Capſules four-valved, ſtem naked;" approaching much in habit to "papaver alpinum." A native of the Pyrenées.

Propagation and Culture. The ſeeds of the firſt ſpecies muſt be ſown in a bed of light earth, in the ſpring, where they are to remain, and the plants thinned to the diſtance of four inches; when they have ſhed their ſeeds, a ſupply of plants, for ſeveral years, will not be wanting. The two other ſorts have not been cultivated. Martyn's Miller's Dict.

ARGEMONE. See PAPAVER.

ARGEMONION, a name given by ſome of the late Greek writers, to the plant called SARCOCOLLA by the other writers of their times.

ARGENCES, in *Geography*, a town of France, in the department of the Calvados, and chief place of a canton in the diſtrict of Caen, 5 leagues W. of Liſieux, and 2½ E. S. E. of Caen.

ARGENCHUM, in *Ancient Geography*, a foreſt of Gallia Aquitanica, near the place where Rochelle is now ſituated.

ARGENFELS, in *Geography*, a town and caſtle of Germany, in the diſtrict of the Lower Rhine, 17 miles N.N.W. of Coblentz.

ARGENNOS, in *Ancient Geography*, the name of one of the three iſlands called Trogiliæ, ſituate in the Ionian ſea, on the coaſt of Aſia Minor.

ARGENNUM, a promontory of Aſia Minor, in Ionia, near the iſland of Haloneſus. Strabo and Ptolemy.—Alſo, a promontory on the eaſtern ſide of Sicily, now *Capo S. Aleſſio*.—Alſo, a promontory on the eaſtern ſide of the iſle of Leſbos.

ARGENOMESCUM, a town of Hiſpania Tarragonenſis, in the territory of the Cantabri. Ptolemy.

ARGENS, or ARGENTZ, in *Geography*, a river of France, which diſcharges itſelf into the Mediterranean.

ARGENS, JOHN BAPTIST DE BOYER, *Marquis de*, in *Biography*, was the ſon of the ſolicitor-general to the parliament of Aix in Provence, and born in that city in 1704. He took up arms againſt the inclination of his father, at the age of fifteen; but on his return from Conſtantinople, he was conſtrained to enter himſelf at the bar. Being diſguſted with this profeſſion, he again embarked in the military ſervice, in 1735. Diſabled from purſuing it by a fall from his horſe, he ſupported himſelf for ſome time in Holland by his pen. Upon the acceſſion of Frederic, king of Pruſſia, he was appointed to be his chamberlain; and continued twenty-five years at Berlin; where he married, and maintained the character of a good huſband, friend, and maſter. At length he returned to his native city, and lived there as a philoſopher till the year 1771, when he died ſuddenly on a viſit to his ſiſter, the baroneſs de la Garde, near Toulon.

The marquis d'Argens formed himſelf upon the model of Bayle, and adopted thoſe free ſentiments with regard to religion and morals, which have been much in vogue on the continent from the time of Bayle and Monteſquieu. With talents inferior to thoſe of Bayle, he poſſeſſed an ardour of mind, which led him to make conſiderable acquiſitions in literature and ſcience; ſo that he underſtood ſeveral languages, had ſome acquaintance with chemiſtry and anatomy, and was a tolerable painter. As a writer, his ſtyle is diffuſe and deſtitute of energy; and his works, though they manifeſt erudition and reflection, are rendered diſguſting and offenſive by the licentiouſneſs of morals, and the perpetual attacks on religion and its eſtabliſhments, which are their characteriſtic features. The principal of theſe are, his "Jewiſh, Chineſe, and Cabaliſtic Letters," which, with the "Philoſophy of

Good Senſe," compoſe twenty-four volumes in 12mo. publiſhed in French under the title of "The Works of the Marquis d'Argens," in 1768; a great number of romances, ill deſigned and negligently written, including "Memoirs of himſelf," of no great importance and value; "Tranſlations from Greek into French of Ocellus Lucanus, Timæus Locrenſis, and the Diſcourſe of Julian on Chriſtianity;" and "Secret Memoirs of the Republic of Letters," printed in Holland in 4 vols. 12mo.; and at Paris, in ſeven. The Jewiſh and Chineſe letters are now the moſt known; but his other works have ſunk into oblivion. Nouv. Dict. Hiſtor.

ARGENSON, in *Geography*, a ſmall town of France, in the mountains of Dauphiny and dioceſe of Gap, two leagues from Aſpres; uſually called St. Pierre d'Argenſon.

ARGENT, a town of France, in the department of the Cher, and chief place of a canton in the diſtrict of Sancerre, one league and a half north of Aubigny. The place contains 1,042, and the canton 3,714 inhabitants: the territory includes 277½ kiliometres and 4 communes.

ARGENT, in *Heraldry*, ſignifies white, or ſilver, and is ſo called in the blazoning of the arms of gentlemen, knights, and baronets; but for ſovereigns and princes it is termed *luna*; for dukes, marquiſes, earls, viſcounts, and barons, *pearl*. By engravings it is repreſented plain. The word is French, derived from the Latin *argentum*, *ſilver*; this colour being ſuppoſed the repreſentation of that metal; whence the Spaniards call this field, *campo de plata*, *ſilver field*.

ARGENTA, in *Ancient Geography*, a town of Theſſaly, mentioned by Livy.

ARGENTAC, in *Geography*, a river of Albania in European Turkey, which runs into the Adriatic, ſix miles north of Durazzo.

ARGENTAL, a town of France, in the department of the Correze, and chief place of a canton in the diſtrict of Tulles, four leagues ſouth-eaſt of Tulles. The place contains 2,574, and the canton 9,789 inhabitants: the territory includes 155 kiliometres and 11 communes. N. lat. 45° 5′. E. long. 1° 47′.

ARGENTALIS, in *Entomology*, a ſpecies of PHALÆNA (*Pyralis*, Gmel.) found in Germany and Piedmont, about the ſize of PHALÆNA *purpuralis*. It is cinereous brown, with three waved ſilvery ſtreaks on the firſt pair of wings, and two on the ſecond. Fabricius and Gmelin.

ARGENTAN, in *Geography*, a town of France, and principal place of a diſtrict in the department of the Orne, four leagues ſouth of Falaiſe, and ſix and a half north of Alençon. The manufactures of this place conſiſt of lace, linen cloth, and light ſtuffs. It is the Argentomum or Argentomagum of the ancients. The place contains 5,618, and the canton 9,409 inhabitants: the territory includes 135 kiliometres and 15 communes. N. lat. 48° 44′. W. long. 0° 8′.

ARGENTINUM, in *Ancient Geography*, a town of Italy, in the territory of the Brutii, noticed by Livy.

ARGENTARIA, a town of Germany, near which the emperor Gratian defeated 30,000 Germans. Ptolemy calls it Argentuaria and Argentovaria. It was ruined by Attila about the fifth century.

ARGENTARIA *Creta*, *ſilver chalk*, in *Natural Hiſtory*, a name given to an earth, not properly a chalk, but a kind of tripela. It is a very beautiful earth, of a looſe friable texture, and perfectly pure white. It is dug in Pruſſia, and is much eſteemed for cleaning plate. It has alſo been found in France, and of late in Ireland.

There are many white chalks of various hues, which are dug in Germany, America, Italy, and other countries. That dug in the duchy of Mantua in Italy, is much uſed by painters, and at Rome vulgarly called *geſſo*.

ARGENTARIUS is frequently uſed, in *Roman Writers*, for a money-changer or banker.

The argentarii were monied people, who made a profit either by the changing or lending of money at intereſt. Theſe had their tabernæ, or offices, in the forum Romanum, built there as early as the reign of L. Tarquinius Priſcus. The argentarii and fœneratores were much hated on account of their covetouſneſs and extortion. Du-Cange and Pitiſcus.

ARGENTARIUS, in *Writers of the Middle Age*, an officer entruſted with the cuſtody of money.

In this ſenſe argentarius amounts to the ſame with the Greek αργυροφυλαξ, and our *caſhier*. Du-Cange.

ARGENTARIUS *Miles*, in our *Old Writers*, an officer of the exchequer, whoſe buſineſs it was to carry up the bag of money from the lower exchequer to the higher, in order to its being examined or told. Spelman.

ARGENTARII is alſo applied, in the *Civil Law*, to thoſe who adorned military arms with ſilver or gold.

In which ſenſe the word amounts to the ſame with BARBARICARII.

ARGENTARIUS *Mons*, in *Ancient Geography*, *Monte Argentaro*, a mountain of Etruria, in Italy, forming a promontory near the town of Loſa.

ARGENTARO is a cape of Tuſcany, ſouth of Orbitello, and caſt of the iſle of Giglio. N. lat 41° 55′. E. long. 14° 29′.

ARGENTATA, in *Entomology*, a ſpecies of PHALÆNA, (*Geometra*, Gmel.) The wings are yellow at the tips, with two ſilvery ſtreaks on the anterior pair, and a quadruple black ſpot on the poſterior ones. This is a native of China. Gmelin and Fabricius. The anterior wings are ſilvery at the baſe, with a large triangular brown ſpot; lower pair ſilvery, and yellow at the tip; and the four contiguous ſpots upon them have a braſſy gloſs.

ARGENTATA, a ſpecies of APIS found in Barbary. It is downy, cinereous; abdomen black; margin of the ſegments white beneath, with ſilvery hairs. Gmelin, &c.

ARGENTATA, a ſpecies of MUSCA, about the ſize of MUSCA *faſciata*; it inhabits Saxony. The ſcutel is ſlightly bidentated; body black; abdomen covered with ſilvery down, with yellow lateral ſpots. This belongs to the genus *Stratiomys* in the Fabrician ſyſtem, and muſt not be confounded with the following inſect.

ARGENTATA, a ſpecies of MUSCA, that inhabits Europe. The colour is cinereous; with four black lines on the thorax; abdomen grey, changeable; front ſilvery on each ſide. Gmelin, &c.

ARGENTATA, a ſpecies of ARANEA. The abdomen is white, with the poſterior part brown; the margin with ſix dentations. This is a large inſect, and inhabits South America. Gmelin.

ARGENTATA, in *Ichthyology*, a ſpecies of SCIÆNA, that inhabits the Arabian ſhore. The ſcales on the upper parts are blackiſh, with the margins and apex ſilvery; on the lower parts pale rufous, with paler margins. Gmelin. There is a large blue curved patch under the eye, which extends towards the mouth; inferior lip longeſt; lower lateral teeth in a row of larger ones, and behind theſe a row of ſmaller ones; poſterior gill-covers terminating in an acute angle; fins reddiſh brown, dorſal one glaucous, with a pale rufous margin; ſpines of the anal fin becoming gradually longer and larger.

ARGENTATA, in *Zoology*, a beautiful little creature of the SIMIA genus, a native of South America; named by Buffon *Mico*; and by Pennant, *the fair Monkey*. It is tailed and beardleſs; white; face red; and tail brown. Gmelin. This creature is not much larger than a ſquirrel, meaſuring only

only about ſeven or eight inches from the noſe to the rudiment of the tail; and the tail itſelf is twelve inches long. The whole animal is covered with hairs of a beautiful fine ſilvery white; except the face and ears, which are red, and the tail, which is of a deep brown. It is thus deſcribed by Briſſon: cercopitheeus ex cinereo albus argenteus, facie auriculiſque rubris ſplendentibus, cauda caſtanei coloris. Quadr. p. 142. 12.; and is SIMIA *argentata* of Schreber.

ARGENTATI MILITES, in *Antiquity*.—Livy, lib. vi. ſpeaks of *argentati milites*, as diſtinguiſhed from *aurati*. Aquinas ſuppoſes theſe to have been ſimilar to the *argyraſpides* and *chryſalpides*; but the deſcriptions do not quadrate. Livy only repreſents the *argentati* as clothed in white linen coats. Aquin. Lex. Mil.

ARGENTATUS, in *Entomology*, a ſpecies of CURCULIO, very frequent on oaks, nettles, nut-trees, &c. in England and other parts of Europe. Its ſpecific character is ſimply this: the whole body ſilvery green. Gmel. &c. The colour of the ſhell itſelf is black, but being wholly covered with beautiful minute ſcales of a fine ſilvery green colour, the inſect appears entirely of that colour before the ſcales are rubbed off. This ſpecies is Curculio femoribus omnibus denticulo notatis, corpore viridi oblongo, of Fn. Suec. 459. Curculio ſquamoſus viridi auratus, of Geoffroy; Curculio urticæ, of Degeer Inſ.; and Curculio argentatus of Donov. Brit. Inſ. &c. *Obſ.* Gmelin has given another ſpecies of CURCULIO under the ſame ſpecific name, viz. CURCULIO *argentatus*, of a ſilvery green, with the antennæ and ſhanks of the legs rufous, and the thighs brown and clavate; a native of Europe. This inattention of Gmelin is the ſource of endleſs confuſion; it is no unuſual circumſtance to find in his arrangement two or even more very different ſpecies under the ſame ſpecific name in thoſe genera that are extenſive; ſometimes indeed, to avoid confuſion, he places them in different families, but in the preſent inſtance, we find both in the ſame family: ** *Breviroſtres*, † *femoribus dentatis*.

ARGENTATUS, in *Ichthyology*, a ſpecies of SPARUS that inhabits the rivers in Japan, and is diſtinguiſhed by having a black ſpot behind the gills. It is covered with ſilvery ſcales, and is about ſix inches in length; and has two noſtrils before the eyes. Gmelin, &c.

ARGENTATUS, a ſpecies of *Centrogaſter* that inhabits the rivers in Japan. It is ſilvery, with a large brown ſpot on the nape, and a blackiſh one on the dorſal fin. This fiſh is about three inches and a half in length, and the tail is forked. Gmelin, &c.

ARGENTATUS, in *Ornithology*, a ſpecies of LARUS, called by Dr. Latham the ſilvery gull, and it is alſo the ſilvery gull of the Arctic zoology. It is white; the head and neck ſtriated with cinereous: primary quill feathers black above, beneath grey, and white at the tips. Gmelin, &c.—This bird inhabits Norway.

Dr. Latham notices a ſpecies of *Gull* very much like this in the Leverian Muſeum. The length is near ſixteen inches; bill an inch and a half long; quills as in the other; but the two firſt have the ends tipped with white for near an inch, inſtead of a ſmall ſpot; and ſix of the prime quills had the ends black; the bill and legs are pale, but as the bird had been in ſpirits ſome time, nothing certain could be ſaid about them. Vide Gen. Syn.

ARGENTEA, in *Conchology*, a ſpecies of VENUS, of a ſomewhat oblong ſhape, ſmooth, and ſilvery, with black lines united into bands. This ſhell inhabits the ſhores about Cadiz.

ARGENTEA, a ſpecies of PATELLA. This ſhell is ſmooth, thick, and ſomewhat ſilvery, with eleven brown rays; margin ſilvery; tip pale yellow; bottom like ivory, with a double white ring. It is a rare ſhell, about two inches in length; and the native country unknown. Vide Schroet. and Gmelin.

ARGENTEA, in *Entomology*, a ſpecies of CANTHARIS, found in Africa, and deſcribed by profeſſor Thunberg. The thorax is flat, and with the wing-caſes are green; the abdomen is ſilky ſilvery. To this is added, that the head is black; vent and legs yelloviſh; feet brown.

ARGENTEA, a ſpecies of SPHEX that inhabits Coromandel. It is black and gloſſy; front villous and ſilvery; wings white, and brown at the tip. This is a large inſect. Fabricius and Gmelin.

ARGENTEA, a ſpecies of ARANEA that inhabits the deſerts of Ural, and is deemed a poiſonous creature by the Calmucks. The thorax is depreſſed, orbiculated, white, with two black ſtripes; abdomen ovate, lobed, ſilvery, with two pair of dots in the middle, and four rows behind. Lepech. it. i. p. 316. This inſect ſpins a perpendicular web; the legs are long, black, and annulated with yellow. Gmelin.

ARGENTEA, in *Ichthyology*, a ſpecies of PERCA that inhabits America, and is thus very concifely defined by Linnæus and Gmelin: noſtrils tubular; there is a large black ſpot on the ſpinous part of the dorſal fin.

ARGENTEA, a ſpecies of SCIÆNA. It is ſilvery, ſpotted above with black; beneath immaculate. Forſk. Fn. Arab. The crown is ſcaly; two elevated lines between the noſtrils; iris ſilvery above, brown; teeth numerous, ſetaceous, movable, the outer row largeſt; dorſal fin connected, and ſpotted with black; the firſt rounded, the other linear; ventral and anal fin pale rufous, pointed at the ends; tail ſomewhat bifid.

ARGENTEA, in *Natural Hiſtory*, a ſpecies of SERTULARIA that inhabits the European and American ſeas; and is called by Ellis *the ſquirrel's tail*; it is alſo CORALLINA comis ad inſtar caudæ vulpinæ ſparſis of Mercat.; and MUSCUS marinus minor, denticulis alternis bijugis of Moriſ. Hiſt. Pl. &c. According to Linnæus, Solander, Gmelin, &c. its ſpecific character is this: denticles nearly oppoſite, and pointed, veſicles oval; branches alternate and panicled.

ARGENTEA, *Aſhem*, in *Ancient Geography*, a town ſituate at the northern point of the iſland of Jabadii. Ptolemy.

ARGENTEAU, in *Geography*, a deſolated town of the Netherlands, in the duchy of Limburg, two leagues weſt of Dalem.

ARGENTEOLA, or ARGENTIOLUM, in *Ancient Geography*, a town of Spain, in Aſturia. Ptolemy.

ARGENTELLA, in *Entomology*, a ſpecies of PHALÆNA (*Tinea*, Gmel.) It is entirely ſilvery, except the antennæ, which are annulated with brown. Linn. Fabr. This is *tinea perlella* of Wien. Schmetterl. p. 134. The larva is gregarious, glabrous, brown, and feeds on the nettle. Degeer, &c.

ARGENTERO, in *Geography*, a mountain of European Turkey, between Bulgaria and Macedonia.

ARGENTEUIL, a town of France, in the department of the Seine and Oiſe, and chief place of a canton, in the diſtrict of Verſailles, eight miles N. W. of Paris. The place contains 4,726, and the canton 16,557 inhabitants: the territory includes 67½ kiliometres, and 11 communes.—Alſo, a town of France, in the department of the Yonne, three leagues from Tonnerra.

ARGENTEUM Os, in *Natural Hiſtory*. See Os *Argenteum*.

ARGENTEUS, in *Coinage*. See DENARIUS.

ARGENTEUS, in *Entomology*, a ſpecies of SCARABÆUS, found in England, and the interior of Auſtria. It is black, beneath ſilvery, and ſhining; margin of the ſhield and wing-caſes

caſes teſtaceous. Fabricius and Gmel. *Obſ.* In the Fabrician ſyſtem it belongs to the *Melolontha* genus; and in that of Gmelin to the ſection of *Scarabæi melolonthæ*. It is the ſame ſpecies as Scopoli and Poda call *Scarabæus argenteus*.

ARGENTEUS, a ſpecies of CULEX, very common in Barbary. It is about the ſize of the common Engliſh gnat; the back is covered with ſilvery ſcales; and the legs are faſciated. Vide Poiret Journ. de Phyſ. 1787. Apr. p. 245.

ARGENTEUS, in *Ichthyology*, a ſpecies of CHAETODON, found in the Indian ſea. The tail is biſid, with eight ſpines in the dorſal fin, and two ſpines inſtead of ventral fins. Amœn. Ac. The ventral ſpines are ſhort, and the firſt dorſal fin ſcarcely viſible. Gmelin.

ARGENTEUS MONS, in *Ancient Geography*, *Sierra de Almaraz*, a mountain of Spain, from which the river Bœtis ſprings. Strabo.

ARGENTEUS *Codex*, in *Biblical Hiſtory*, a manuſcript of the four goſpels, is ſo called from its ſilver letters, and is ſuppoſed to be a copy of the Gothic verſion made by Ulphilas, the apoſtle of the Goths, in the fourth century. It is of a 4to. ſize; the leaves, which are vellum, parchment, or papyrus, are ſtained with a violet colour; and on this ground the letters, which are all capitals, were afterwards painted in ſilver; except the initial characters, and a few paſſages, in gold. Mr. Coxe, from a cloſe inſpection, was convinced that each letter was painted, and not formed, as ſome have aſſerted, by a hot iron upon leaves of gold and ſilver. Moſt of the ſilver letters are become green by time; but the golden letters are ſtill in good preſervation. This codex is mutilated in ſeveral places; but what remains is, for the moſt part, perfectly legible. It was firſt diſcovered in 1597, in the library of the Benedictine abbey of Werden in Weſtphalia, whence it was brought to Prague, and at the capture of this city in 1648, ſent as a valuable preſent to Chriſtina of Sweden. It afterwards came into the hands of Iſaac Voſſius, either by ſtealth, or as a preſent from the queen; and on the death of Voſſius, it was purchaſed by Count Magnus Gabriel de la Gardie for two hundred and fifty pounds, and preſented to the univerſity of Upſal, where it now remains. Three editions of it have been given to the public: the firſt was iſſued at Dort in 1665, by T. Junius, who borrowed the MS. from Voſſius; and accompanied with obſervations and a gloſſary, by Thomas Marſhall. That printed at Amſterdam in 1672, is the ſame with this, having only a new title-page, date, and place of impreſſion. The ſecond edition, publiſhed at Stockholm, in 1672, by the learned Stiernhelm, differs from that of Junius, by having the text in Latin, and not in Gothic characters. Benzelius, firſt librarian of the univerſity of Upſal, and afterwards archbiſhop, collated the MS., rectified miſtakes, and made a literal tranſlation into the Latin tongue. Theſe collations and tranſlation, together with various obſervations, were tranſmitted to Mr. Edward Lye, of Oxford, who publiſhed a third edition in 1750, from the Clarendon preſs; this is eſteemed, by thoſe who have compared it with the original codex, a complete work. Two opinions have divided the learned concerning the original tongue of the codex argenteus; the firſt opinion, that it is written in the language and character uſed in the fourth century by the Goths of Mœſia, anceſtors of the preſent Swedes, and is a true copy of the verſion made by Ulphilas, is ſtrongly ſupported by Junius, Stiernhelm, David Wilkins, Benzelius, and Lye. The ſecond opinion, viz. that it is a tranſlation in the Frankiſh idiom, is as warmly defended by Hickes, la Croze, Wetſtein, and Michaelis. Mr. Coxe inclines to the former opinion, which is confirmed in an ingenious treatiſe of Ihre; by which it appears that ſeveral ſpecimens of the Oſtrogothic tongue have been lately diſcovered in Italy, which perfectly reſemble both the characters and language of the verſion in the codex argenteus. However this be, as the Gothic and Frankiſh idioms were dialects of the Teutonic or German, this MS. muſt be conſidered as the moſt ancient ſpecimen extant of that language. Thoſe who attribute the verſion to Ulphilas, refer its date to the fourth century; and thoſe who deem it to be a Frankiſh tranſlation, allow it to have been copied in the reign of Childeric, between 564 and 587. Beſides, its high antiquity is proved from the doxology at the end of the Lord's prayer, Matt. vi. 13. which is not found in any of the moſt ancient verſions; and alſo from the interpretation of many paſſages in a ſimilar manner with ſeveral of the Latin tranſlations, which are antecedent to the vulgate of St. Jerom. Another fragment of this curious MS. containing a few chapters of St. Paul's epiſtle to the Romans, was found at Wolfenbuttle, and is now preſerved in the library of that town. Of this fragment Ihre publiſhed a new and important edition, at Upſal, in 1763. Michaelis's Introduction to the New Teſtament, by Marſh, vol. ii. p. 133—153. Coxe's Travels, vol. iv. p. 173—180. ed. 1802.

ARGENTHAL, in *Geography*, a ſmall town of Germany, in the circle of the Upper Rhine, and duchy of Simmern, forty miles eaſt of Treves, and four ſouth-eaſt of Simmern.

ARGENTICOMUS, among *Ancient Aſtrologers*, denotes a kind of ſilver-haired comet, of uncommon luſtre, ſuppoſed to be the cauſe of great changes in the planetary ſyſtem.

ARGENTIER, JOHN, in *Biography*, born at Caſtelnovo in Piedmont, in 1514, acquired conſiderable celebrity, though his talent was rather that of teaching the art than practiſing, as he was well verſed in the theory of medicine, and had read and commented on moſt of the old writers, but his memory was ſo defective, that he was rarely able to apply the obſervations he had made for the benefit of his patients. He taught medicine at Naples, Piſa, and laſtly at Turenne, where he died in 1572, aged 58 years. His works were collected and publiſhed at Venice, in two vols. in folio, 1592; and have been ſince twice printed. He prided himſelf much in having diſcovered ſome errors in the works of Galen, whoſe doctrines he frequently oppoſed. Haller. Bib. Med. Pract. Eloy. Dict. Hiſt. de la Med.

ARGENTIERA, a volcanic iſland of the Archipelago, formerly called Cimolus, or Cimolis, one of the Cyclades, which is about eighteen miles in circumference, and derives its name from a mine of ſilver that was for a long time worked in it with ſucceſs; but it is now unknown. The ſoil is extremely dry, and deſtitute of ſprings; nor is there any water here but what is collected in ciſterns, or brought from Milo, an iſland at a little diſtance: the hills, vales, and the whole country ſtript of trees, do not offer a ſingle ſhade to defend from the ſun. The Venetians, during their war with the Turks, cut down all the olive-trees, and did irreparable damage to the iſland; nor do the preſent inhabitants dare to make freſh plantations, leſt they ſhould draw on themſelves heavier impoſitions. Such is the miſtaken policy of the Ottoman government; if its ſubjects manifeſt any induſtry, it is immediately taxed, and ſtifled in its birth. Argentiera preſents nothing but rocky hills, deſtitute of verdure, and vales producing worthleſs ſhrubs and thorny thickets. The vales are generally covered with a white and fat clay, called by the ancients *Terra Cimolia*, or *Cimolia Creta*, a kind of Fuller's earth, which the inhabitants employ inſtead of ſoap to waſh their linen. See CIMOLIA *Terra*. Though the ſoil is barren, the induſtrious iſlanders make it produce for them a ſubſiſtence.

ſubſiſtence. They cultivate barley, and a little wheat, which they ſow at the beginning of autumn, the rainy ſeaſon, and reap in March; a ſmall quantity of cotton, and a few vines. But their grapes are not ſufficient for making wine, which they procure from the neighbouring iſlands, particularly from Milo. Their olive and mulberry trees are very few. They rear hogs, poultry, and ſome few goats and ſheep; but as to the latter, they are chiefly ſupplied from Milo: and the country affords them quails, hares, and partridges in abundance. Their beaſts of burden are aſſes; in the uſe of which they have no ſuitable accoutrements. The women ſpin cotton, and knit ſtockings, whenever the labours of the country allow; and the men employ themſelves in fiſhing and navigation. Excellent fiſh are taken round the iſland, eſpecially the rouget (the ſurmulet, *mullus* Linnæi), a fiſh well known and highly eſteemed for its delicate flavour on all the coaſts of the Mediterranean. The tribe of Greeks which inhabits this iſland, is compoſed of two hundred perſons, according to Olivier; two hundred families, as Sonnini reports; or, as others ſay, about five hundred perſons; who have no Turkiſh officers reſident amongſt them, but have an annual viſit from the captain pacha, who, beſides levying an impoſt of 15 or 1600 piaſtres, which they find it difficult to pay, exacts preſents to a conſiderable amount, ſo as to reduce the inhabitants to miſery. Cotton is almoſt the only article that produces for them any money; their cotton ſtockings ſupply the Europeans; and the mariners purchaſe their hogs, poultry, and eggs. The dreſs of the Greek women of Argentiera is peculiar: they ſwell out their legs by wearing ſeveral pairs of ſtockings, and appear as if they were booted, which they conſider an eſſential part of dreſs: their garments do not deſcend above two inches below the knee, and theſe are ſo contrived as to ſpoil their ſhape, and render it impoſſible to form any idea of the beautiful proportions with which they were formed by nature. The neck is concealed under a corſet, quilted, and ſtiffened with whale-bone; a piece of velvet, ſattin, or cloth trimmed with gold or ſilver net-lace, or ſet by a ſimple embroidery, adorns their whole front; and in their gala dreſs, two wide ſleeves are fixed to the corſet, and fall on each ſide to the middle of the thigh. In ſummer the whole arm is covered only by the ſleeve of the ſhift, the head is enveloped with a handkerchief which paſſes under the chin. In other reſpects they are cheerful, lively, and handſome. Savary.

The only inhabited place in the iſland is ſeated on the ſummit of a mountain of rocks, to which the acceſs is very difficult. The houſes are few, miſerably conſtructed, and filled with flies; but it is ſurrounded by high walls, and ſecured by two gates. Their dwellings, which may be rather called huts or dens than houſes, are covered by a roof, conſiſting only of a ſort of wooden hurdle, on which earth is ſpread and beaten. The ſuperſtitious Greeks rely on heaven, more than on the ſtructure of their habitations, for their ſecurity. Accordingly, on the eve of the feſtival of the exaltation of the holy croſs, it is an ancient cuſtom to ſweep and nicely clean the flat roofs of the houſes; and towards evening, when the bells of the churches begin to ring, the inhabitants draw upon them large croſſes, which figures are, in their eſtimation, the moſt effectual means of preſerving the tops of their houſes from being penetrated by the rains. The ſingle ſtreet of which this wretched town or village conſiſts, unpaved, is, in the rainy ſeaſon, a long heap of deep mud; and the water, finding its way into the rooms of the ground floor, which are almoſt ſubterraneous, renders their habitations equally unwholeſome and inconvenient. The ſmall church or chapel of the Capuchins, ſerves for the catholics of Argentiera; and a ſecular prieſt, born in the iſland of Scio, and educated at Rome, performs divine ſervice in this chapel, and aſſumes the title of the grand vicar or nominal biſhop. The town is of very modern conſtruction, having been erected ſo lately as the year 1646, by ſome Greek fugitives from the iſland of Siphanto, who are ſaid to have brought with them an image of the Virgin; and built houſes, where this image had ſtopped with them, and preſerved them from the attacks of their enemies. Several Greek churches or chapels are built behind the village, all of which have little bells above their portals, which are frequently in motion. About half a league from this town, Olivier found fragments of bricks and potter's ware, which indicated the poſition of the ancient town; and upon digging in this ſpot, he diſcovered ſome rude figures of baked earth, ſuch as a toad, a ſphynx, and a cock, and alſo a ſmall vaſe with a handle in the Etrurian ſtyle. He alſo perceived canals in the bank of lava, probably for the purpoſe of affording a paſſage to boats, caves for ſhelter from the rain and ſun, and other caverns, which might have been places of habitation or interment at different epochs which hiſtory has not recorded.

This iſland is nothing but a group of volcanic ſubſtances, and exhibits every where indications of a great combuſtion. In ſeveral places the rocks are calcined; pozzolana was found here by Olivier, and the hot waters which iſſue from a rock near the ſea, in the north-weſt part of the iſland, atteſt the exiſtence of a ſubterraneous fire in full activity. The heat of theſe waters is ſuch, that a perſon cannot hold his hand in them, and an egg is in an inſtant boiled hard. The Greeks reckon them efficacious for curing rheumatiſm, ſciatica, and other diſorders of that nature, by means of linen cloths ſteeped in them and applied to the parts affected. Near theſe waters is the mouth or centre of an ancient volcano, which, for a long time, exhaled infectious vapours, whence the modern Greeks have called it "vromo limno," or ſtinking lake. This gulf is now a lagoon of the ſea, which no longer yields any bad ſmell. To the north of this lake are ſeveral grottoes or caverns cut in the rock, which ſeem to have ſerved as habitations. Sonnini obſerved in this place a great number of thruſhes of the large ſpecies, together with blackbirds, linnets, pettychaps, partridges, woodcocks, &c. In the north-north-eaſt quarter of the iſland is a diſtrict called "Kedros," becauſe it is furniſhed with the ſpecies of tall junipers ſo denominated by the modern Greeks, being a variety of the "juniperus oxicedrus" of Linnæus. They yield no gum in this iſland; but the Greeks make uſe of the oil, which they draw from the ſtem and branches, for the cure of the itch. The environs of "Praſe," on the ſide of Kedros, furniſh a great quantity of wild artichokes; which the inhabitants gather and eat with avidity. The moſt common ſhrub on the iſland is the lentiſk, the fruit of which yields on expreſſion an oil, which is fit only for burning, though the poor uſe it in their food, and it is applied as a topical remedy for rheumatic pains. Saffron alſo grows on the mountains, and between the rocks of the iſland; and it is ſold in the markets by the weight of eggs. The road-ſtead of Argentiera, moſt frequented by the ſhips which navigate in the Archipelago, is formed by the iſle of Milo to the ſouth-weſt, by that of Argentiera to the north, and by the ſmall iſlands of San Georgio and of Polivo to the eaſt. Trading veſſels anchor between the iſlands of Argentiera and San Georgio, and are here ſheltered from the wind and ſea. But this anchorage has not a ſufficient depth of water for ſhips of war and large veſſels, which paſs more to the north or north-eaſt, in a channel near Polivo. N. lat. 36° 48′. E. long. 24° 40′. Olivier's Travels in the Ottoman Empire, p. 126—133. Sonnini's Travels in Greece and Turkey, p. 281—327.

ARGENTIERA, a town of Italy, belonging to the Venetian ſtates in the Cadorin, eleven miles N. N. W. of Pieve di Cadora.

ARGENTIERE, L', a town of France, in the department of the higher Alps, and chief place of a canton in the diſtrict of Briançon, on the Durance, nine miles north of Mont Dauphin.

ARGENTINA, in *Botany*. See POTENTILLA.

ARGENTINA, in *Geography*, a town of Savoy, in the county of Maurienne, near the river Arc, ſixteen miles E. S. E. of Chambery.

ARGENTINA, a town of Italy, in the kingdom of Naples, and province of Calabria Citra, at the foot of the Apennines, ten miles S. W. of Biſignano.

ARGENTINA, in *Entomology*, a ſpecies of PHALÆNA, (*Bombyx*, Gmel.) that inhabits Germany. The wings are indented, grey, with ſilvery ſpots. Fabricius. When this inſect is at reſt, the wings have three erect tufts on the back. The larva is naked and grey; with the fourth, eleventh, and twelfth ſegment tuberculated; the pupa is obtuſe and brown; feeds on oaks.

ARGENTINA, a ſpecies of PHALÆNA, (*Noctua*, Gmel.) found in the ſouthern part of Ruſſia. The wings are grey, with a broad abbreviated ſilvery ſtripe. Fabricius and Gmelin.

ARGENTINA, in *Ichthyology*, a genus in the order *Abdominales*, containing only four ſpecies; viz. ſphyræna, gloſſodonta, carolina, and machnata. The generic character is thus defined by Gmelin. Teeth in the jaws, and tongue; eight rays in the gill membrane; vent near the tail; and many rays in the ventral fins.

ARGENTINÆ, in *Natural Hiſtory*, a ſpecies of ECHINORHYNCHUS, ſo named, becauſe it infeſts the inteſtines of the atherine, atherina of Linnæus. Redi, Gmelin, &c.

ARGENTINE *flowers of antimony*. See ANTIMONY, § 6. Oxyds of antimony.

ARGENTINE, of Kirwan. See SCHIEFER SPATH.

ARGENTINE *Felſpar*, of Kirwan. See FELSPAR.

ARGENTOMAGUS, in *Ancient Geography*, *Argenton*, a town of Gaul, belonging to the Bituriges, in the road that led to Mediolanum on the eaſt, and Limonum on the weſt.

ARGENTON, in *Geography*, a ſmall and mean, but gay and lively town of France, in the department of the Indre, and chief place of a canton in the diſtrict of Chateauroux, five leagues S. S. W. of Chateauroux. It is ſituated in a beautiful valley, ſurrounded by vineyards on the Creuſe. The place contains 3395, and the canton 10,359 inhabitants: the territory includes 290 kiliometres, and 10 communes. N. lat. 46° 35′. E. long. 1° 52′.

ARGENTON *le Chateau*, a ſmall town of France in the department of the Two Sevres, and chief place of a canton in the diſtrict of Thouars; 3 leagues weſt of Thouars. The place contains 270 and the canton 7937 inhabitants; the territory includes 342½ kiliometres, and 19 communes. N. lat. 46° 59′. W. long. 0° 33′.

ARGENTON *les Egliſes*, a town of France in the department of the Two Sevres, four miles north of Thouars.

ARGENTOR, a river of France in the department of Charente, formed by two ſtreams called Argent and Or, and running into the Charente at the village of Porſac.

ARGENTORATENSIS, in *Ornithology*, a ſpecies of FRINGILLA found in the environs of Straſburgh. It is called by Briſſon *Linaria argentoratenſis*; and by Buffon, *Gyntel de Straſburgh*. This bird is brown; beneath, rufous with brown ſpots; abdomen and vent whitiſh. Gmelin. To this ſpecific character may be added, that it ſcarcely exceeds the ſize of the common linnet: the quills and tail are brown; and the legs reddiſh. It is familiarly known about Straſburgh by the name of *Gyntel*, and is ſaid to lay ſometimes four eggs, but ſeldom if ever more.

ARGENTORATUM, in *Ancient Geography*, *Straſburgh*, a city of Gaul, belonging to the Triboci, or Trebochi, which was a paſſage from Gaul to Germany, whence its name Stratre-burgus, or Straſburgh. It had anciently a manufacture of offenſive and defenſive arms of every kind. In the fourth century, Julian gained, under the walls of this city, a famous victory over the Germans, and took their king Chondomarus priſoner. After the eſtabliſhment of Chriſtianity among the Gauls, it became an epiſcopal ſee.

ARGENTRE' *ſur Laval*, in *Geography*, a town of France, in the department of the Mayenne, and chief place of a canton in the diſtrict of Laval, four miles eaſt of Laval. The place contains 1665, and the canton 7530 inhabitants: the territory includes 182½ kiliometres, and 9 communes.

ARGENTRÉ *ſous Vitré*, a town of France, in the department of the Ille and Villaine, and chief place of a canton in the diſtrict of Vitré, ſeven miles north-north eaſt of La Guerche. The place contains 2288, and the canton 12,805 inhabitants: the territory includes 202½ kiliometres, and 9 communes.

ARGENTUARIA, in *Ancient Geography*, a town of Belgic Gaul. Ptolemy.

ARGENTUM. See SILVER.

ARGENTUM *album*, mentioned in Domeſday book, ſignifies, according to Spelman, bullion, or ſilver uncoined. In thoſe ancient days, ſuch metal paſſed as money from one to another in payment. *Sumitur pro ipſo hoc metallo penſili non ſignato.*

ARGENTUM *Dei*, *God's penny*, anciently ſignified *earneſt-money*, or money given to bind a bargain; in ſome places called *erles*, or *arles*, and by the civilians and canoniſts, ARRHÆ. *Et cepit de prædicto Henrico tres denarios de* argenti *Dei præ manibus.*

ARGENTUM *fulminans*. See *Salts* of SILVER.

ARGENTUM *moſaicum* or *muſivum*. This is a metallic alloy in the form of ſilvery flakes, uſed as a pigment for giving a white metallic luſtre to plaſter caſts, paper, porcelain, &c.

It is prepared in the following manner. Take an ounce and a half of pure tin, and the ſame quantity of biſmuth: melt them together in a clean crucible, and ſtir the maſs repeatedly with a clean iron rod till the two metals are accurately mixed. Then remove the crucible from the fire; and when its contents are on the point of becoming ſolid, pour in an ounce and a half of warmed quickſilver; ſtirring it as before. Previouſly to uſing this alloy, it muſt be ground in a ſtone or earthenware mortar, with white of egg or ſpirit varniſh, and in this ſtate applied to the intended work: when dried it may be burniſhed in the uſual manner, and has then very much the appearance of ſilver. Encycloped. Method. Arts & Metiers, art. arg. muſicum.

ARGENTUM *nitratum*, in Pharmacy, otherwiſe known by the names Nitrated ſilver, and Lunar cauſtic.—See SILVER, *medical preparations of*.

ARGENTUM *vivum*. See MERCURY.

ARGENVILLE, in *Biography*. See DEZALLIER.

ARGENUS, in *Ancient Geography*, a port of Carmania. Pliny.

ARGENUSÆ, or ARGINUSÆ, in *Ancient Geography*, ſmall iſlands ſituated near the coaſts of Aſia Minor, ſouth-eaſt of the iſle of Leſbos and near it. They were rendered famous by the battle gained by the Athenians over the Lacedæmonians, in the twenty-ſixth year of the Peloponneſian war, or the 406th year before Chriſt. Of theſe three iſlands, the largeſt had a town called Arginuſa.

ARGEONESUS, a ſmall iſle of Egypt, near Canobus; ſo called from Argeus, king of Macedon, who began his reign in the 678th year before the Chriſtian æra.

ARGESTES, is uſed by Vitruvius for the wind which blows from that quarter of the horizon, which is 75° from the ſouth and weſtward.

Ricciolus

Ricciolus uſes the term to denote the wind which blows at 22° 30′ from the weſt towards the north, coinciding with that which is otherwiſe called W. N. W. Aſt. Reform.

ARGETÆ, in *Ancient Geography*, a people of Aſia who inhabited the weſtern banks of the river Indus. Pliny.

ARGETENAR, in *Aſtronomy*, a ſtar of the fourth magnitude, in the flexure of the conſtellation Eridanus.

ARGHAN, in *Geography*. See Ragian.

ARGIA, in *Entomology*, a ſpecies of Papilio (*Dan. Card.* Gmel.) The wings are rounded, entire, and white; tip of the anterior pair black. This is a native of Sierra Leona in Africa; and is figured by Cramer under the name of *Caſſiopea*. There is a large brown ſpot near the apex of the anterior wings beneath; and the inner margin is beſet with long, faſciculated, erect, white hairs. Fabricius, &c.

Argia, in *Geography*, a town of Arabia Deſerta, 200 miles S. S. E. of Ana. This is alſo the name of one of the three principalities into which Arabia Deſerta is divided.

ARGIADES, in *Entomology*, a ſpecies of Papilio (*Plcb. Rural.* Gmel.) The wings are entire, and blue, with a blackiſh margin; beneath, the colour is a browniſh-grey, with a lunar mark, and two rows of ocellated dots. Fabricius.—This inſect inhabits Saxony.

ARGIÆ *Inſulæ*, in *Ancient Geography*, iſlands of Aſia Minor, on the coaſt of Caria. Pliny.

ARGIANS. See Argives, and Argos.

ARGIL. See Clay.

Argil *native*,—*Alumine native*, Fr. *Reine Thonerde*, Germ. *Argilla pura*. Werner.—This mineral (called alſo by ſome Lac Lunæ,) is of a ſnow white or yellowiſh white colour. It is found in various ſized kidney-form maſſes; is amorphous; and preſents a fine-grained earthy fracture; it flies when broken into indeterminate blunt cornered fragments. It is opaque, but when ſoaked in water acquires a degree of ſemitranſparency like gum tragacanth; ſtains the fingers, feels ſomewhat meagre; adheres ſlightly to the tongue, and exhales, when moiſtened, an earthy ſmell. It is eaſily broken, being almoſt friable. Sp. gr. according to Bergman = 1,305; according to Gmelin 1,669.

Native Argil is infuſible *per ſe* even at 166° Wedgewood. It is ſoluble in mineral acids ſometimes with and ſometimes without effervеſcence, on account of a ſmall proportion of carbonated lime with which it is often mixed. By the analyſes of Schreber and Friſchmann, it is alſo found to contain a few ſlight traces of iron and ſilex. It is ſaid, with little probability however, that this mineral has been procured in Sileſia, at Poliniere, and in Lombardy; the moſt authentic ſpecimens come from Halle in Saxony, being found in the garden belonging to the college there; hence it has been ſuſpected to be an artificial product, and the ſtore of it is underſtood to have been for ſome years paſt exhauſted. It is not made any uſe of. Widenmann, p. 385. Lenz. verſuch, &c. vol. i.—Brochant, vol. i. Kirwan, vol. i.

ARGILA, in *Ancient Geography*, a town of Aſia Minor, in Caria. Steph. Byz.

ARGILETUM, the name of a ſmall hill of Rome, between mount Aventin and the capitol. Numa erected on this hill the temple of Janus.

ARGILIUS, a mountain of Egypt, near the Nile, ſo called becauſe Jupiter carried thither the nymph Argea, and had a ſon by her named Dionyſius.

ARGILL, or Hargill, in *Ornithology*, one of the ſynonymous names of the Linnæan Ardea *dubia*, and *gigantic crane* of Dr. Latham, being ſo called by Ives, it. p. 183.

ARGILLACEOUS, in *Agriculture*, ſuch ground or ſoil as contains a large proportion of clayey matter in its compoſition. See Soil.

Argillaceous *marl*, that ſort of marl which contains much clay. As a manure, this kind of marl is the moſt proper for the ſandy and light ſorts of ſoil.

Argillaceous *earth*. See Alumine.

Argillaceous *ſchiſtus*. See Thonschiefer.

ARGILLITE of Kirwan. See Thonschiefer.

ARGILLOCALCITE of Kirwan. See Marl.

ARGILLY, in *Geography*, a town of France, in the department of the Côte d'Or, and chief place of a canton, in the diſtrict of Beaune, fifteen miles ſouth of Dijon.

ARGILUS, in *Ancient Geography*, a town of Thrace in the vicinity of Amphipolis, at the mouth of the river Strymon. Thucydides (l. iv. §. 103.) ſays, that the Argilians were a colony of Andrians, eſtabliſhed in the neighbourhood of Amphipolis.

ARGINA, or Argyna, an ancient town of Greece in the country of the Ozolian Locrians. Pliny.

ARGINUSÆ. See Argenusæ.

ARGIOLUS, in *Entomology*, a ſpecies of Papilio. (*Plcb. Rural.* Gmel.) The wings are tailleſs; above blue, with a black margin; beneath bluiſh, ſlightly dotted with black. This inſect inhabits Europe. Linnæus, &c.

ARGIPPÆI, Argipæans, in *Ancient Geography*, a people of Scythia, whoſe language was different from that of the Scythians, though they reſembled them in their dreſs. They ſubſiſted not on the produce of the chaſe, but on the fruit of a tree, called "ponteia," of which, when ripe, they made a black and thick liquor, which they drank either clear or mixed with milk. Of the huſks they prepared a kind of cake which they reckoned nutritive. As they lodged both in ſummer and winter under trees, they formed a covering to ſhelter them. Such perſons, it is ſaid, were deemed ſacred, ſo that they had no occaſion for military weapons in their own defence; and ſuch was their reputation for wiſdom, that their neighbours referred diſputes to their arbitration, and their abode ſerved as an inviolable aſylum.

ARGIRA, a ſmall fountain of Achaia, not far from Charadrus.

ARGIRI, or, as it is called by Arrian, *Argali*, a town of India, on this ſide of the Ganges. Ptolemy.

ARGIRO Castro, in *Geography*, a town of European Turkey, in the province of Livadia, 26 miles north-weſt of Lepanto.

ARGISCH, a town of Wallachia, on the frontiers of Tranſylvania, 8 miles north of Helmanſtat, and 8 ſouth of Tergowitz.

ARGISH, a town of Aſia in Armenia, ſeated on the lake Van. N. lat. 38° 32′. E. long. 43° 15′.

ARGITHAMNIA, in *Botany*, (from αργος, white, and θαμνιον, a little ſhrub.) Schreb. g. 1418. Brown. 338. Swartz. Prodr. 39. 386. Juſſ. Claſs, *monoecia tetrandria*. Nat. Ord. *Tricoccæ*. *Euphorbiæ*, Juſſ. Gen. Char. male flowers. *Cal.* perianth four-leaved; leaflets lanceolate, erect. *Cor.* petals four, lanceolate, ovate, ciliate, ſhorter than the calyx; nectary, four glands between the petals, roundiſh, depreſſed. *Stam.* filaments four, longer than the petals; anthers ſimple. *Piſt.* rudiments of a ſtyle only. Female flowers in the ſame raceme under the males. *Cal.* perianth five-leaved, leaflets lanceolate. *Cor.* none. *Piſt.* germ ovate, obſcurely triangular; ſtyles three, ſpreading, half two-cleft, each of the clefts bifid; ſtigmas lacerate. *Peric.* capſule tricoccous, three-celled, ſix-valved. *Seeds* ſolitary, roundiſh.

Eſſ. Gen. Char. male, *Cal.* four-leaved. *Cor.* four-petalled. Female, *Cal.* five-leaved. *Cor.* none; ſtyles dichotomous. *Capſ.* tricoccous, with ſolitary ſeeds.

Species 1. A. *candicans*. Swartz. This ſhrub riſes about five feet high, covered with a whitiſh bark; leaves at the ends

of the branches which they ſurround; they are oval, ſerrate, of a dark green, about one inch and a third in length, and an inch in breadth; flowers axillary on ſhort pedunoles; calyx five-leaved; ſtamens ſix, greeniſh. The leaves when bruiſed are very odoriferous. A native of Jamaica, on a dry gravelly ſoil.

ARGITHEA, in *Ancient Geography*, a town of Greece, the capital of Athamania, according to Livy.

ARGIVES, a people of Greece, who inhabited that part of Peloponneſus called ARGOLIS; which ſee.

ARGIZALA, or AGRISAMA, a town of Aſia Minor, in Galatia. Ptolemy.

ARGO, in *Antiquity*, a ſhip or veſſel celebrated among the poets; being that wherein the Argonauts, of whom Jaſon was the chief, made their expedition in queſt of the golden fleece.

This ſhip, according to Diodorus Siculus, Apollonius, Tzetzes, Servius, and many other writers, is ſaid to have derived its name from Argus or Argo, the perſon who, under the direction of Minerva, conſtructed it; others have thought, that it was called Argo from the Greek word ἀργὸς, *ſwift*. Some again have attributed its name to that of Argos, the city in which it was built. Cicero cites, in his firſt Tuſculan, two verſes from an ancient Latin poet, who aſcribes the appellation of Argo to the Argives or Greeks who ſailed in it. Ovid, and many others, call it a ſacred ſhip; and it was thus denominated, probably, becauſe Minerva was ſaid to have given inſtructions for building it, or becauſe it was partly conſtructed of ſome ſacred timber from the grove of Dodona, which was ſacred to Jupiter Tomarius, and which iſſued out oracles.

Authors generally repreſent this ſhip as a long veſſel, reſembling the modern galleys, and furniſhed with 30 benches of rowers. It could not, however, be of any great bulk, if the ancient tradition be true, which reports, that the Argonauts were able to carry it on their backs from the Danube to the Adriatic ſea. However this be, Jaſon, it is ſaid, happily accompliſhed his enterpriſe; and conſecrated the ſhip Argo to Neptune; or, as others ſay, to Minerva, in the iſthmus of Corinth; where, they add, it did not remain long before it was tranſlated into heaven, and made a conſtellation. For an account of this enterpriſe, and of the perſons concerned in it, ſee ARGONAUTIC *expedition*, and ARGONAUTS.

ARGO *Navis*, or the *Ship*, in *Aſtronomy*, is a conſtellation of fixed ſtars in the ſouthern hemiſphere, whoſe ſtars, in Ptolemy's catalogue, are 45; in Tycho's, 11; in the Britannic catalogue, and Sharp's Appendix, 64.

ARGO, in *Conchology*, a ſpecies of ARGONAUTA that is diſtinguiſhed from others of the ſame genus, by having the flat keel of the ſhell ſlightly toothed along the ridges on each ſide; or, as Linnæus expreſſes it, "carina utrinque ſubdentata," keel ſubdentated on each ſide. This is *nautilus tenuis* of Rumpfius, *cymbium* of Gualteri and Teſſin, *nautilus ſulcatus* of Klein, *nautilus papyraceus* of Argenville, and *paper-nautilus*, *ſailor-ſhell*, or *ſailing-ſhell*, of Engliſh collectors.

The animal inhabitant of this ſhell, as the generic character of the argonauta implies, is either a *ſepia* or a *clio*; moſt probably the former; and its appearance and manners of life are ſo ſingular and intereſting, that they did not eſcape the notice of ſome of the earlieſt writers on natural hiſtory with whom the moderns are acquainted. It is a native of the Mediterranean and Indian ſeas, and is ſuppoſed to have taught mankind the uſe of ſails, and the art of navigation in the infant ſtate of ſociety; our admired poet alludes to this opinion in the following well-known lines in the "Eſſay on Man:"

"Learn of the little nautilus to ſail,
Spread the thin oar, and catch the driving gale."

When this creature intends to ſail, it diſcharges a quantity of water, by which its ſpecific gravity is made leſs than the ſea-water in which it lives, and riſing immediately to the ſurface, erects its arms, and expands a membrane between them, by means of which it is driven before the wind like a veſſel under ſail; at the ſame time that two of its arms which hang over the ſides of the ſhell, ſerve for oars and rudder, as occaſion may require. In this manner it is not unfrequently ſeen by navigators ſporting upon the ſurface of the water in calm weather; but the moment a ſtorm riſes, or that any thing diſturbs them, they lower the ſail, draw their arms into the ſhell, and taking in as much of the ſea-water as will ſink them, deſcend directly to the bottom. Pliny, H. N. ix. 29, &c.

ARGOB, in *Ancient Geography*, a diſtrict of Paleſtine, belonging to the half tribe of Manaſſeh, in the country of Baſhan, one of the moſt fruitful on the other ſide of Jordan. In this diſtrict were 60 cities, called Havoth Jair, which had high walls and ſtrong gates.—Alſo, the capital of this diſtrict, (Deut. iii. 4. 14. 1 Kings, iv. 13.) which, according to Euſebius, was 15 miles weſt from Geraſa. This is probably the ſame with Ragab or Ragaba, mentioned by Joſephus, and in the Miſhna.—*Argob* was alſo a place in Samaria, near the royal palace, where Pekah, the ſon of Remaliah, aſſaſſinated Pekahiah, the ſon of Menahem, king of Iſrael. 2 Kings, xv. 25.

ARGODA, or ARGHUM, a town in the interior of the Tauric Cherſoneſus, to the ſouth of Portacra. Ptolemy.

ARGOENUS MONS, a mountain of Aſia, towards N. lat. 38° 20′ north of mount Taurus.

ARGOL, in *Chemiſtry*, the ſame with TARTAR.

ARGOL. See ARCHIL.

ARGOL, in *Geography*, a town of France, in the department of Finiſterre, and chief place of a canton in the diſtrict of Chateaulin, two leagues north weſt of Chateaulin.

ARGOLI, ANDREW, in *Biography*, an Italian mathematician, was born at Tagliacozzo, in the kingdom of Naples, whence he removed to Venice. Here his merit was acknowledged, and he was appointed profeſſor of mathematics in the univerſity of Padua; and in 1636 diſtinguiſhed by the title of chevalier. He died in 1657, and left a treatiſe "De diebus criticis," printed in 1652, 4to.; and "Ephemerides," from 1620 to 1700, 4 vol. in 4to. Nouv. Dict. Hiſtor.

ARGOLIC SEA, in *Ancient Geography*, a name given by ſome writers to part, and by others to the whole of the ÆGEAN *Sea*.

ARGOLIC *Bay*, now the *gulf of Napoli*, was formed by a part of the ſea that intercepted the peninſula called Argolis on the ſouth-eaſt, and Laconia on the weſt. In this bay Pliny places the following iſlands: Pityuſa, Irine, Ephyre, Tiparenus, Aperopia, Colonis, Ariſteria, and Calauria.

ARGOLIS, ſo called from an ancient prince whoſe name was Argos, one of the ſix diſtricts of the Peloponneſus, ſituate on its north-eaſt ſide, was bounded by Achaia on the north, Arcadia on the weſt, Laconia and the Argolic gulf on the ſouth, and the Ægean ſea on the eaſt. The ancient limits are not clearly aſcertained; but it was much enlarged by ſome of its monarchs, ſo that it extended from eaſt to weſt about 70 miles; and from north to ſouth, from 37½° to 38° 20′ N lat. or about 50 miles. This province is peculiarly intereſting to the Grecian antiquarian and hiſtorian, becauſe it was the cradle of the Greeks, ſince it firſt received the foreign colonies by whom they were civilized. It became the theatre of moſt of the events recorded in the early annals of Greece. Here flouriſhed Inachus, who gave

gave his name to the river which waters the territory of Argos: its other rivers were Charadrus, Eraſinus, and Phryxus: there alſo lived Danaus, Hypermneſtra, Lynceus, Alcmæon, Perſeus, Amphitryon, Pelops, Atreus, Thyeſtes, Agamemnon, and many other celebrated heroes and heroines. This province contained the cities of Argos, Nemæa, Mycenæ, Nauplia, Træzené, and Epidaurus. The kingdom of Argos was founded, according to Euſebius, 1080 years before the firſt Olympiad, or 1856 years before Chriſt, by Inachus, and continued under the name of the Argolic kingdom till the reign of Acriſius, the fourteenth king, who transferred the ſeat of it to Mycenæ about the year 512 from its foundation; from which time that part of it was called the kingdom of Mycenæ till the diſſolution, when the Heraclidæ made themſelves maſters of this and of the whole peninſula, after it had ſtood upwards of 754 years under the government of twenty-one monarchs. The Argolic kingdom, properly ſo called, retained likewiſe its own kings after this diviſion, until the Heraclidæ, who divided the peninſula of Peloponneſus into three kingdoms. That of Argos had not continued above 40 years, before Maltas, their laſt king, having made an effort to recover the royal prerogative, loſt both his kingdom and life. At the period which Homer (Iliad, lib. ii. v. 559 to 580) celebrates, Argolis appears to have been governed by two dynaſties, of which the one reigned at Argos, and the other at Mycenæ; and the reſpective princes were Diomede and Agamemnon. The king of Mycenæ was at that time the moſt powerful chieftain not only in Argolis, but in the whole of Greece. The misfortunes of the family of Agamemnon ſoon led to the humiliation of Mycenæ. Argos became pre-eminent in the diſtrict of Argolis, and the Argives, inhabitants of Argos and its dependencies, during the hiſtoric ages of Greece, occupy the moſt prominent part of their ſection of the peninſula.

In their domeſtic inſtitutions, the Argives, in common with other Grecian ſtates, were firſt governed by limited kings, and afterwards their princes having attempted to become abſolute, they eſtabliſhed a republican form of government. In a maritime ſituation, and having eaſy acceſs to the growing refinements of Aſia Minor, of Corinth, and of Athens, the Argives ſucceſsfully cultivated commerce and the arts; and though they did not neglect rural occupations, they were much leſs excluſively addicted to paſturage and agriculture than their inland neighbours of Arcadia. The acceſſibility of their country, and their vicinity to the heroic and aſpiring Spartans, exerciſed their courage in conteſts of defence, while their own ambition impelled them to offence and aggreſſion.

About a century before the firſt Perſian invaſion, the Argives manifeſted a deſire and intention to reduce and command the inferior towns of the province. The inſolence of the capital provoked the indignation of the country. Mycenæ, Træzené, Epidaurus, and other places of leſs note, were often conquered, but never thoroughly ſubdued. Intereſt taught them to unite, and union enabled them to ſet at defiance the power of Argos, by which they were branded as rebellious, and which they reproached as tyrannical. Having many conteſts with the Spartans, with various ſucceſs, they, about the time of Cræſus, received a deciſive defeat (Herodotus, Clio), which depriving them of the valuable territory of Thyrſa, affected their intereſt much, but operating on the high ſpirit of Grecian heroiſm, affected their ſenſibility more. They had hitherto, like moſt of the Greeks, adorned their long hair to encreaſe the gracefulneſs of manly beauty, and to render their appearance more terrrible to their enemies. But in remembrance of this diſaſter, they ſhaved their heads, deprived the Argive women of their golden ornaments, and bound themſelves by a dreadful imprecation never more to aſſume their wonted appearance until they had recovered poſſeſſion of Thyrſa. Although they were not able to recover this territory from the Spartans, now the moſt potent ſtate of Greece, the Argives continued to be the ſecond power in the Peloponneſus. But having, from jealouſy of the Spartans, declined to participate in the defence of Greece againſt Perſia, the Argives fell into the diſrepute which never fails to overtake thoſe that from inteſtine differences and ſelfiſh rivalry withhold the efforts of patriotiſm, when required to repel an invading enemy. As deſerters of the common cauſe, the Argives incurred the hatred and contempt of their public-ſpirited neighbours. Mycenæ, Epidaurus and Træzené, which formed reſpectively the greateſt ſtrength and ornament of the Argive territory, threw off the yoke of a capital which for allegiance did not afford protection, and other towns of leſs importance obeyed the ſummons to liberty and independence. The inſurgents ſtrengthened themſelves by foreign alliance, and renounced the authority to which they had ſo long ſubmitted. By diviſion, inteſtine war, and the devaſtation of the province, they paid the price of their baſeneſs or folly, and left to poſterity an awful leſſon of the impolicy of obſtinacy and ſeparation, where common intereſt demands energy and concert.

If the Argives ſuffered by inaction when duty and intereſt called for activity, they did not raſhly fall into the oppoſite extreme of embroiling themſelves in the quarrels of their neighbours, when theſe were not likely to affect their intereſt or ſecurity. During the firſt years of the Peloponneſian war, they kept aloof from the conteſt, and employed themſelves in repairing the evils of the late diſſenſion; but finding the Spartans likely to attain a pre-eminence that muſt be dangerous if not fatal to neighbouring ſtates, they formed a defenſive confederacy, which taking its name from its chief promoters, was called the Argive alliance. Soon after, however, deviating from the prudent principle of the confederation, they at the inſtance of Alcibiades became aggreſſors, broke the amneſty with the Spartans, and brought upon themſelves the puniſhment of precipitate injuſtice. The Spartans taking the field, ravaged the country; internal tumult co-operated with foreign hoſtility in diſtreſſing the unſteady Argives, and compelled them to ſeek again in peace and juſtice the recovery of thoſe bleſſings which they had loſt by war and rapacity.

When the Spartans, by the complete diſcomfiture of Athens, became predominant over Greece, remote as well as adjacent, it would have been madneſs in the conterminous Argives to have queſtioned their ſupremacy, or to have provoked the anger of a power which could now overwhelm them in deſtruction. They therefore acquieſced in a ſuperiority which their oppoſition could not have deſtroyed. But when the imperious inſolence of victorious Sparta excited general reſentment, the Argives were among the firſt to join in a confederacy for repreſſing the ambition of Sparta, and reſtoring the independence of Greece. The policy of Antalcidas procured the eſtabliſhment of a peace, wherein, by ignominious ſacrifices to the ambition of Perſia, Sparta was able to retain a great part of her influence over her neighbours. Her exerciſe of her dominion, however, did not peculiarly affect Argos; and it was reſerved for another ſtate finally to humble the Spartan power. But the battle of Leuctra had no ſooner relieved the Argives from their dread of the Spartans, than inteſtine diſſenſions again broke forth.

The great defect of the Grecian republics was the want of

an efficient control, which ſhould at once mingle liberty and order, and allowing to each claſs and individual all the power that was neceſſary for promoting public and private good, ſhould reſtrain both tyranny and licentiouſneſs. Hence there were frequent contentions between the ariſtocratical and democratical parties, not rarely leading to ſedition and convulſion. The Athenians being the chief patrons of democracy, and the Spartans of ariſtocracy, the relative power of theſe parties, and other republics, was ſtrongly affected by the preponderance of Athens, or of Sparta. Lacedæmon being humiliated by Epaminondas, the influence of ariſtocracy was weakened throughout Greece; and the nobles in many places were ſlain or driven into exile. At Argos, more than two thouſand of the ariſtocratical party were killed. The Argives now joined the Thebans againſt the Spartans, and were inſtrumental in raiſing Thebes to a pitch of power which might have been dangerous to the independence of Argos, and of all Greece, had not the death of their conſummate general dried up the ſource from which Theban proſperity and greatneſs flowed.

The Peloponneſus being now freed from fears of the Lacedæmonians, the Thebans being in a ſtate of languor after their late and extraordinary efforts, and the Athenians immerſed in pleaſure and luxurious indolence, ſouthern Greece was for ſeveral years quiet, and the Argives are rarely mentioned in hiſtory. But Sparta having recovered a part of her former power, reſumed her pretenſions to the direction of the Peloponneſus. The Argives formed with Arcadia and Meſſenia a league for maintaining their reſpective independence: with fatal impolicy they called in Philip of Macedon, who overcame the Spartans. But a nominal auxiliary proved a real maſter; the Argives now ſhared the fate of the other Grecian ſtates, and became a dependency of Macedon. See ARGOS.

ARGONAUTA, in *Conchology*, the name of one of the Linnæan genera, the character of which is thus defined: animal a ſepia or clio; ſhell univalve, ſpiral, involuted, membranaceous, and containing only one cell. The ſpecies of this genus are few. Gmelin deſcribes five, viz. *argo*, *vitreus*, *cymbium*, *cornu*, and *arctica*; which ſee.

ARGONAUTIC, in *Ancient Hiſtory*, denotes ſomething belonging to the Argonauts. The Argonautic expedition is one of the moſt memorable tranſactions of antiquity; and references to it are interſperſed in moſt of the writings of the ancients. By the Greek writers, who have tranſmitted complete hiſtories of this event, we are informed that the intention of this armament was to bring back a golden fleece, which was detained by Æetes king of Colchis. It was the fleece of that ram on which Phrixus and Helle fled to avoid the anger of Ino. Upon his arrival at Colchis, Phrixus ſacrificed it to Mars, in whoſe temple it was ſuſpended. This fable has been thus explained: Phrixus flying with his ſiſter Helle from the rage of their ſtepmother Ino, the daughter of Cadmus, went on board a ſhip, whoſe enſign was a golden ram, and ſailed to Colchis. Helle was drowned by the way in that ſea, which from her was called the Helleſpont, now the Dardanelles. This, it is ſaid, was the ground of the poetical fable, that a ram with a golden fleece ſwam away with them to Colchis; and that the Argonauts undertook their famous expedition in order to regain that fleece.

After an interval of ſome years, Pelias, king of Iolcus, commiſſioned Jaſon, ſon of his brother Æſon, to go and recover this precious fleece. For this purpoſe a ſhip was built at Pagaſæ, a city not far from mount Pelion in Theſſaly. It was the firſt that was ever attempted; and the merit of the performance is aſcribed to Argus, who was inſtructed by Minerva, or divine wiſdom. This ſhip, called Argo, was built partly with ſome ſacred timbers from the grove of Dodona, ſacred to Jupiter Tomarius; and on this account it is ſaid to have been oracular, and to have given verbal reſponſes; which hiſtory is beautifully deſcribed by Claudian, De Bello Getico, v. 16.

"Argois trabibus jactant fudaſſe Minervam:
Nec nemoris tantam vinxiſſe carentia ſenſu
Robora; ſed, cæſo Tomari Jovis augure luco,
Arbore præſagâ tabulas animaſſe loquaces."

As ſoon as this ſacred machine was completed, a ſelect band of heroes, the prime of their age and country, conſulted together and engaged in this honourable enterpriſe. Among theſe Jaſon was the chief by whom the others were ſummoned and collected. Chiron, or, as others ſay, Muſæus, framed for their uſe a delineation of the heavens, and conſtructed the firſt ſphere, on which the ſtars were formed into aſteriſms for the benefit of the Argonauts, that they might be the better able to conduct themſelves in their perilous voyage. The heroes being all aſſembled, waited for the riſing of the Pleiades, at which ſeaſon they ſet ſail. The general account of their rout is, that they coaſted Macedonia, and proceeded to Thrace, where Hercules engaged with the giants, as he is ſuppoſed to have alſo done in ſeveral other places. They viſited Lemnos and Cyzicus, and from thence came to the Boſphorus. Here were two rocks called the Cyanean, and alſo the Symplegades, which uſed to claſh together with a mighty noiſe, and intercept whatever was paſſing. The Argonauts let fly a dove, that they might diſcover by her fate if there were a poſſibility of eſcaping. The dove made its way, with ſome difficulty; and encouraged by this omen, the heroes puſhed forward, and with the aſſiſtance of Minerva, eſcaped. After many adventures, which the poets have deſcribed in a manner wonderfully pleaſing, they arrived at the Phaſis, which was the chief river of Colchis. Immediately addreſſing Æetes, and informing him concerning the cauſe of their viſit, they demanded a reſtitution of the fleece. The king was exaſperated at their claim, and refuſed to give up the object in view, but upon ſuch terms as ſeemed impracticable. Jaſon, however, accepted of the conditions; and after having engaged in many labours, and, by the help of Medea, ſoothed a ſleepleſs dragon which guarded the fleece, he at laſt brought off the prize. This being happily effected, he retired privately to his ſhip, and immediately ſet ſail, at the ſame time bringing away Medea, the king's daughter. As ſoon as Æetes was appriſed of their flight, he fitted out ſome ſhips to purſue them, and arriving at the Thracian Boſphorus, took poſſeſſion of that paſs. The Argonauts, having their retreat prevented, returned by another rout, which writers have differently repreſented. The author of the Orphic Argonautics makes them paſs up the Phaſis towards the Mæotis, and from thence, through the heart of Europe, to the Cronian ſea, or Baltic; and then to the Britiſh ſeas and the Atlantic; and afterwards, by Gades and the Mediterranean, home. Timagetus ſays, they proceeded northward to the ſame ſeas, by the Iſter. Timæus traces their rout to the fountains of the Tanais, through the Palus Mæotis; thence, through Scythia and Sarmatia, to the Cronian ſeas; and from thence, by the Atlantic, home. Heſiod and Antimachus conduct them by the Southern ocean to Libya, and thence over land to the Mediterranean. Hecatæus Mileſius ſuppoſed that they went up the Phaſis, and turning ſouth over the great continent of Aſia, arrived at the Indian ocean; and thence proceeded to the Nile in Egypt, whence they made their progreſs regularly home. Valerius Flaccus copies Apollonius Rhodius, and purſues their courſe up the

Iſter,

Iſter, and by an arm of that river to the Eridanus, and thence to the Rhone, and afterwards to Libya, Crete, and other places. Pindar conducts them by the Indian ocean. Diodorus Siculus brings them back by the ſame way as they went out. Upon their arrival in Greece, they offered ſacrifices to the gods, and conſecrated their ſhip to Neptune.

Although the object of this expedition has been differently ſtated, and the account of it has been intermixed with many poetical fables, the reality of it has been generally admitted both by ancient and modern writers. Among the moſt eminent ancient writers who admitted it as an hiſtorical truth, were Herodotus, Diodorus, and Strabo, and with them every Grecian mythologiſt; and among the fathers, Clemens, Euſebius, and Syncellus. Among the moderns, the principal are, Scaliger and Petavius; and of our country, Archbiſhop Uſher, Cumberland, Dr. Jackſon, and ſir Iſaac Newton. The learned Bryant (Anc. Mythol. vol. 2. p. 484, &c.) rejects the hiſtory of the Argonautic expedition as a Grecian fable. The Grecians, he ſays, have applied to themſelves an ancient hiſtory to which they had no relation; and as the real purport of it was totally hid from them, they have, by their colouring and new-modelling what they did not underſtand, run themſelves into a thouſand abſurdities. He alleges the inconſiſtencies and contradictions of the different writers, who have given an account of this expedition. They differ as to the number of perſons concerned in it; and yet, allowing the higheſt eſtimate, they were too few to have achieved what they are ſaid to have performed. After many adventures, and long migrations in different parts, the Argonauts are ſaid to have returned to Iolcus, and to have accompliſhed all their peregrinations in four, or, as ſome ſtate it, in two months. "Is it poſſible," ſays Bryant, "for fifty perſons, or ten times fifty, to have performed ſuch mighty operations in this term, or indeed at any rate to have performed them? They are ſaid to have built temples, founded cities, and to have paſſed over vaſt continents, and through ſeas unknown; and all this in an open boat, which they dragged over mountains, and often carried for leagues upon their ſhoulders." Beſides, the æra of the expedition cannot be ſettled without running into many difficulties, from the genealogy and ages of the perſons ſpoken of. Some make the event ninety years, others ſeventy-nine, others only forty years before the æra of Troy. Writers have alſo differed as to the place whither the expedition was directed, the builder of the ſhip, and various other circumſtances minutely recited by this learned writer. According to him, the mythology and alſo the rites of Greece were borrowed from Egypt; and they were founded upon ancient hiſtories, which had been tranſmitted in hieroglyphical repreſentations. Theſe by length of time became obſcure; and the ſign was taken for the reality, and accordingly explained. In the account of Argo, he ſays, we have undeniably the hiſtory of a ſacred ſhip, the firſt that was ever conſtructed. This was no other than the ark, called by the Greeks "Argus" and "Arcas," originally framed by divine wiſdom. As the hiſtory of the Argo related to an ancient event which the Egyptians commemorated with great reverence, the delineation of it in the ſphere was intended as a laſting memorial of a wonderful deliverance; on which account one of the brighteſt ſtars in the ſouthern hemiſphere is repreſented upon the rudder of the ſhip. The ſtar was called by the Egyptians "Canobus," which was one of the titles of their chief deity, and regarded under this denomination as the particular god of mariners. The ſtar of this deity was put upon the rudder of the Argo to ſhew, that providence was its guide. According to this writer, all the miſtakes in this curious piece of mythology aroſe from hence, that the Arkites, who came into Greece, ſettled in many parts, but eſpecially in Argolis and Theſſalia, where they introduced their rites and worſhip; and the ſeveral circumſtances of the Argonautic hiſtory afford wonderful evidence of the Arkites and their rites. The Grecians took the hiſtory to themſelves; and in conſequence of this aſſumption, whereever they heard that any people under the title of Arcades, or Argæi, ſettled, they ſuppoſed that there Argo had been. Hence they made it to paſs not only through the moſt diſtant ſeas, but over hills and mountains, and through the midſt of both Europe and Aſia. They ſent their heroes to Colchis, merely becauſe ſome of their family had ſettled there. Jaſon, ſays Bryant, who was eſteemed the chief in all the Argonautic adventures, was a feigned perſonage made out of a ſacred title of the Arkite god, the ſame as Arcas, Argus, Inachus, and Prometheus; and the temples ſaid to be built by him were ſuch as were erected to his honour. Many of theſe were in Armenia, the region of the moſt ancient Minyæ, who were the worſhippers of the lunar deity Menes; and particularly in the vicinity of Mount Baris, where the ark really reſted, and where the memorials of the deluge were religiouſly obſerved.

Among thoſe writers who have allowed the reality of the Argonautic expedition, very different opinions have been entertained concerning its object and deſign. Diodorus Siculus ſuppoſes that the golden fleece denoted the ſkin of a ſheep ſacrificed by Phrixus, and guarded with care, from an apprehenſion that, according to an ancient oracle, the king of Colchis would be killed by the perſon who ſucceeded in taking it away. Strabo and Juſtin ſuppoſed that Colchis, a country lying between the Euxine ſea and Iberia, and now called Mingrelia, had conſiderable mines of gold, which gave riſe to the fable of the fleece. Theſe mines were apprehended by certain mythologiſts to have been contiguous to ſome of thoſe torrents which fall from the neighbourhood of mount Caucaſus, and to have brought down with them great quantities of gold duſt, which the inhabitants ſaved by ſetting fleeces of wool acroſs the narrow paſſages of thoſe currents. This account was afterwards diſguiſed by the fabulous poets after their manner, and embelliſhed with the ſtories of dragons, brazen bulls, dreadful ſeas, dangerous paſſages, and many ſuch perils and inſurmountable difficulties as commonly attend the too eager ſearch after that pernicious, though ſo much deſired, metal. Pliny and Varro aſcribe this voyage to the wiſh of ſome Greek merchants to get poſſeſſion of the fine wool of Colchis. The account which Suidas gives of the golden fleece, namely, that it was a parchment book made of ſheep's ſkin, and in which was written the whole ſecret of tranſmuting all metals into gold, ſcarcely deſerves mention.

Sir Iſaac Newton, in his Chronology, (apud oper. tom. v. p. 79. ed. Horſley), thinks that the Argonautic expedition was an embaſſy ſent by the Greeks, during the inteſtine diviſions of Egypt, in the reign of Amenophis or Memnon, to perſuade the nations upon the ſea-coaſts of the Euxine and Mediterranean ſeas, to take the opportunity of Amenophis's ſtay in Ethiopia, for revolting from Egypt, ſhaking off the yoke laid upon them by Seſoſtris, and ſetting up for themſelves, as the Libyans, Ethiopians, and Jews had done before; and fetching the golden fleece was only a pretence to cover their true deſign.

The following judicious and ſatisfactory account of the Argonautic expedition, and its effects, is given by Dr. Gillies, in his "Hiſtory of Greece." The northern diſtricts of Theſſaly being peculiarly expoſed to the dangerous fury of invaders, the petty princes of that province entered into a confe-

confederacy for their mutual defence. They aſſembled in ſpring and autumn at Thermopylæ, a place afterwards ſo illuſtrious, and then governed by Amphictyon, a deſcendant of Deucalion, whoſe name is immortalized in the Amphictyonic council. The advantages which the confederates derived from this meaſure, were ſoon perceived by their neighbours. The central ſtates gradually acceded to their alliance; and, about the middle of the fourteenth century before Chriſt, Acriſius king of Argos, and other princes of the Peloponneſus, were allowed to ſhare the benefits and ſecurity of this uſeful aſſociation.

After this event, the Amphictyons appear to have long confined themſelves to the original purpoſe of their inſtitution. The ſtates, whoſe meaſures were directed by this aſſembly, found ſufficient occupation in defending their own territories; and near a century elapſed, before they undertook, by common conſent, any diſtant expedition. But it was not to be expected that their reſtleſs activity could be always exhauſted in defenſive war. The eſtabliſhment of the Amphictyons brought together the chiefs moſt diſtinguiſhed by birth and bravery. Glory and emulation prompted them to arms, and revenge directed thoſe arms againſt the barbarians. Jaſon, Admetus, and other chieftains of Theſſaly, having equipped a ſmall fleet in the neighbouring harbour of Iolcus, and particularly the ſhip Argo, of ſuperior ſize and conſtruction to any before known, were animated with a deſire to viſit foreign lands, to plant colonies in thoſe parts of them that appeared moſt delightful, and to retort on their inhabitants the injuries which Greece had ſuffered from ſtrangers. The princes of the north having proclaimed this ſpirited deſign over the central and ſouthern provinces, the ſtandard of enterpriſe and glory was ſpeedily ſurrounded by the flower of the Grecian youth, who eagerly embraced this honourable opportunity to ſignalize their manly valour. Peleus, Tydeus, Telamon, and, in general, the fathers of thoſe heroic chiefs, who, in the ſucceeding age, ſhone with diſtinguiſhed luſtre in the plains of Troy, are numbered among the leaders of the Argonauts. They were accompanied by the choſen warriors, and by the venerable prophets, of their reſpective tribes; by an Eſculapius, the admired father of the healing art, and by the divine Orpheus, whoſe ſublime genius was worthy to celebrate the amazing ſeries of their adventures.

Theſe adventures, however, have been too much adorned by the graces of poetry, to be the proper ſubjects of hiſtorical compoſition. The deſigns of the Argonauts are veiled under the allegorical, or at leaſt doubtful, phraſe, "of carrying off the golden fleece;" which, though eaſily explained, if we admit the report that the inhabitants of the eaſtern banks of the Euxine extended fleeces of wool, in order to collect the golden particles which were carried down by the torrents from mount Caucaſus, is yet deſcribed in ſuch various language by ancient writers, that almoſt every modern who examines the ſubject, thinks himſelf entitled to offer, by way of explanation, ſome new conjecture of his own. But, in oppoſition to the moſt approved of theſe conjectures, we may venture to affirm, that the voyage to Colchis was not undertaken with a view to eſtabliſh extenſive plans of commerce, or to ſearch for mines of gold, far leſs to learn the imaginary art of converting other ſubſtances into that precious metal; all ſuch motives ſuppoſing a degree of ſpeculation and refinement unknown in that age to the gallant but uninſtructed youth of Theſſaly. The real object of the expedition may be diſcovered by its conſequences. The Argonauts fought, conquered, and plundered; they ſettled a colony on the ſhores of the Euxine; and carried into Greece a daughter of the king of Colchis, the celebrated Medea, a princeſs of Egyptian extraction, whoſe crimes and enchantments are condemned to eternal infamy in the immortal lines of Euripides.

Notwithſtanding many romantic fictions that diſfigure the ſtory of the Argonauts, their undertaking appears to have been attended with a conſiderable and a happy effect on the manners and character of the Greeks. From the æra of this celebrated expedition, we may diſcover not only a more daring and more enlarged ſpirit of enterpriſe, but a more deciſive and rapid progreſs towards civilization and humanity. The ſullen and unſociable chiefs, whoſe acquaintance with each other moſt commonly aroſe from acts of mutual hoſtility, hitherto gave full ſcope to the ſanguinary paſſions which characteriſe barbarians. Strength and courage were almoſt the only qualities which they admired: they fought and plundered at the head of their reſpective tribes, while the inhabitants of the neighbouring diſtricts were regarded as fit objects only to excite their rage, and gratify their rapacity. But theſe gloomy warriors, having exerted their joint valour in a remote expedition, learned the neceſſity of acquiring more amiable virtues, as well as of adopting more liberal notions of the public intereſt, if they pretended to deſerve the eſteem of their equals. Military courage and addreſs might alone procure them the reſpect of their immediate followers, ſince the ſafety of the little community often depended on the warlike abilities of the chieftain; but when ſeveral tribes had combined in a common enterpriſe, there was leſs dependence on the proweſs of any ſingle leader. Emulation and intereſt naturally rendered all theſe leaders as jealous of each other, as deſirous of the public applauſe; and, in order to acquire this applauſe, it was neceſſary to brighten the luſtre of martial ſpirit by the more valuable virtues of juſtice and humanity.

The Argonautic expedition is one of the greateſt epochas or periods of hiſtory, which ſir Iſaac Newton endeavours to ſettle, and from thence to rectify the ancient chronology. This he ſhews, by ſeveral authorities, to have been one generation, or about 30 years, earlier than the taking of Troy, and about 43 years later than the death of Solomon. Blair refers this expedition to the year 1263 before Chriſt, or 79 years before the taking of Troy. Playfair places it 41 or 42 years before this event, or in the year 1225 before Chriſt. For an account of the Newtonian ſyſtem, of the arguments in its favour, and of the objections that have been urged againſt it; ſee CHRONOLOGY.

ARGONAUTICA, in *Literary Hiſtory*, denotes poems on the ſubject and expedition of the ARGONAUTS. We have the Argonautics of Orpheus, in epic verſe, publiſhed by H. Stephens; the Argonauticon of Valerius Flaccus, in eight books of Latin heroics, in imitation of Apollonius, with reſpect to which Burman obſerves, that the imitator has often ſurpaſſed the original; the Argonautics of Apollonius Rhodius, an heroic poem, conſiſting of four books, "opus." as Quinctilian calls it, "non contemnendum."

ARGONAUTS, in *Antiquity*, a company of fifty-one, according to Valerius Flaccus, or, according to Apollonius Rhodius, forty-four heroes, who embarked along with Jaſon in the ſhip Argo, for Colchis, with a deſign to obtain a golden fleece.

Hercules, Theſeus, Caſtor, Orpheus, &c. were of the number of the Argonauts.

ARGONAUTS *of St. Nicholas*, was the name of a military order, inſtituted by Charles III. king of Naples, in the year 1382, for the advancement of navigation, or, as ſome ſay, merely for preſerving amity among the nobles.

They wore a collar of ſhells, incloſed in a ſilver creſcent, whence hung a ſhip, with this device, "Non credo tempori,"

pori," "I do not truſt time." Hence theſe Argonaut knights came to be called *knights of the ſhell*. They received the order of St. Baſil archbiſhop of Naples; and held their aſſemblies in the church of St. Nicholas, their patron.

ARGONNE, in *Geography*, a country of France, before the revolution, about 20 leagues in length, between the Meuſe, the Marne, and the Aiſne; of which the capital was St. Menehold.

ARGOON. See ARGUN.

ARGOPHYLLUM, in *Botany* (Αργος and φυλλον, white-leaf; the leaves being of a gloſſy whiteneſs beneath). Forſter. g. 15. Supp. p. 22. Schreb. 393. Juſſ. 161. Claſs, *pentandria monogynia*. Nat. Ord. *Ericæ*. Juſſ. Gen. Char. *Cal.* perianth ſhort, quinquefid; diviſions ſharp. *Cor.* petals five, lanceolate, ſpreading, three times greater than the calyx; nectary five angled, pyramidal, open at the top, conſiſting of many converging papillas, connate at the baſe. *Stam.* filaments five, ſubulate, inſerted into the receptacle, ſhorter than the nectary; anthers ovate. *Piſt.* germ turbinate, faſtened at the bottom to the calyx, flat above; ſtyle filiform; ſtigma globular. *Per.* capſule hemiſpherical, flat above, three-celled, opening into three parts. *Seeds*, numerous, globular, porous.

Eſſ. Gen. Char. *Capſ.* three-celled. *Nect.* pyramidal, five-angled, the length of the corolla.

Species 1. A. *nitidum*, perennial, ſtems, petioles, leaves underneath, panicles, calyxes, ſhining with a ſilky down; leaves alternate, petiolate, ovate, pointed at both ends, entire; peduncles axillary, ſolitary, elongated, terminating in a panicle. Found in New Caledonia.

ARGOS, αργος, from α negative, and εργον, *work*, or *buſineſs*; as if it were αεργος. So αργος αργυρος is *ſilver not worked*; αργοι πυροι, in Hippocrates, is *crude wheat, not prepared, but ſuch as it is taken from the floor*.

ARGOS, in *Ancient Geography*, a name given to ſeveral cities; and more particularly to the capital of a ſmall kingdom of Greece, denominated ARGOLIS. It was alſo called Argi, and Inachus, from its founder. It is ſaid to have been built by a colony of ARGIVES, who migrated from Egypt under the command of Inachus, and ſettled in Greece. Inachus was ſtyled the ſon of the ocean, becauſe his origin was not known, and becauſe he had come by ſea into Greece. Before his arrival the inhabitants were rude and barbarous. Theſe he united and civilized, and inſtructed in various arts. His ſon Phoroneus inſtituted the laws of government; and, on that account, he has been called the firſt king in Argos, the firſt of men, and the father of mortals. The city was ſeated at ſome diſtance from the ſea, on the river Inachus, in a ſpacious, rich, and well-watered plain, from which it is ſuppoſed to have derived its name. To this purpoſe Strabo ſays (l. viii. p. 170, &c.) that Argos is a Macedonian or Theſſalian term, ſignifying a plain or champaign country, and thus it is deſcribed by Homer. Hence it has been concluded that they are miſtaken, who have repreſented this city and its territory as dry and barren, and that they have miſunderſtood the epithet of "thirſty," aſcribed to it by the poet; which, it is conceived, ſhould have been tranſlated "deſireable," becauſe it was well watered by the Inachus, and by ſeveral other rivulets and ſprings. It was alſo diſtinguiſhed by the epithet "hippobotos," from the goodneſs of its adjacent paſtures, in which Neptune is ſaid to have fed his horſes, or perhaps from the excellent breed of horſes which this territory produced. The epocha of its foundation is referred to the year 1080 before the firſt Olympiad, or 1856 before Chriſt; and it loſt its diſtinction as the capital of the kingdom after the reign of Acriſius, or about the year 1344 before Chriſt, when the ſeat of government was tranſferred to Mycenæ. Upon the arrival of the Heraclidæ, and the diviſion of the peninſula into three kingdoms, about the year 1104, Argos recovered the rank which it had loſt. Strabo ſpeaks of Argos as the principal city of the Peloponneſus, next to Sparta. It was adorned by a number of magnificent edifices and ſtatues. The moſt ancient of theſe edifices was the temple of the Lycian Apollo, erected to this god by Danaus; and in this temple was the ſtatue of Apollo by Attalus the Athenian, that of Biton with a bull upon his back, one of Mercury by Epéus, and others dedicated to Apollo, Jupiter, and Diana. Over againſt this temple was that of Jupiter Nemæus, with the ſtatue of the deity in bronze by Lyſippus: the temple of Phoroneus, whoſe anniverſary was celebrated by the Argives: the temple of Fortune, and another dedicated to the Seaſons, &c. &c. Here were alſo the ſtatues of the heroes who took Thebes, and the cenotaph of the Argians who periſhed at the ſiege of Troy. The celebrated citadel, called "Lariſſa," was ſeated on an eminence to the north-weſt of the city. Argos was alſo much enriched by its trade, and particularly by the fine race of horſes that were bred about its territory. Bryant refers the origin of Argos, of the Argives, and alſo of the Argonauts, to a colony of Arkites, who came from Egypt and diffuſed themſelves widely through various parts of Greece. Anal. Anc. Mythol. vol. ii. p. 506. The medals of this city were gold, ſilver, and bronze; and their ordinary type was a wolf, which was the ſymbol of the Argians. There were alſo imperial Greek medals ſtruck in this city, in honour of Adrian, Antonine, Verus, Septimius Severus, Fauſtina, Donna, Geta, Elagabalus, Marcus Aurelius, Plautilla, Galien, and the younger Valerian. A ſmall village, called *Argo*, ſtill ſubſiſts on the ruins of the ancient Argos.

ARGOS, a town of the iſland of Niſyros, one of the Cyclades. Steph. Byz.—Alſo, a town of Aſia, in Cilicia, called in the time of Steph. Byz. Argeopolis, ſituated near mount Taurus.—Alſo, a town of Aſia Minor, in Caria. Steph. Byz.—Alſo, a place in the iſland of Cyprus, famous for the temple of Apollo Erythius, where Venus found the body of Adonis.

ARGOS *Amphilochium*, a town ſituated in the Ambracian gulf, two ſtadia, according to Polybius, and according to Livy twenty-two miles, from the city of Ambracia. Thucydides, who repreſents it as a maritime town, aſcribes its origin to Amphilochus, the ſon of Amphiarous, ſome years after the war of Troy; others ſay that it was founded by Alcmeon, in honourable remembrance of the friendſhip that ſubſiſted between him and his brother Amphilochus.

ARGOS *Hippium*. See ARPI.

ARGOS *Oreſticum*, a town of the Oreſtiade, a country of Epirus, built by Oreſtes; where he made his eſcape, after having killed his mother. Strabo.

ARGOS, or *Argers*, in *Geography*, a mean town of Turkey, in the Morea on the bay Napolidi Romania, and on the river Najo or Inachus; N.N.W. from cape Angelo. The Turks took it from the Venetians, under Mahomet II.; twenty miles ſouth of Corinth. N. lat. 37° 30'. E. long. 23° 5'.

ARGOS, a ſmall town of Africa, in the kingdom of Dongola in Abyſſinia, on the eaſtern bank of the Nile, through which the caravans that carry ſoap and linen paſs, and where they pay a duty to the douane of the place.

ARGOSTOLI, a ſea-port of the iſland of Cephalonia, oppoſite to Albania, the beſt in the iſland, at the diſtance of five miles from the fortreſs.

ARGOUGES, a town of France, in the department of the Channel, four leagues ſouth of Avranches.

ARGOW,

ARGOW, Argau, or Argovie, a country of Switzerland, ſituated on the river Aar, from which it derives its name, and forming the north-eaſtern part of the canton of Berne. It is divided into Upper and Lower Argow, which are ſeparated from each other by the ſmall town of Arburg. The upper Argow extends to the Thun, and the lower to the confluence of the Aar with the Rhine. By the diviſion of 1798, Argow, the chief town of which is Arau, was made a diſtinct department or canton; but by the conſtitution of 1801, Argovie was re-united with Baden and with the upper part of the Frickthall, and thus formed into the fourteenth department or canton, and ſix perſons were appointed to repreſent it in the diet. Argow is a very fertile country, well watered by rivers which flow into it from the canton of Lucerne, abounds with excellent paſtures, and produces alſo corn and wine. The induſtry of the inhabitants in the Lower Argow compenſates for the leſs fertility of the ſoil. The reformed religion is the general profeſſion of its inhabitants. See Berne.

ARGU, a town of Syria, five miles ſouth-eaſt of Damaſcus.

ARGUEDAS, a town of Spain, in Navarre, 2½ leagues from Tudella.

ARGUEIL, a town of France, in the department of the Lower Seine, chief place of a canton, in the diſtrict of Neufchatel, ſix leagues north-eaſt of Rouen. The place contains 340, and the canton 9,608 inhabitants: the territory includes 215 kiliometres, and 22 communes.

ARGUENON, a river of France in the late province of Bretagne, which has its ſource near Jugon, and runs into the ſea near St. Malo.

ARGUES, Gerard d', in *Biography*, a mathematician of France, was born at Lyons in 1597, and died there in 1661. He was the diſciple and friend of Deſcartes, whom he defended in return for his inſtruction. The works of this writer in French, are "A treatiſe on Perſpective," fol.; "A treatiſe on Conic Sections," 8vo.; "The practice of Drawing," 8vo.; and "A treatiſe on Stone-cutting," 8vo. Nouv. Dict. Hiſtor.

ARGUIER, in *Geography*, a town on the ſouth point of Porto Galere, towards the north-weſt corner of the iſland of Sardinia, in the Mediterranean, nearly eaſt from cape Caſs.

ARGUIN, an iſland of Africa, in the Atlantic, ſituate on the northern part of the coaſt of Senegambia, and in a gulph of the ſame name formed by cape Blanco, about ten leagues from it. N. lat. 20° 20'. W. long 17° 20'. To the weſt of this iſland are two other long ſmall iſlands, and in the bay, on the north ſide, are ſeveral ſhoals from the main. There is alſo a little iſland by the point called Terra Gorda, and more ſouthwards another called Monzora. Arguin was probably the iſland, which was known to the ancients under the name of "Cerne." It became the chief ſtation of the Carthaginians, in the voyage of Hanno, along that coaſt; and M. De. Bougainville contends, that the ciſterns found there are monuments of the Carthaginian power and ingenuity. Although Arguin is ſcarcely two miles in length, it has been for nearly a century, an object of conteſt to the Portugueſe, Dutch, Engliſh, and French: but at length the French, in 1725, demoliſhed the fort, and it has not been ſince rebuilt by any European power.

ARGULUS, in *Entomology*, one of the genera or diviſions of Müller, in his arrangement of Monoculi. Gmelin adopts it as a ſubdiviſion of the genus, with this definition: eyes placed beneath; antennæ two; legs from four to eight. This ſubdiviſion includes the three following ſpecies, *Charon*, *Delphinus*, and *Armiger*; and it is remarkable that the firſt kind has four legs, the ſecond eight, and the third ſix.

ARGUMENT, in *Rhetoric*, is ſome reaſon or ſeries of reaſoning, by which we eſtabliſh the proof, or ſhew the probability of ſome given propoſition. Logicians, ſomewhat more ſcientifically, define *argument*, a *medium*, from whoſe connexion with two extremes, the connexion of the two extremes themſelves is inferred. To illuſtrate this definition by an example; let it be inquired, "whether virtue is to be loved?" The agreement between virtue and love might be found by comparing each of them ſeparately with happineſs, as a common meaſure to both. For ſince the idea of happineſs agrees to that of love, and the idea of virtue to that of happineſs, it follows that the ideas of virtue and love agree to one another; and therefore it may be affirmed, "that virtue is to be loved." But, on the contrary, becauſe the idea of miſery diſagrees with that of love, but the idea of vice agrees to that of miſery, the two ideas of vice and love muſt conſequently diſagree with one another: and therefore it would be falſe to aſſert, "that vice is to be loved." The third thing logicians call the "medium" or "middle term," becauſe it does as it were connect two extremes, that is, both parts of a propoſition. But rhetoricians call it an "argument," becauſe it is ſo applied to what was before propoſed as to become the inſtrument of procuring our aſſent to it. Ward's Oratory, vol. i. p. 43. See Topics.

Arguments are termed *grammatical*, *logical*, *phyſical*, *metaphyſical*, *moral*, *mechanical*, *theological*, &c. according to the art, ſcience, or ſubject, from whence the middle term is borrowed. Thus, if we prove that no man ſhould ſteal from his neighbour becauſe the ſcripture forbids it, this is a "theological argument;" if we prove it from the law of the land, it is "political;" but if we prove it from the principles of reaſon and equity, the argument is "moral."

Arguments are either *certain* and *evident*, or *doubtful* and merely *probable*. "Probable arguments," are thoſe whoſe concluſions are proved from ſome probable medium. "Evident and certain arguments," are thoſe which prove their concluſions by clear media and undoubted principles: theſe are called *demonſtrations*. In reaſoning, Mr. Locke obſerves, that men ordinarily uſe four ſorts of arguments. The firſt is to allege the opinion of men, whoſe parts and learning, eminence, power, or ſome other cauſe, have gained a name, and ſettled their reputation in the common eſteem with ſome kind of authority: this may be called "argumentum ad verecundiam." Secondly, another way is to require the adverſaries to admit what is alleged, as a proof; or to aſſign a better: this he calls "argumentum ad ignorantiam." A third way, is to preſs a man with conſequences, drawn from his own principles or conceſſions: this is known by the name of "argumentum ad hominem." Fourthly, the uſing of proofs, drawn from any of the foundations of knowledge or probability: this he calls "argumentum ad judicium;" and obſerves, that it is the only one of all the four that brings true inſtruction with it, and advances us in our way to knowledge. For, 1. it argues not another man's opinion to be right, becauſe I, out of reſpect, or any other conſideration but that of conviction, will not contradict him. 2. It proves not another man to be in the right way, nor that I ought to take the ſame with him, becauſe I know not a better. 3. Nor does it follow, that another man is in the right way, becauſe he has ſhewn me that I am in the wrong: this may diſpoſe me perhaps for the reception of truth, but helps me not to it. That muſt come from proofs and arguments, and light ariſing from the nature of things themſelves; not from any ſhamefacedneſs, ignorance, or error. See Reason and Reasoning.

Beſide theſe, there are other arguments enumerated by different writers, as the "argumentum ab amore," which is uſed to engage

engage the reaſon by the affections; the "argumentum ad ignaviam," called by the Greeks αργος λογος, which always concludes in favour of inaction; the "argumentum ab invidiâ," which is made uſe of to render an adverſary's opinion odious; M. le Clerc has a diſſertation on this argument as applied to theology: and alſo "the argumentum a tuto," drawn from the conſideration of its being ſafer to chooſe one ſide of the queſtion than the other, when the evidence is equal on both ſides. This has been much uſed againſt atheiſts and infidels; it was firſt ſtarted by Arnobius, and adopted by ſeveral advocates for Chriſtianity, as Paſchal, Tillotſon, Gaſtrel, &c. Lord Shafteſbury and others have endeavoured to explode it: Clarke and Leibnitz only allow it a moral force. Mofheim has a diſſertation on this argument, viz. "De Vi argumenti quod a tuto dicitur in Theologiâ." Wolfem. 1723. 4to.

Logicians divide their arguments, with regard to their form, into ſyllogiſms, enthymemes, inductions, &c. An "argument in form," is a ſyllogiſm framed according to the ſtrict rules of logic.—According to Ariſtotle, the "enthymeme" is the argument of rhetoric, as the ſyllogiſm is that of logic.—Rhetoric is defined by ſome, the art of finding arguments adapted to perſuade, or gain belief.

Rhetoricians divide arguments, with reſpect to the places they are drawn from, into *intrinſic* or *artificial*; and *extrinſic* or *inartificial*, or *remote*.

ARGUMENTS, *artificial*, or *intrinſic*, by the Greeks called εντεχνα, by Cicero *inſita*, are the proper invention of him who ſpeaks: or they are thoſe which are taken from the ſubject treated of; of which there are ſeveral kinds, viz. genus and ſpecies, form, cauſe, and effect, &c. See each in its place, GENUS, &c. To theſe ſome add two other places of argument, viz. the manners and the paſſions.

ARGUMENTS, *inartificial*, or *extrinſic*, ατεχνα, by Cicero called *aſſumpta*, are thoſe which are borrowed from abroad, and are only applied by the orator to the point in hand; ſuch are laws, common report, books, oaths, torture, and witneſſes. The places, or general heads of arguments, with regard to their end, may be divided into, 1. Thoſe intended to perſuade or diſſuade, which are chiefly drawn from the conſiderations of profit, honour, and equity: 2. Thoſe intended to praiſe or diſpraiſe: and, 3. Thoſe intended to accuſe and defend. See TOPICS.

ARGUMENT, *dialectical*. See DIALECTICAL.

ARGUMENT is alſo uſed for a ſyllabus, or abridgment of the ſubject of a book, hiſtory, comedy, or the like. We have almoſt loſt the original uſe of prologues, which was to give the argument of the play.

ARGUMENT, in *Aſtronomy*, is, in general, a quantity upon which depends an equation, an inequality, or ſome circumſtance relating to the motion of a planet; or it is an arch whereby we ſeek another unknown arch, bearing ſome proportion to the firſt. Hence,

ARGUMENT *of inclination*, or *of latitude*, is an arch of a planet's orbit intercepted between the aſcending node, and the place of the planet from the ſun, numbered according to the ſucceſſion of the ſigns; or, more generally, the argument of latitude is the diſtance of a planet from its node, becauſe on this depends the latitude. Let ♈C (*Plate* I. *Aſtronomy, fig.* 13.) be the ecliptic, AB the orbit of a planet, N the aſcending node, ♈C the order of the ſigns, P the place of the planet, and P*m* perpendicular to ♈C; then N*m* reckoned from N, according to the order of the ſigns, is called the argument of latitude, becauſe the latitude P*m* depends upon N*m*. In order to obtain it, we muſt always ſubtract the place of the node from the place of the planet reduced to the ecliptic, adding twelve ſigns to the latter, if it be the leaſt. Take NA=N♈, and the longitude of a planet upon its orbit is computed from the point A; hence the longitude on the orbit is AP=AN+NP, and the longitude on the ecliptic is ♈*m*=♈N+N*m*=AN+N*m*; the difference of theſe longitudes is the difference between NP and N*m*, which difference applied to the longitude of the planet upon the ecliptic, adding or ſubtracting it, as N*m* is leſs or greater than NP, that is, as N*m* is between 0° and 90° or 180° and 270°, or between 90° and 180° or 270° and 360°, gives the longitude upon its orbit. This difference is called the *reduction*. To find it, put *c* = the coſine of the angle PN*m*, *t* = the tangent of N*m* the argument of latitude; then the cotang. $PN = \frac{\text{rad.} \times c}{t}$, hence 10 + log. *c*. − log. *t*. = log. cotang. PN; and the difference between PN and N*m* is the reduction required. E. G. Let the inclination of the orbit of Mercury be 7°, and the argument of latitude 30° 17′ 48″: then,

7° 0′ 0″	Coſ. +	10 = 19.9967507
30 17 48	tang.	= 9.7706171
30 29 1	cotang.	10.2301336

0 11 13 the Reduction.

In the tables of the planets' motions, a table of reductions is given, which applied to NP gives N*m*, or applied to the longitude of a planet on its orbit, gives the longitude upon the ecliptic; but if applied with a contrary ſign to the longitude on the ecliptic, it gives the longitude on its orbit. In like manner a reduction may be applied to the ſun's longitude, for the purpoſe of finding its right aſcenſion, or the contrary. Vince's Aſtron. vol. i. p. 149.

ARGUMENT, *menſtrual, of latitude*, is the diſtance of the moon's true place from the ſun's true place.

By this we find the quantity of the real obſcuration in eclipſes, or how many digits are darkened in any place. See ECLIPSE.

ARGUMENT, *Annual*, or annual argument of the moon's apogee, is the diſtance of the ſun's place from the place of the moon's apogee, or the arch of the ecliptic comprehended between theſe two places.

ARGUMENT *of the parallax*, denotes the effect which it produces in an obſervation, and which ſerves for determining the true quantity of the horizontal parallax.

ARGUMENT *of the equation of the center*, or of the equation of the orbit, is the anomaly or diſtance from the apogee or aphelion, becauſe this equation is calculated in an elliptic orbit for every degree of anomaly, and varies according to the variation of the anomaly. Thus alſo, the *argument* of that part of the equation of time, which ariſes from the unequal angular motion of the earth in its orbit about the ſun, is the ſun's anomaly, becauſe that part of the equation depends entirely upon the anomaly; and the latter being given, the former is found from it. In the computation of the place of the moon by the tables, there are fourteen arguments, correſponding to the fourteen inequalities in its motion, and the fourteen equations in the calculation: *e. g.* the firſt is 11′ 16″, multiplied by the mean anomaly of the ſun; becauſe this equation, which is 11′ 16″ when the ſun is 90° from his apogee, decreaſes as the ſine of the diſtance from the apogee, or the ſun's anomaly. Thus, the anomaly is the argument of the firſt equation, and ſo of the reſt.

ARGUMENTATION, the act of inventing or framing arguments, of making inductions, and drawing concluſions. See INDUCTION, &c.

Argumentation, according to Cicero, is the delivering or unfolding of an argument. The matter of argumentation is propoſitions; the form, their due diſpoſition, with regard

to one another, ſo that a concluſion may be drawn from them. See Enthymeme, Propoſition, Ratiocination, Sorites, Syllogism, &c.

ARGUN, or Argoon, in *Geography*, a river of Aſia, which riſes in a lake of Chineſe Tartary, called "Coulon Nor," or "Dalai," ſituated in N. lat. 49°. E. long. 119° 14'. and joins the Amur or Amoor, in N. lat. 53°. E. long. 121° 14'. This river ſeparates Ruſſia from Chineſe Tartary, according to the treaty of Nertchinſk in 1728. It has a pearl fiſhery, and near its banks are mines of lead and ſilver.

Argun, or *Argjan*, is alſo a mountain of Independent Tartary, forming the chain with the Kara Tau, though broken by the interſection of a river.

ARGUNA, a town on the coaſt of Africa, on the river Benin or Formoſa, thirteen leagues from Benin.

ARGUNSKOI, in *Geography*, a town of Siberia, ſeated on the Argun, near the confines of China, one hundred and thirty miles eaſt of Nertchinſk. N. lat. 50° 50'. E. long. 120° 14'. This is the fartheſt fort of the Ruſſians towards the eaſt, on the Mongalian frontiers, and was firſt built on the eaſt bank of the Argun, in 1682, for the convenience of levying the tribute payable by the Tunguſians, who inhabit theſe parts; and it was rebuilt in 1639 on the weſt ſide of that river. A conſiderable trade is carried on from this garriſoned town with the Monguls. The country round it is very fertile; and the air, though cold, very healthy. The territory of Argunſkoi is often viſited with ſlight ſhocks of an earthquake, in the ſpring or beginning of winter. The Chineſe erect new pillars every year, on the eaſt bank of the Argun, to mark the limits of their frontiers.

ARGURA or Argissa, in *Ancient Geography*, a town of Greece, in Theſſaly, ſituate upon the Penæus, forty ſtadia from Atrax. Strabo.

ARGUS Campus, a plain in the territory of Mantinæa. Pauſanias.

Argus, in *Fabulous Hiſtory*, is ſaid to have had an hundred eyes, ſome of which were open, whilſt the others were cloſed. He was called Παναπτης, *panoptes*, becauſe he ſaw every thing. On this account Juno intruſted him with the cuſtody of Io; but Jupiter, having compaſſion on Io in cloſe confinement, commiſſioned Mercury to charm Argus to ſleep with his flute, and to ſeal his eyes with his caduceus, and then to cut off his head. Juno, in recompence of his fidelity, took all the eyes of Argus, and fixed them to the wing and tail of the peacock; and, as the fable adds, transformed Argus into this bird. Macrobius (Saturn. i. 19.) gives this fable an aſtronomical origin: he ſays, that Argus repreſents the celeſtial ſphere, on which are diſperſed a thouſand ſtars; and that Mercury is the ſun, that makes them diſappear by its brightneſs. But when it was known that the Mercury of the Greeks was the Anubis of the Egyptians, and that Anubis repreſented the horizon, the application of the fable was no leſs obvious, as Mercury cauſed Argus to ſleep, and cloſed his hundred eyes, as the horizon every day veiled the ſtars of the celeſtial ſphere.

Argus, in *Conchology*, a ſpecies of Murex, found in India. The ſhell is gibbous, with tranſverſe tuberculated ribs; brown, obſcurely faſciated, and white within; aperture ovate. Gmelin, &c. *Obſ.* There are three or more ſuppoſed varieties of this ſpecies, one of which is believed to be the ſhell figured in Martin's Univerſal Conchology under the name of *Flag-Buccinum*; and which is found in the Friendly and Society iſlands.

Argus, a ſpecies of Cypraea, that inhabits the Indian and Atlantic ocean. This ſhell is ſlightly turbinated, ſomewhat cylindrical, and ſprinkled with ocellated marks; four brown ſpots beneath. Gmelin. It is called *argus* by Rumphius, *argus magnus* by Argenville, and *argus cowry* by Engliſh collectors. The length is about four inches; it is rather narrow, and of a grey or yellowiſh colour above, with three brown bands; the ocellar marks are ſometimes connected; and it is alſo remarkable that the ſpots on one ſide, beneath, are larger than the other; the lips are ſtraw-colour, and the teeth brown.

Argus *minor*, the name given by Argenville to the ſhell called by Linnæus and Gmelin *Cypraea cribraria*; which ſee.

Argus, in *Entomology*, a ſpecies of Curculio, deſcribed by Sparrman in the Stockholm Tranſactions for 1785, as a native of the Cape of Good Hope. It is downy; head and anterior margin of the thorax dotted with grey and white; wing-caſes with elevated ſtriæ, and both ſpotted and dotted with white and grey. Gmelin.

Argus, a ſpecies of Cimex (*Scutellatus*, Gmel.) It is black, dotted with numerous ocellar fulvous ſpots. Fabr. and Gmel. This creature inhabits Surinam, and is about the ſame ſize as *Cimex* Fabricii; the under-ſide is yellow, varied with black.

Argus, a ſpecies of Papilio, (*Pleb. rural.* Gmel.) The wings are deſtitute of tails, and blue; beneath, a ferruginous border on the poſterior pair, with blue ſilvery ocellated ſpots. Gmelin, &c. *Obſ.* This character cannot be conſidered unexceptionable, ſince it agrees only with the male inſect; the female is dark brown, and bluiſh only at the baſe of the upper ſurface. The larva from which it is produced is green, with a brown line along the back; and the head and fore-legs black.

Argus, a moſt ſingular ſpecies of Phalæna, (*Bombyx Att.* Gmelin,) in which the poſterior wings are furniſhed each with a tail, that is more than thrice the length of the reſt of the inſect. The ſpecific character is as follows: wings tailed, pale ferruginous, with numerous ocellar tranſparent ſpots; and tails very long. This is *phalæna brachyura* of Cramer; and found in Sierra Leona. A ſomewhat analogous ſpecies, being furniſhed with ſimilar tails, has been recently diſcovered in the interior of Africa.

Argus, in *Ichthyology*, a ſpecies of Pleuronectes, that inhabits the ſeas about the Antilles. The body is variegated and the tail rounded. Bloch and Gmelin. To this conciſe character of the ſpecies may be added, that it is white with yellow ſpots, which are dotted with brown, and encircled each with a blue ring; the other parts are alſo dotted with brown, and covered with ſoft ſcales; the head is broad; the eyes are unequal, and rather at a diſtance; the pupil blue; the iris white and brown; the lateral line bending in the middle, above the pectoral fin; the fins ſpotted with blue; the membrane yellowiſh; rays brown; dorſal fin extending from the noſtrils to the tail. It has ſeventy-nine rays in the dorſal fin, pectoral ten, ventral eight, anal ſixty-nine, and in the tail ſeventeen.

Argus, a ſpecies of Chaetodon, called by Renard *Ican Taci*, and by Valent *Cacatocha Babintang*. It has eleven ſpines in the dorſal fin; the body is entirely dotted with black; and the tail is entire. Gmelin, &c. The body of this fiſh is nearly ſquare; and the ſides are ſpotted and varied with brown; above it is violet, beneath white; the iris of the eye is golden; jaws equal; gill-covers large; the membrane looſe; the lateral line is arcuated; vent nearly in the middle of the body; fins ſhort and yellow; and four ſpines before the anal fin. This ſpecies is found in freſh waters and ſwamps, in India; lives on inſects; and the fleſh is ſapid.

Argus, in *Ornithology*, a ſpecies of Phasianus, that inhabits

inhabits China and Chineſe Tartary; and may be well eſteemed one of the moſt elegant of the feathered race. It was firſt introduced to the notice of the Engliſh naturaliſt through the medium of the Philoſophical Tranſactions, under the name of *Argus* or *Luen*: it next appeared in the London Magazine for 1766, and Gentleman's Magazine for 1768; and, at length was very completely deſcribed by Dr. Latham in his General Synopſis of Birds, publiſhed nearly twenty years ago. Still it is rarely met with in cabinets of Natural Hiſtory; though on the credit of ſome reſpectable and faithful writers, it is far from being an uncommon bird in its native country. There is at preſent a magnificent ſpecimen of it in the Leverian Muſeum.

From Dr. Latham we learn, that this bird is common in the woods of Sumatra, as well as thoſe of China; and that it is there called *Coo-ow*. Hitherto every attempt to keep it alive in a ſtate of captivity for a conſiderable length of time, has proved ineffectual; it has been known to live for about a month after being taken from the woods, but never longer. One circumſtance is very remarkable, it has a ſtrong antipathy to the light, and remains perfectly inactive in the open day; and, on the contrary, when put into a dark place ſeems eaſy, and ſometimes makes its note or call which correſponds with its name *Coo-ow*; it is rather plaintive, and not harſh like that of a peacock.

The ſize is that of the male turkey; the bill, like that of the common pheaſant, and of a pale yellow colour; the fore part of the head and beginning of the throat are covered with a granulated ſkin, of a fine ſcarlet colour; the irides are orange; round the eye the ſkin is duſky, and it has a kind of whiſker on each ſide of the lower jaw; the top and hind part of the head and neck, is changeable blue, with a forked creſt on the former; the lower part of the neck, back, and wing coverts, duſky, marked irregularly and tranſverſely with reddiſh brown: the nine outer quills are yellowiſh-brown, marked with ſmall duſky ſpots as big as tares on the outer, and ſmaller ſpots of white on the inner webs. The eleven remaining quills, dark brown, marked with round and oblong ſpots on both webs; and on the outer, near the ſhafts, a row of large eyes, from twelve to fifteen in number, the largeſt an inch in diameter, ſomewhat reſembling thoſe on a peacock's train; the throat, breaſt, rump, and upper tail-coverts dull orange, marked with round duſky ſpots; the tail conſiſts of fourteen feathers, the two middle ones are three feet in length, the next eighteen inches, and thence they gradually ſhorten to the outer ones which are twelve inches only in length; the colour duſky brown, dotted with white; and the two middle ones have round white ſpots encircled with black on the outer, and brown irregular ones ſurrounded with duſky on the inner webs; the lower belly and vent duſky, irregularly mixed with brown; the legs, like thoſe of a turkey, and of a greeniſh aſh colour. Vide Lath. Gen. Syn.

We muſt not omit obſerving that the deſcription of this ſpecies by Dr. Latham, was partly taken from a drawing ſent over with a ſpecimen of the bird; both the head and legs were wanting in this ſpecimen, and were ſupplied from the painted figure; in this figure the legs have no ſpurs; but in a drawing, done by Mr. Edwards, they are furniſhed with a ſpur like that of a cock.

Its ſpecific character, according to Gmelin, &c. is thus defined; pale yellow, dotted (or ſpotted) with black; face red; hind part of the head creſted, and blue. Buffon calls it *L'Argus, ou le Luen*.

ARGUS, in *Zoology*, a ſpecies of COLUBER introduced by Linnæus, and retained by Gmelin, in the Syſtema Naturæ, on the authority of Seba; but as the ſpecific characters aſſigned to the ſerpents by theſe authors are uniformly taken from the number of ſcuta, and ſquamæ, which, in this inſtance, they were unable to aſcertain, it unavoidably ſtands without any character by which the ſpecies may be diſtinguiſhed. A general deſcription is indeed added, yet, if other writers are to be depended on, it is not very remarkable for its accuracy; above, ſmooth brown, and ſomewhat reticulated; ſcales paleſt in the diſk; beneath, teſſellated: the back of the head likewiſe is bilobed and gibbous. Dr. Shaw gives a ſpecific character to this creature, which is taken from the colours, form, and ſituation of the ſpots in theſe words: cheſnut-brown ſnake, yellow beneath, and banded above by tranſverſe rows of ocellated red ſpots. Gen. Zool.

This is a large ſpecies, meaſuring according to Seba above five feet in length, and is of a moderate thickneſs. The head is large, flattiſh, and covered with ſmall ſcales in front; teeth large and ſtrong; and the ocellated red ſpots on the body are each ſurrounded by a white iris, which is encircled with red. The tail is moderately ſlender, tapering to a point, and apparently about a foot in length. It is a native of Arabia, and is ſuppoſed from the appearance of the head to be a poiſonous ſpecies.

ARGUTIÆ, in *Rhetoric*, witty and acute ſayings, which commonly ſignify ſomething farther than what their mere words at firſt ſight ſeem to import. Writers on rhetoric ſpeak of divers ſpecies of *argutiæ*, viz.

ARGUTIÆ *ab alieno*, when ſomething is ſaid, which ſeems repugnant either to the nature and property of a thing, or to common cuſtom, the laws, &c. and yet in reality is conſiſtent therewith; or when ſomething is given as a reaſon of another, which yet is not the reaſon of it. For inſtance, "ſi Cains nihil didiciſſet, erraſſet minus:" again, "Aureum hoc ſæculum eſt, quia plurimus jam auro honos venit."

ARGUTIÆ *ab alluſione*, thoſe wherein alluſion is made to ſome hiſtory, fable, ſentence, proverb, or the like; e. g. "multi umbram captant & carnem amittunt."

ARGUTIÆ *a comparatis*, when two things are compared together, which yet at firſt ſight appear very different from each other, but ſo as to make a pretty kind of *ſimile*, or *diſſimile*; e. g. "Par eſt pauper nil cupiens principi omnia habenti."

ARGUTIÆ *a repugnantibus*, when two things meet in a ſubject, which yet regularly cannot be therein; or when two things are oppoſed to each other, yet the epithet of the one is attributed to the other; e. g. "Dum tacent clamant."

ARGUZIA, in *Botany*. See MESSERSCHMIDIA.

ARGY, in *Geography*, a town of France, in the department of the Indre, and chief place of a canton, in the diſtrict of Chatillon ſur Indre, three and a half leagues eaſt of Chatillon.

ARGYLE, a townſhip of America, in Waſhington County and State of New York, on the eaſt bank of Hudſon river, containing 2,341 inhabitants, incluſive of fourteen ſlaves. In the ſtate cenſus of 1796, there appeared to be 404 electors.—*Argyle* is alſo a townſhip of Shelburne County in Nova Scotia, ſettled by Acadians and Scots.

ARGYLESHIRE, or ARGATHIA, in Scotland, which together with Perthſhire and the Weſtern Iſlands, is ſaid to have conſtituted the ancient kingdom of the Scots, while the reſt of Caledonia was ſubjected to the Picts and Romans, comprehends Kintyre, Knapdale, Argyle Proper, Cowal, and Lorne. It is bounded on the ſouth by the Iriſh ſea and the Frith of Clyde; on the eaſt, by Perthſhire; on the north-eaſt by Lochaber; and on the north-weſt by ſeveral iſlands. The extent of it from ſouth to north, between the Mull of Kintyre or Cantire, and the point of Ardnamurchan, where it joins the ſhire of Inverneſs, is about 114 miles; and the breadth in ſome places,

including the iſles, about 70. This country, like all other parts of the Highlands, affords a very wild and horrid proſpect of hills, rocks, and huge mountains, piled upon each other in a ſtupendous and dreadful diſorder; bare, bleak, and barren to the view; or at beſt covered with ſhagged heath, which appears black and diſmal to the eye, except in the ſummer, when it is variegated with an agreeable bloom of a purple colour. The coaſt of Argyle is rocky; yet indented with bays and inlets, that afford good harbours for ſhipping. The country is well watered by rivers, brooks, and lakes, abounding with fiſh; the vales and flat parts of it are cultivated for corn; the mountains feed an innumerable quantity of black cattle, which run wild among the hills in winter as well as ſummer; the heath and woods, of which there is a conſiderable number, afford ſhelter to deer, roebucks and all ſorts of game in great plenty: the circumambient ſea, with its locks, bays, and harbours, pours forth myriads of fiſh; but the innate wealth of the country is dug from the bowels of the mountains in iron, lead, and other metals and minerals.

Argyle is the ſeat of a provincial ſynod, conſiſting of five preſbyteries and 49 pariſhes; and gives the titles of *duke* and *earl* to the noble family of Campbell, the moſt powerful of all the Scottiſh nobility. The Duke of Argyle is, by hereditary right, great maſter of the king's houſehold in Scotland; admiral of the Weſtern iſles; general of Denoon cattle; keeper of Dunſtaffnage and Carrick; and, before the juriſdictions were aboliſhed, enjoyed other hereditary offices, which rendered him too powerful as the ſubject of a limited monarchy. He ſtill poſſeſſes many royalties; his vaſſals, even of the name of *Campbell*, are ſo numerous, and his influence extends ſo far, that he could, on occaſion, bring 3000 or 4000 fighting men into the field. Argyleſhire is in general peopled by this clan; and affords a great number of caſtles and ſeats belonging to gentlemen who hold of the duke, and boaſt themſelves deſcended from his family.

Argyle Proper is bounded by Knapdale and Cowal on the ſouth; Lochaber on the north; Lennox and the Grampian hills on the eaſt; and Lorne on the weſt. It lies between Lochfyn and Lochlow; which laſt is a freſh water lake about a mile broad, but extending 24 in length, including 12 iſlands, on two of which are the caſtles of Ereonel and Glenurquhart. This lake, which gives the title of viſcount to the duke of Argyle, iſſues in the river Aw, which, after a courſe of ſix or ſeven miles, enters Loch Ettiff, and this falls into the weſt ſea, oppoſite to the iſle of Mull: all theſe abound with excellent trout and ſalmon. Argyleſhire ſends one member to parliament. Its chief towns are Inverary and Campbeltown.

When the projected canal ſhall be completed, and ſome villages and harbours erected, the populous county of Argyle (Mr. Knox affirms) will become one of the moſt valuable provinces of the Britiſh empire. It abounds in black cattle, ſheep, and fiſh, though the latter are leſs numerous than thoſe on the more northern ſhores. Waſhed on both ſides by the ſea, deeply indented by navigable lakes and bays; having an eaſy communication with the fiſhing grounds on the North Highlands; with Glaſgow, and the trading towns on the Clyde; with Ireland, Wales, Whitehaven, Liverpool, Briſtol, and other marts on the weſt coaſt of England, we may eaſily conceive, that the period is at no great diſtance, when Argyleſhire will become a great commercial county. To corroborate this opinion, he obſerves, than after a veſſel gets under ſail from this coaſt, ſhe enters at once into the Atlantic, where ſhe meets with no interruption till ſhe makes the coaſt of America or the weſt Indies. The line, therefore, which nature points out for the inhabitants, is that of ſalt-making, fiſhing, ſhip-building, freights, or the carrying trade; ſoap and glaſs-making, by means of the kelp upon their ſhores, and ſand found upon Greſſ iſland, which is adapted for the latter.

ARGYNELLUS, in *Entomology*, a ſpecies of Curculio, that inhabits the Cape of Good Hope. It is ſilvery green; eyes black; beak flat above, with a black longitudinal furrow. Spec. Inſect. Nov. Act Stockh. 1785. Gmelin.

ARGYNNIS, a ſpecies of Sphinx (*Zygæna*, Fabricius). The wings are greeniſh-black, with gold ſpots; poſterior pair brown, and gold at the baſe. This is a beautiful inſect, and inhabits Braſil. Gmelin. The abdomen is black, and red at the tail; a few green ſpots on the anterior wings, and violet ſpots on the poſterior ones.

Argynnis, in *Mythology*, an appellation of Venus. Agamemnon built a temple to this goddeſs, under this appellation, in honour of a young favourite named Argynnus, or Argenus, who was drowned in the river Cephiſſus in Bœotia. Propertius mentions it, lib. iii. eleg. vi p. 6*y*.

"Sunt Agamemnonias teſtantia littora curas,
Quæ notat Argyni parva natantis aqua."

ARGYPANA, in *Ancient Geography*, a town of Italy mentioned by Polybius, who ſays it was ravaged by Hannibal.

ARGYPHEA, a town of the Peloponneſus, named in the hymn of Apollo aſcribed to Homer.

ARGYRA, a country of India, on the other ſide of the Ganges, mentioned by Mela, Pliny, and Pompey.—Alſo, a town of India, and the metropolis of the iſland of Iabadios, on the weſtern ſide of which it was placed by Ptolemy. This iſland, called by Steph. Byz. Ibadios, ſeems to have been the ſame with that named Taprobana. It is ſaid to have derived its name Argyra from ἀργυρος, *ſilver*, on account of its fertility, and the gold which it produced.—Argyra was alſo a town of Greece in Achaia. Pauſanias informs us, that this, together with ſeveral other towns, was depopulated by Auguſtus, in order to ſupply Patras with inhabitants. A fountain of the ſame name was adjacent to its ruins.

ARGYRASPIDES, or Argyroaspides, in *Antiquity*, perſons armed with ſilver bucklers, or bucklers ſilvered.

The argyraſpides, according to Quintus Curtius, made the ſecond corps of Alexander's army; the firſt was the phalanx.

According to Juſtin's account, lib xii. cap. 7. Alexander, having penetrated into India, and extended his empire as far as the ocean, for a monument of his glory, ordered the armour of his ſoldiers, and the houſings of his horſes to be adorned with ſilver. And hence he commanded them to be called argyraſpides, from the Greek ἀργυρος, *ſilver*, and ἀσπις, *buckler*. By this author it ſhould ſeem, that Alexander's whole army were called argyraſpides.—After that prince's death, the argyraſpides deſpiſed all other chiefs of the army, diſdaining to obey any other, having borne arms under Alexander.

ARGYREIA, in *Botany*, a genus of plants ſo named by Lureiro, from the ſilvery appearance of the leaves, ſeems nearly related to Argophyllum, which approximates cloſely to ivy.

ARGYRELLA, in *Entomology*, a ſpecies of Phalæna (*Tinea*, Gmel.). The wings are ſilvery, gloſſed with brown and ſtriated. This is a large inſect, and inhabits Auſtria.

ARGYREUS, a ſpecies of Curculio found in India. The body is green, with ſpots of ſilver and gold. Fabricius and Gmelin. The latter author arranges it with thoſe that have the thighs unarmed; but adds in his deſcription

that they are fomewhat armed, thofe of the firſt pair of legs having an obſolete ſpine.

ARGYRINI, in *Ancient Geography*, a people placed by Steph. Byz. and Lycophron among the Epirotæ, or in Epirus; but J. Veſſius ſays they were the inhabitants of Argyrrhium.

ARGYRIPA, a town of Apulia, in Italy; built by Diomedes. See ARPI.

ARGYRITES, in *Antiquity*, a denomination given to Grecian games, which formed part of the worſhip of ſome divinity. They were ſo called, becauſe the victor obtained, as a recompence, either ſome coin or vaſes of ſilver, or bucklers of braſs, &c. which were of a different kind in different places.

ARGYRITIS, in *Natural Hiſtory*, a name given by the ancients to a ſubſtance reſembling ſilver.

In this ſenſe, argyritis was uſed to ſignify ſuch litharge as was of a white colour, by way of diſtinguiſhing it from that which was yellow, which they dignified with the name *chryſitis*, as we do at preſent with that of litharge of gold. The argyritis of late writers ſeems to have been the ſame with the *lapis magnetis* of the ancients, mentioned by Theophraſtus, and diſtinguiſhed from the magnet.

ARGYROCOME, in *Botany*. See BACCHARIS, GNAPHALIUM, and XERANTHEMUM.

ARGYRODAMAS, in *Natural Hiſtory*, a ſort of ſilver-coloured talc, which bears the fire, and neither burns, melts, nor changes its hue. Plott's Hiſt. Staff.

Hence its denomination among the ancients of *argyrodamas*, quaſi *argentum indomitum*.

ARGYRODENDROS, in *Botany*. See PROTEA.

ARGYROLIBANUS, in the *Materia Medica* of the ancient Greeks, a word uſed to expreſs the white kind of olibanum.

ARGYROPHTHALMUS, in *Ornithology*, a ſpecies of CORVUS, whoſe general colour is black; breaſt blue; eyes ſilvery; tail white at the tip; and bill and legs black. Gmelin.

The firſt account that we have of this bird is in Brown's illuſtration of Natural Hiſtory; he figures it under the name of the *Surinam Daw* in the tenth plate of that work, from a ſpecimen then in the collection of M. Tunſtal, eſq. The ſame was afterwards deſcribed by Dr. Latham, as being of the ſize of a common crow. Bill duſky; head deep green; hind part rich blue; beneath that pale green; under each ear, and on the hind part of the neck, a ſpot of the ſame; neck, breaſt, belly, back, and wing-coverts deep changeable green; prime quills duſky; ends rich blue; tail duſky; legs fleſh-coloured. This bird he calls the *Surinam Crow*; but having loſt its tail, one very ſtriking characteriſtic of the ſpecies was unavoidably omitted, viz. the white ſpot at its extremity. In the year 1784, Jacquin publiſhed his "Beytrage zur Geſchichte der Vogel," at Vienna, in which this ſpecies is more ſatisfactorily deſcribed; and his deſcription was afterwards inſerted in the Supplement to Dr. Latham's Ornithology, and the Gmelinian Syſtema Naturæ. From hence it appears to be about the ſize of a jay; the prevailing colour black; irides ſilvery white. with a ſpot of blue above, and another beneath; the breaſt and outer part of the wing deep blue; tip of the tail white; bill and legs black. It inhabits Carthagena in New Spain, South America; and is called *Oiſeau de Plata*; has a monotonous voice; frequents woods; and being eaſily tamed, is often kept in houſes in that country.

ARGYROPOEIA, in *Alchemy*, the art of making ſilver out of other more imperfect metals.

The word is formed of ἀργυρος, *ſilver*, and ποιεω, *I make*.

ARGYROPS, in *Ichthyology*, a ſpecies of SPARUS, found in Jamaica and Carolina; and called by Willughby, *Zanthurus indicus*. The tail is lunated; back grooved; iris of the eye ſilvery. Brown, in his Nat. Hiſt. of Jamaica, deſcribes it as Sparus iride argentea, dentibus anterioribus conicis. The three firſt rays of the dorſal fin are very long and ſetaceous; this fin conſiſts of twelve rays; the ſecond of twenty-ſix; pectoral fin of ſeventeen; ventral fin of ſix; anal fin of ſifteen; and tail of twenty rays. Gmelin, &c.

ARGYROPULUS, JOHN, in *Biography*, a Peripatetic philoſopher, was born at Conſtantinople, in the beginning of the fifteenth century, and was one of the firſt Greeks, who fled from that city, and ſought an aſylum in Italy, where he came to reſide ſeveral years before the taking of Conſtantinople by the Turks in 1453. In 1456, he was taken under the patronage of Coſmo di Medici, who committed to him the education of his ſon and nephew in the Greek language and philoſophy; and who afterwards appointed him profeſſor of the Greek language at Florence. At his requeſt, he undertook to tranſlate into Latin the phyſics and ethics of Ariſtotle. But, being obliged to leave Florence on account of the plague, he went to Rome, where cardinal Beſarion conferred upon him the profeſſorſhip of the Greek language. Here he read lectures upon Ariſtotle, and he had the honour of being the firſt modern Greek who taught philoſophy in that city. His ſalary, though liberal, was not ſufficient to defray the expences of his luxurious table; and at the age of ſeventy, in the year 1486, he fell a ſacrifice to the unreſtrained indulgence of his appetite, as, by eating melons to exceſs, he brought on a fever which was fatal to him. His learning was reſpectable; but his manners were not amiable; and he manifeſted a degree of literary jealouſy which diſguſted his friends, and prevented him from freely communicating his learning to the Italians. He affected to deſpiſe Cicero, whom he maintained to have been ignorant of philoſophy and Greek learning. His tranſlations, which are found in the more ancient Latin editions of Ariſtotle, and in the Greek and Latin editions of Baſil, are valuable. He alſo wrote a "Commentary on Ariſtotle's Ethics;" Solutions of queſtions propoſed to him by certain philoſophers and phyſicians in the iſland of Cyprus; Epiſtles and ſeveral ſmall pieces extant in MS.; Brucker's Hiſt. Philoſ. by Enfield, vol. ii. p. 405. Fabr. Bibl. Græc. l. v. c. 43. § 21. tom. x. p. 425.

ARGYROSTOMA, in *Entomology*, a ſpecies of MUSCA, found in the environs of Vienna. It is black and hairy; ſilvery in front, with bands of the ſame. Schranck, Gmelin, &c.—This inſect is ſhining above; eyes reddiſh; and the wings tranſparent.

ARGYROSTOMUS, in *Conchology*, a ſpecies of TURBO, of a whitiſh colour, radiated with brown; the wreaths of the ſpire are ſix, and are rather rounded; the firſt ſpire conſiderably larger that the others; the aperture is ſilvery; and the tip ſometimes red. It is a native of India; is called *Os argenteum* by Argenville, and is thus ſpecifically deſcribed by Gmelin. Shell ſomewhat ovate; rough, with more elevated dorſal tranſverſely ſtriated lines.

ARGYROSTOMUS, a ſpecies of TROCHUS, that inhabits the ſouthern ocean. This ſhell is ovate, with undulated ribs, and ſtriated tranſverſely; aperture ſomewhat compreſſed; wreaths of the ſpire ſwelled; the firſt ſlightly carinated at the baſe. Gmelin. The breadth is about two inches, and the height nearly the ſame; its colour is black; the firſt wreath terminates in a row of tubercles; and the pillar lip is very green.

ARGYRRHIUM, or ARGYRIUM, in *Ancient Geography*,

graphy, now *S. Filippo d'Argiro*, a town of Sicily, which was the birth-place of Diodorus Siculus. This city, built upon the point of a rock of a conical form, commanded its whole territory; and according to hiſtory, diſputed the palm with that of Syracuſe, as to extent and riches. Its population was encouraged and increaſed by Timoleon, after he had expelled the tyrants of Sicily. Enriched by commerce, the inhabitants who came to reſide here, embelliſhed it with ſuperb edifices: they built a theatre almoſt as large and ſplendid as that of Syracuſe; and erected magnificent mauſolea in the form of pyramids. This city is now ſo much reduced, that ſcarcely a trace remains of its ancient grandeur. The ſcite of the temple of Hercules, and of the lake dug there by Iolas, his ſon-in-law, is now called the "Lago d'Ercole." Nevertheleſs the ſoil is fertile, and admits of cultivation. The ſaffron of this territory is deemed excellent, and it yields a kind of potter's earth, which by its unctuous and detergent quality ſerves the inhabitants inſtead of ſoap. Argyrium was founded by the Sicanians, who came into Sicily from Spain; being compelled to leave the rich plains of Leontium by the attacks of the Leſtrigons and Cyclopes, they retired to this place which nature ſeems to have previouſly fortified for their ſecurity. Hiſtorians relate, that the Argyrians cut off their hair in order to ſacrifice it to Hercules, in token of their gratitude for the water with which he furniſhed them by means of the above mentioned lake, as Argyrium was before deſtitute of water. The modern inhabitants retain the practice, and cut their hair almoſt entirely off, preſerving only two locks on their temples. De Non's Travels in Sicily, &c. p. 842.

ARGYRUNTUM, or ARGYRUTUM, in *Ancient Geography*, a maritime town of Illyria, according to Pliny and Ptolemy; now Novegrad in Dalmatia.

ARHAW, in *Geography*, a river of Africa, in the kingdom of Algiers and province of Tlemſan, which flows into the Sheliff, near a noted ſanctuary, called Seedy Abid, at a ſmall diſtance from mount Atlas.

ARHON, a large mountain of Africa, in the kingdom of Fez. It is a branch of mount Atlas, and extends for a conſiderable diſtance from eaſt to weſt. Its inhabitants are partly Moors expelled from Spain, and partly ſome Arab families. The ſoil produces abundance of barley, which is the only grain of the country. They have alſo olives and dried raiſins: and they rear great numbers of bees. They alſo manufacture ſoap, which is an article of commerce. Their habitations, which are rather huts than houſes, are ſcattered over the country. The emperor of Morocco draws from them a conſiderable tribute: and it is ſaid, that this ſimple diſtrict is able to furniſh 10,000 ſoldiers.

ARHUS. See AARHUS.

ARI, a town of Italy, in the kingdom of Naples, and province of Abruzzo Citra, five miles ſouth-eaſt of Civita di Chieti.

ARIA, in *Ancient Geography*, the name of an iſland in the Euxine ſea, oppoſite to Pharnacea, called alſo *Chalceritis*. Pliny.

ARIA, a mountain of Aſia, part of a chain of mountains mentioned by Ammianus Marcellinus.

ARIA, the moſt conſiderable lake of Perſia, is ſituated in the weſtern part of the province of Segiſtan or Seiſtan, according to the map of major Rennel between 33° 15′ and 32° 45′, N. lat. and 59° 15′, and 61° 20′ E. long. In the French maps it is called the lake of Zeré, from a village of that name near its weſtern extremity; and in the map of major Rennell, the ſea of Durrah or Zurrah, from a village ſeated on a river at the diſtance of twenty miles from the lake, which village is denominated Corra or Curra, whence is probably derived Zurrah. Pinkerton (Mod. Geog. vol. ii. p. 355.) ſuggeſts that this appellation might as well be ſupplanted by that of the ſea of Segiſtan. According to Otter (Voyage en Turkie et en Perſe, tom. i. 217.) cited by this geographer, the length of this lake is thirty leagues, or a day's journey, in breadth; and the water is freſh and full of fiſh. By his account it only receives the river of Ferah (Farree) or Parra, which runs from the north-eaſt.

ARIA, and *Ariana*, are names that have been applied by ancient geographers very variouſly. Some have applied them to the ſame country, and others to diſtinct countries. Ptolemy mentions only Aria, without noticing Ariana, and the Ariani. Pliny (l. vi. c. 23.) mentions Ariana, but takes no notice of Aria; and yet he diſtinguiſhes (l. vi. c. 25.) between the Arii and Ariani. Parthia, he ſays, has the Arii to the eaſt, and to the ſouth the Ariani and Carmania. Hence it has been conjectured, that the Ariani were more widely extended than the Arii, and that under this general denomination were included the Gedroſii and the Drangæ. Arrian (l. iii. c. 25.) has Aria and the Arii, but is ſilent with regard to Ariana. Strabo has both names, and extends the limits of Ariana beyond thoſe of Aria: obſerving in general, without ſettling their boundaries, that Ariana commences from India; and he cites Eratoſthenes, who ſays that Ariana was bounded on the eaſt by Indus, on the ſouth by the Great Sea, on the north by Paropamiſus and the mountains as far as the Caſpian ports, and on the weſt by the boundaries which ſeparate Parthia from Media, and Carmania from Parætacene and Perſia; and, accordingly, Ariana is very extenſive. Salmaſius (Exerc. Plin. p. 553.) diſtinguiſhes his Ariana from Aria, but does not aſſign to it any preciſe limits. The limits of Aria, according to Ptolemy, are parts of Margiana and Bactria on the north, on the eaſt the Paropamiſadæ, and on the ſouth Drangiana: and Strabo ſays, that the Arii are adjacent to the Paropamiſadæ on the weſt. Ariana, in major Rennell's map, is a part of the province of Perſia, called Koraſan or Koreſan.

ARIA, or *Artacoana*, the chief city of the country called Aria, ſeated on a river, called by Arrian, Areios; by Pliny, Aries; by Ammian, Arias; which had ſeveral ſources in the deſert of Margiana, and in the Saraphi mountains, and runs into the Aria Palus, or lake of Aria. In its courſe it paſſed by Alexandria, according to Pliny, who calls this city Alexandria Arion or Ariorum. Aria or Artacoana is the preſent HERAT, placed in Rennell's map at the confluence of two ſtreams, which form the river that runs into the lake of Durrah.

ARIA, Ital. for *Air*, Engliſh (which ſee). Herr Sulzer, an elegant German writer on the ſubject of the fine arts, has deſcribed the conſtruction, and what was thought the perfection of an opera *Air*, about the middle of the laſt century, during *da capo* times; and not only apologized for ſecond parts to airs, and a return to the firſt, but pointed out their utility and beauty in doctrines now quite exploded, both in theory and practice. In the remarks of Mr. Framery on the encomiums of H. Sulzer (Encycl. Meth. p. 95.), he allows that his precepts are excellent, but that his definition appears imperfect. He then gives his own notions, which tally more with modern practice. After which he adds, "as to the form of opera *Airs* indicated by M. Sulzer, it is much varied ſince he wrote on the ſubject." The Italians at length, tired of their eternal monotony, melt down the ſecond part of their *Airs* into the firſt; or, if diſtinct, when the expreſſion of the words requires it, they do not think themſelves obliged to return to it by a *da capo*. The *Airs* of comic operas are conſtantly

ſtantly confined to one part or ſtrain, unleſs ſome new meaſure, or diſſimilar idea in the words, abſolutely requires a different expreſſion. The movement then is changed, and finiſhes by an *Allegro*, without returning to the firſt part.

ARIA-*Bepou*, in *Botany*. See MELIA.

ARIA *Theophraſti*. See CRATÆGUS.

ARIA-*Veela*. See CLEOME.

ARIACA, in *Ancient Geography*, a maritime country of India, ſituate, according to the Periplus of the Erythræan ſea, towards the gulf Canthi Colpus, and thought by M. d'Anville to be the ſouthern part of the country called *Larice*.—*Ariaca* was alſo a town of Margiana. Ptolemy.

ARIACÆ, a people of Scythia, on the left bank of the Iaxartes, near the Caſpian ſea. Ptolemy.

ARIACES SADINORUM, or *Sadanarum*, a people of India, on this ſide the Ganges.

ARIACOS, or ARIACE, a ſmall town of Aſia Minor, in Myſia, ſituate between Placia and Scylace, near Olympus. Pliny.

ARIADNÆA, in *Antiquity*, ſolemn feſtivals held at Naxos, in honour of *Ariadne*.

The Ariadnæa are ſaid to have been inſtituted by Theſeus, in atonement for his cruelty in expoſing Ariadne big with child on that coaſt. They were of a mournful caſt; one part of the ceremony was for a young woman to lie down, and counterfeit all the agonies of a woman in labour. There was another feſtival, which was celebrated with various expreſſions of mirth, in honour of another Ariadne, who was of a gay and ſprightly temper. Plut. in Theſ. and Potter's Arch.

ARIADNE, in *Entomology*, a ſpecies of PAPILIO (*Nymph. Phal.*) deſcribed by Linnæus, Fabricius, and Gmelin. The wings are angulated, fulvous, with undulated black ſtreaks, and a white marginal ſpot on the anterior pair. It inhabits Java.—*Obſ.* Cramer has figured this inſect under the name of *Papilio Merione*; and the *Papilio Coryta*, of the ſame author, appears to be only a variety of the former ſpecies.

ARIADNE, in *Fabulous Hiſtory*, a daughter of Minos, king of Crete, who being prepoſſeſſed in favour of Theſeus, commiſſioned to deſtroy the Minotaur, gave him, in token of her love, a clue of thread, which ſerved to conduct him out of the labyrinth, after his defeat of the monſter. Theſeus, on leaving the iſland, took with him Ariadne, but abandoned her in the iſle of Naxos. Bacchus found, and married her, and preſented her with a crown of gold manufactured by Vulcan, which was afterwards transformed into a conſtellation. Ariadne had a ſon by Bacchus, called Eumedon, who was one of the Argonauts. According to Plutarch, there were two females of the name of Ariadne; one of them was eſpouſed to Bacchus in the iſland of Naxos, and became the mother of Staphylos; the other was abandoned by Theſeus in the ſame iſland, where ſhe died. Hence were derived the two kinds of feaſts, called ARIADNÆA. Ariadne's fountain in the iſle of Naxos is now only a ſimple ſtreamlet of water, to which, ſays Olivier, (Travels in the Ottoman empire, t. ii. p. 110.) travellers would pay no attention, if they were not thus reminded of the ſpot where Ariadne abandoned herſelf to all the deſpair of a forſaken miſtreſs, and from which ſhe perceived the veſſel which was tranſporting her lover from her. At the brink of this fountain, it is ſaid, where ſhe came every day to ſhed tears, Bacchus found her; and equally compaſſionating her misfortunes, and enamoured of her beauty, ſucceeded in conſoling her, and in prevailing with her to forget an ungrateful man.

ARIADNE, in *Statuary*, a beautiful ſtatue of Parian marble, which was for near three hundred years one of the greateſt ornaments of the Belvidere; where it was placed by pope Julius II. It is now in the muſeum at Paris. Ariadne is here repreſented ſleeping upon the rocks of Naxos; where ſhe had been ungratefully left by Theſeus. The diſorder of the drapery in which ſhe is wrapped, beautifully points out the diſtraction and anguiſh of her mind before ſhe fell aſleep. On the upper part of her left arm is a bracelet in the form of a little ſerpent, which the ancients called Ophis; and which, by being taken for the repreſentation of the aſpic, has occaſioned this ſtatue for a long time to be called Cleopatra.

ARIALDUNUM, in *Ancient Geography*, a town of Spain, under the juriſdiction of Corduba. Pliny.

ARJAN, a name given by a tribe of Tartars, called Barſchkirians, to their favourite drink, which is a mixture of ſour milk and mead, and which they keep in an oblong bottle, ſuſpended near the chimney of their hut.

ARIANA, in *Ancient Geography*. See ARIA.

ARIANA, in *Geography*, formerly called Abderana, a village in Africa, in the province of Tunis Proper, and about three miles diſtant from the city of Tunis. It is inhabited by poor gardeners, who ſupply the city with fruit and herbs. At this place the Carthaginian aqueduct forms a curious object, being ſeventy-four feet high, and ſupported by columns ſixteen feet ſquare, beautifully cut; and near it are ſeveral matamores or ſubterraneous magazines for corn, ſtrongly arched, and capable of holding a great number of buſhels.

ARIANO, a town of Italy, and a biſhop's ſee, in the kingdom of Naples, and Principato Ultra. According to Mr. Swinburne (Travels in the Two Sicilies, vol. i. p. 202.), it is an ugly city, built upon the uneven ſummit of a mountain, with an extenſive proſpect, but much expoſed. He ſuppoſes that it is not ſo ancient as the time of the Romans; and that it owes its riſe to the demolition of ſome neighbouring town, and to the advantage afforded by its ſituation for diſcovery and defence. After having ſeveral times changed its poſſeſſors, it became a part of the demeſne of the crown in 1466. It has neither trade nor manufactures, and has declined ever ſince the deſolation occaſioned by an earthquake in 1456. The number of inhabitants is eſtimated about 14,000, and it includes twenty pariſhes and convents, beſides an ill-endowed cathedral. The wine of Ariano is pale, and reſembles, both in colour and the ſharpneſs of its taſte, red champagne. The ſoil in its vicinity lies upon a ſoft argillaceous ſtone: at a ſmall diſtance to the eaſt, is a bank conſiſting of layers of volcanic earth, interſperſed with thick ſtrata of oyſter-ſhells. The laſt and moſt deſtructive earthquake experienced in this territory, was that of the year 1732. N. lat. 41° 8′. E. long. 15° 19′.

ARIANS, a denomination given to a claſs of the ancient inhabitants of the Ruſſian empire, called by the Ruſſians Votiaks from the river Votiak, on which they were formerly ſituated. They call themſelves Ari, and their territory Arimæ. Their chief town is Chlueof, and the other towns are Slobodſkoi, Kaigorod, and Orlof. At firſt they were ſubject to the Bulgarians, and afterwards to the Tartars, from whoſe language they adopted many words into their own.

ARIANS, in *Eccleſiaſtical Hiſtory*, followers of *Arius*, a preſbyter of the church of Alexandria about the year 315; who owned Chriſt to be God, yet maintained him inferior to the Father even as to his deity, and his eſſence to be different from that of the Father, and that he was neither co-eternal nor co-equal with him; alſo that the Holy Ghoſt was not God.

The Arians owned that the Son was the word, but denied that word to have been eternal; aſſerting, that it had only been created before all other beings. They held,

that Chriſt had nothing of man in him but the fleſh, with which the λογος or *word* was joined, which ſupplied the reſt.

The diſtinguiſhing ſentiments of Arius may be deduced from his own writings. In his letter to Euſebius of Nicomedia, he ſays; "We cannot aſſent to thoſe expreſſions, always Father, always Son, at the ſame time Father and Son; that the Son always co-exiſts with the Father; that the Father has no pre-exiſtence before the Son, not ſo much as in thought, or a moment. But this we think and teach, that the Son is not unbegotten, nor a part of the unbegotten by any means. Nor is he made out of any pre-exiſtent thing; but, by the will and pleaſure of the Father, he exiſted before time and ages, the only begotten God, unchangeable; and that before he was begotten, or made, or deſigned, or founded, he was not.—But we are perſecuted, becauſe we ſay, that the Son has a beginning, and that God has no beginning. For this we are perſecuted, and becauſe we ſay, the Son is out of nothing; which we therefore ſay, becauſe he is not a part of God, nor made out of any pre-exiſtent thing." In his letter to Alexander, biſhop of Alexandria, he ſays; "We believe, that there are three perſons, the Father, the Son, and the Holy Ghoſt. God, the cauſe of all things, is alone without beginning. The Son, begotten of the Father before time, made before the ages, and founded, was not before he was begotten. Nor is he eternal, or co-eternal, or begotten at the ſame time with the Father." The creed, which was preſented by Arius at the council of Jeruſalem in 335, was this: "We believe in one God, the Father Almighty; and in the Lord Jeſus Chriſt his Son, begotten of him before all ages; God the word, by whom all things were made, which are in heaven and in earth; who came down and was incarnate, and ſuffered, and roſe again, and aſcended to the heavens, and ſhall come again to judge the living and the dead; and in the Holy Ghoſt; the reſurrection of the fleſh; the life of the world to come, and the kingdom of heaven; in one catholic church of God, extending itſelf from one end of the earth to the other." In ſhort, the Arians ſeem to have believed, that Chriſt was the Word of God, and was in the beginning with God; but was not the ſelf-exiſtent God, with whom he was in the beginning; but his Son, created by the Father before all ages, one ſuper-angelical and perfect Spirit; and thereby became his only Son, by whom he created all other beings: and that, when he came down from heaven to inhabit the body which was prepared for him in the womb of the bleſſed Virgin, this ſuper-angelical ſpirit alone was the ſoul that informed and enlivened it. From the following abſtract of the real opinions of the Arians, as they are given by Dr. Cave in the words of Arius, the reader may be enabled to compare them with thoſe that have been deemed orthodox. Firſt, as the Arians believed the divine ſubſtance of the Father to be unbegotten and without beginning, they concluded that it was different from the ſubſtance of the Son, who was begotten and had a beginning. But the Athanaſians believed the Father and the Son to be of the ſame ſubſtance; that is, of the ſame *generical* ſubſtance, as two men are of the ſame ſubſtance; and the Pſeudo Athanaſians believe them to be of the ſame *numerical* ſubſtance. Secondly, as the Arians believed the divine ſubſtance of the Father to be indiviſible and uncompounded, they could not believe the Son to be generated of or from it, in any *literal* ſenſe, either as being compounded with it, or divided from it; and therefore they concluded, that the generation of the Son was *figurative*; and was not a participation of ſubſtance, but a creation, as the word creation is frequently uſed in Scripture with reſpect to mankind; and they conſumed this from Prov. viii. 22. And becauſe they believed it blaſphemous to ſay, that this generation was out of the indiviſible ſubſtance of the Father, and no other ſubſtance then exiſted, they ſaid, he ſubſiſts, not of or from the Father, but from nothing, and he is not of the Father's ſubſtance, for he is created and made. But the Athanaſians believed, the Son was *literally* generated from the Father's ſubſtance. Thirdly, as the Arians believed the Father and the Son to be of a different ſubſtance, they believed them alſo to be diſtinct beings, ſeparately exiſting; in which they agreed with ſome of the orthodox fathers, as Origen, Gregory Nyſſen, Cyril of Alexandria, Maximus the Martyr, Damaſcen, Dionyſius of Alexandria, Alexander of Alexandria, &c.: and ſuffered from others who believed him to be of or from the Father's ſubſtance, as the leaves are from the tree; but not divided from it, as the Athanaſians. Fourthly, they believed that Chriſt was the only begotten Son of God, becauſe he only was created by the *immediate* act and power of God himſelf; and that all other beings, the Holy Ghoſt not excepted, were created by Chriſt; in which they agreed with Origen and Euſebius, men of as great character as any in the Chriſtian church. And therefore they called him a creature; but not like other creatures. Fifthly, they believed, that the Son was generated or created before all ages; and was a real perſon, when ſpoken of, Prov. viii. 22.; and that his generation was over, as ſoon as he exiſted. Whereas ſome of the orthodox believed him to be only an attribute, when there ſpoken of; and that he was afterwards generated into a *Son*; and ſome of them believed him eternally generating, as light from the ſun. Sixthly, they believed the divine being, who deſcended from heaven and was born of the virgin Mary, was the only intelligent ſpirit that animated the *body* of Chriſt; and that this divine being ſuffered: but the orthodox believed, that the divine being, that deſcended from heaven and animated the body of Chriſt, was incapable of ſuffering; and that it was only the *human* nature, or *ſoul* of Chriſt that ſuffered; i. e. a mere man. Seventhly, as the Arians believed Chriſt to be the Son of the only true God, and not the only true God and Father of that Son, it was very conſiſtent with their belief to ſay, "He is not the true God." But if it be imagined, that by this expreſſion they meant to deny, that Chriſt was truly God the Son, the expreſs words of Eunomius, who calls him, "The only begotten God, the firſt-born of the whole creation, Chriſt, true God, not unbegotten;" prove the contrary: and Arius himſelf explains his meaning ſufficiently, when he ſays, "He is not the true (ſelf-exiſtent and unoriginate) God, but receives his divinity by communication; which was alſo the opinion of Origen, Euſebius, and Lactantius. It has been commonly aſſerted, that Arius denied the *eternity* and *divinity* of the Son of God: but the author of "The Apology of Ben Mordecai," p. 98. ſays, that this aſſertion never appeared to him to have been made upon good authority; for he never denied the *eternity* of the Son in any other ſenſe than that in which it is denied by the orthodox, and ſignifies unoriginate and unbegotten; that is, ſelf-exiſtent: and that the charge againſt him of his not believing the *divinity* of Chriſt is not founded, appears from this circumſtance; that his adverſaries accuſed him of idolatry, becauſe he worſhipped the Son of God; ſuppoſing him at the ſame time to be a God created before all ages. Now if he was idolatrous in believing Chriſt to be a created God, it is impoſſible he ſhould at the ſame time be guilty of denying his divinity. Beſides, Theodoret ſays, it was the opinion of Arius and Eunomius, that Chriſt took a body; but the godhead or divinity performed the office of a ſoul: and Athanaſius ſays, Arius taught that Chriſt had the fleſh as a covering to the divinity or godhead.

Never

Nevertheleſs, Athanaſius's enmity to Arianiſm is well known. He ſpeaks of it as the worſt of all hereſies, and ſays, the devil was the father of it; nor will he by any means allow, that Arians can be rightfully called Chriſtians. However, in declaiming againſt Arianiſm, as the worſt and moſt hateful of all hereſies, he makes this its peculiarity, that the Arians endeavoured to carry their point by externals, that is, civil authority, or the power of the magiſtrates. And on account of the violent methods to which they recurred, he ſays, that this ſect, or hereſy, had put on the devil complete.

The riſe of the Arian controverſy is referred by ſome to the year 316, by others to 319, by Baronius to 315, and by Baſnage and others to the year 317. Socrates (Eccl. Hiſt. l. i. c. 5.) gives this account of its origin. "Alexander," he ſays, "diſcourſing one day too curiouſly concerning the doctrine of the Trinity in Unity, in the preſence of his preſbyters and the reſt of his clergy, Arius, one of the preſbyters, ſuppoſed his biſhop to advance the doctrine of Sabellius, and diſliking that, he went into an opinion directly oppoſite." Theodoret alſo ſays (Eccl. Hiſt. l. iv. c. 1.) that Arius took occaſion, from things ſaid by Alexander, to raiſe a diſturbance: and Conſtantine likewiſe, in his letter to Alexander and Arius, firſt blames the former for putting queſtions to his preſbyters, which he ought not; and then the latter, for inconſiderately uttering notions that ought to have been buried in ſilence. Accordingly, it ſeems to have been the chief view of the Arians, as well as of the orthodox, to ſteer a kind of middle courſe between Sabellianiſm and Socinianiſm. To which purpoſe, the Arians maintain, againſt the Sabellians, that the Son of God is a being diſtinct and different from the Father, and not a mere virtue, or character, or mode of exiſtence; and againſt the Socinians, as well as the Neſtorians and Sabellians, that Chriſt was not a mere man, but a true God.

After Arius had for ſome time publiſhed the doctrines that are aſcribed to him, Alexander was blamed for his indifference, and for his toleration of ſuch novelties. Rouſed by reproaches and complaints, he appointed a time for hearing the ſubjects in diſpute fairly debated between Arius and thoſe who oppoſed him. Arius adhered to the opinions he had advanced; and they who oppoſed him aſſerted the Son to be conſubſtantial and co-eternal with the Father. And though another aſſembly was appointed for debating the points in agitation, they could by no means come to an agreement. Alexander himſelf is ſaid to have been at firſt in ſome ſuſpence; but at length he declared himſelf in favour of thoſe who were the antagoniſts of Arius.

The Arians were firſt condemned and anathematized by a council at Alexandria, conſiſting of 100 biſhops, in 320, under Alexander, biſhop of that city; who accuſed Arius of impiety, and cauſed him and ſeveral eccleſiaſtics, of whom two were biſhops, to be expelled from the communion of the church: and afterwards by 318 fathers in the general council of Nice, aſſembled by Conſtantine in the year 325. In the interval between theſe councils, Alexander had written a circular letter to all biſhops, in which he repreſents Arius and his partiſans as heretics, apoſtates, blaſphemers, enemies of God, full of impudence and impiety, forerunners of antichriſt, imitators of Judas and of men whom it was not lawful to ſalute, or to bid God ſpeed. Yet Sozomen (l. i. c. 15.) acknowledges, that they were learned, and, in all appearance, good men. Euſebius of Nicomedia, and Euſebius the hiſtorian, endeavoured to pacify Alexander, and to perſuade him to compromiſe the quarrel; and Conſtantine ſent a letter, about the year 324, by Hoſius of Corduba, addreſſed to Alexander and Arius, in which he reproved them both for diſturbing the church with their inſignificant diſputes, and exhorted them to mutual forbearance and forgiveneſs. But the diſpute was not to be thus terminated; and Socrates repreſents the parties on both ſides as equally contentious and refractory. Accordingly the Nicene council was ſummoned. At this council Euſebius propoſed a creed, in which he avoided the offenſive word Ομοουσιος, *homoouſios*, and anathematized every impious hereſy, without ſpecifying any; but his advice was not followed, the term was inſerted, and the Arian doctrines were anathematized. But notwithſtanding theſe meaſures, Arianiſm was not extinguiſhed; on the contrary, it became the reigning religion, eſpecially in the Eaſt, where it obtained much more than in the Weſt. Arius was recalled from baniſhment by the emperor Conſtantine, in two or three years after the council of Nice, as ſome ſay in 327 or 328, or according to others in 330; and the laws that had been enacted againſt him were repealed. In the year 335, Athanaſius, his zealous opponent, was depoſed and baniſhed into Gaul, by the council held at Tyre; and Arius and his followers were reinſtated in their privileges, and received into the communion of the church: in little more than a year after this, he fell a victim to the reſentment of his enemies, and died a tragical death, occaſioned probably by poiſon, or ſome other violence. The Arian party found a protector in Conſtantius, who ſucceeded his father in the empire of the Eaſt; and the zeal with which he abetted them, produced many animoſities and tumults to the time of his death, in the year 362. They underwent various revolutions, perſecuting and oppreſſed, under ſucceeding emperors, according to the degree of intereſt they had in the civil power; till, at length, Theodoſius the Great exerted every poſſible effort to ſuppreſs and diſperſe them. He drove them from their churches, enacted laws whoſe ſeverity expoſed them to the greateſt calamities, and rendered, throughout his dominions, the decrees of the council of Nice triumphant over all oppoſition; ſo that the public profeſſion of the Arian doctrine was confined to the barbarous and unconquered nations, ſuch as the Burgundians, Goths, and Vandals.

The Arians were divided into various ſects, of which ancient writers give an account under the names of *Semi-Arians*, *Euſebians*, *Actians*, *Eunomians*, *Acacians*, *Pſathyrians*, and others. But they have been commonly diſtributed into three claſſes, viz. the genuine *Arians*, *Semi-Arians*, and *Eunomians*. The Arian cauſe ſuffered as much from the diſcord and animoſity that prevailed among theſe ſects, as from the laboured and zealous efforts of the orthodox party.

Arianiſm was carried in the fifth century into Africa, under the Vandals; and into Aſia, under the Goths. Among thoſe fierce and ſavage nations, which were overturning the Weſtern empire, it found a fixed reſidence, and a peaceful retreat. As their ſecurity animated their courage, they treated the Catholics with the ſame violence which the latter had employed againſt them and other heretics; and they perſecuted and vexed in various ways ſuch as profeſſed their adherence to the Nicene doctrines. The Vandals, who reigned in Africa, ſurpaſſed all the other ſavage nations in barbarity and injuſtice towards the Catholics. The kings of this fierce people, particularly Genſeric and Hunneric his ſon, demoliſhed the churches of thoſe Chriſtians who acknowleged the divinity of Chriſt, ſent their biſhops into exile, and maimed and tormented in various ways ſuch as were firm and inflexible in the profeſſion of their faith. During theſe perſecutions in Africa, a ſtupendous miracle is ſaid to have been wrought, by which the Supreme Being is ſuppoſed to have teſtified his diſpleaſure

againſt the Arians, and his favour to their adverſaries. This miracle conſiſted in enabling thoſe Catholics, whoſe tongues had been cut out by the Arian tyrant Hunneric, to ſpeak diſtinctly, and to proclaim aloud the divine majeſty of the Saviour of the world. This remarkable fact, ſays Moſheim, can ſcarcely be denied, ſince it is ſupported by the teſtimony of the moſt credible and reſpectable witneſſes; but whether it is to be attributed to a ſupernatural and miraculous power is a matter not ſo eaſily decided, and which admits of much diſpute. The reality of this extraordinary fact is atteſted by Victor, an African biſhop; Æneas of Gaza, a platonic philoſopher; a perpetual edict of the emperor Juſtinian; count Marcellinus in his Chronicle of the times; and pope Gregory the firſt, who had reſided at Conſtantinople as the miniſter of the Roman pontiff. Among the moderns who have defended its miraculous nature, we may mention Abbadie, Berriman, Chapman, and Dodwell; and we may refer to Mr. Middleton's "free Inquiry into the miraculous powers," &c. in his "Miſcellaneous works," vol. i. p. 149, &c.; and to Mr. Toll's Defence, p. 80, &c. for arguments againſt it. The learned hiſtorian, Mr. Gibbon, obſerves in his uſual manner, (Hiſt. of the Decline, &c. of the Roman empire, vol. vi. p. 295.), that "this ſupernatural gift of the African confeſſors, who ſpoke without tongues, will command the aſſent of thoſe, and of thoſe only, who already believe, that their language was pure and orthodox; but the ſtubborn mind of an infidel is guarded by ſecret, incurable ſuſpicion; and the Arian, or Socinian, who has ſeriouſly rejected the doctrine of the Trinity, will not be ſhaken by the moſt plauſible evidence of an Athanaſian miracle." Italy, the Gauls, and Spain, were alſo deeply infected with Arianiſm; and towards the commencement of the ſixth century, it was triumphant in many parts of Aſia, Africa, and Europe. Many of the Aſiatic biſhops favoured the Arians ſecretly, while their opinions were openly profeſſed, and their cauſe maintained by the Vandals in Africa, the Goths in Italy, the Spaniards, the Burgundians, the Suevi, and the greateſt part of the Gauls. The Greeks, indeed, who had received the decrees of the council of Nice, perſecuted and oppreſſed the Arians, wherever their influence and authority could reach; but the Nicenians, in their turn, were not leſs rigorouſly treated by their adverſaries, particularly in Africa and Italy, where they felt, in a very ſevere manner, the weight of the Arian power, and the bitterneſs of their reſentment. The triumphs of Arianiſm were, however, but tranſitory; and its proſperous days were entirely eclipſed, when the Vandals were driven out of Africa, and the Goths out of Italy, by the arms of Juſtinian; for the other Arian princes were eaſily induced to abandon themſelves the doctrine of that ſect; and not only ſo, but to employ the force of laws and the authority of councils to prevent its farther progreſs among their ſubjects, and to extirpate it entirely out of their dominions. Such was the conduct of Sigiſmund, king of the Burgundians; Theodemir, king of the Suevi, who had ſettled in Luſitania; and Reccared, king of Spain. However, it revived again in Italy, under the protection of the Lombards, in the ſeventh century.

Eraſmus ſeems to have aimed, in ſome meaſure, to reſtore Arianiſm, at the beginning of the ſixteenth century, in his commentaries on the New Teſtament: accordingly, he was reproached by his adverſaries with Arian interpretations and gloſſes, Arian tenets, &c. To which he made little anſwer, ſave that there was no hereſy more thoroughly extinct than that of the Arians: "*Nulla hereſis magis extincta quam Arianorum.*" But the face of things was ſoon changed: Servetus, a Spaniard by nation, publiſhed, in 1531, a little treatiſe againſt the Trinity: which once more excited attention to the ſentiments of the Arians in the Weſt.—Indeed he rather ſhewed himſelf a Photinian than an Arian; only that he made uſe of the ſame paſſages of ſcripture, and the ſame arguments againſt the divinity of our Saviour, with the proper Arians.

It is true Servetus had not, properly ſpeaking, any diſciples; but he gave occaſion, after his death, to the forming of a new ſyſtem of Arianiſm in Geneva, which did not a little perplex Calvin.—From Geneva, the new Arians removed to Poland, where they gained conſiderable ground; but at length became SOCINIANS.

The appellation Arian has been indiſcriminately applied, in more modern times, to all thoſe who conſider Jeſus Chriſt as inferior and ſubordinate to the Father: and whoſe ſentiments cannot be ſuppoſed to coincide exactly with thoſe of the ancient Arians. Whilſt they all concur in maintaining the pre-exiſtence of Chriſt as a ſuper-angelic ſpirit, which ſupplied the place of a ſoul to him upon his conception and birth, and alſo his derivation from and ſubordination to the Father; ſome of them aſcribe to him a higher degree, rank, and dignity, than others. Accordingly they have been ſometimes diſtinguiſhed into High and Low Arians. The former, approaching in opinion to thoſe that have been called Semi-Arians, or rather to the ancient Arians, whilſt they believe the Father to be the one ſupreme God over all, abſolutely eternal, underived, unchangeable, and independent; conceive the Son to be the firſt derived being from the Father, and under him employed in creating, and alſo in preſerving and upholding the World, and in exerciſing a moral, as well as natural, adminiſtration over mankind; ſo that, under this diſtinguiſhing character, he is inveſted with the office of final judge. Of theſe high Arians, ſome ſuppoſe, that Jeſus Chriſt, ſuſtaining relations, and exerciſing offices ſo honourable in themſelves and ſo intereſting to mankind, is a proper object of ſubordinate worſhip; whilſt others imagine, that worſhip in the proper and diſcriminating ſenſe of the term, belongs only to the Father, the ſelf-exiſtent, infinite, and ſupreme deity. Some Arians of this claſs have maintained, that the ſon of God, before his incarnation, had only, or chiefly, the care and government of the Jewiſh people allotted to him; whilſt other angels were appointed preſidents or princes of other nations and countries. This was the opinion of Mr. James Peirce, an ingenious and learned commentator: ſee his "Paraphraſe and notes, &c. on Coloſſ. ii. 15. and Heb. ii. 9." Others have alſo maintained, that the conduct of all the diſpenſations of Providence, in every period of time, as they related to the patriarchs, to the Jewiſh nation, to the prophets, to Chriſtians, and to the world in general, has been entruſted to Chriſt; and that he was diſtinguiſhed by various appropriate titles, as Jehovah, the angel of the covenant, the angel Jehovah, the angel of the preſence, and the Logos, &c. To this purpoſe they allege, among other arguments, the declaration of the Apoſtle (Heb. i. 2. xi. 3.) that it was by Chriſt, God made the worlds, αιωνας, the ages or diſpenſations; i. e. by whom God formerly diſpoſed and ordered thoſe eminent and remarkable periods of time; the Antediluvian, the Patriarchal, the Moſaic, and the Preſent; being put under his government, according to the will of the Father. See Ben Mordecai's Apology, letter ii. paſſim. It is alſo alleged as a further preſumption in favour of this hypotheſis, that the ſacred writings contain a revelation and hiſtory of the adminiſtration of Providence with regard merely to the inhabitants and concerns of our world, or of the terreſtrial globe; and, of courſe, that the ſubordinate direction and ſuperintendence of this part of the government of the ſupreme and infinite ſovereign of this, and innumerable other

worlds, is entrusted with Jesus Christ; a superior being adapted, by his pre-existent dignity, and extraordinary perfections and powers, to the office of ruler and judge. The low Arians, on the other hand, are distinguished from the Socinians in no other respect, besides their maintaining the pre-existence, prior dignity, and transcendent native perfections of that super-angelic spirit, which was united to the body of Christ, in his miraculous incarnation: but that he is entitled to no kind of religious worship, in the peculiar and appropriate meaning of this term. Arians of both descriptions claim the appellation of Unitarians, though they do not adopt the dogma of the simple humanity of Christ, of late exclusively maintained by some modern Unitarians.

Mr. Whiston was one of the first divines who revived the Arian controversy, in the beginning of the eighteenth century. About the year 1706 he began to entertain some doubts about the proper eternity and omniscience of Christ. This led him to review the popular doctrine of the Trinity; and in order to execute this review, with a degree of diligence and circumspection suitable to its importance, he read the New Testament twice over, and also all the genuine monuments of the Christian religion, till near the conclusion of the second century. By this inquiry, he was led to think, that, at the incarnation of Christ, the Logos, or eternal wisdom, supplied the place of the rational soul, or πνευμα; that the eternity of the son of God was not a real *distinct* existence, as of a son properly *co-eternal* with his father, by a true eternal generation, but rather a metaphysical existence *in potentiâ*, or in some sublimer manner in the father, as his wisdom or word; that Christ's real *creation*, or *generation* (for both these terms are used by the earliest writers), took place some time before the creation of the world; that the council of Nice itself established no other eternity of Christ; and finally, that the Arian doctrine in these points was the original doctrine of Christ himself, of his holy apostles, and of the most primitive Christians. Mr. Whiston was confirmed in these sentiments by reading Novatian's treatise concerning the Trinity; but more especially by the perusal of the "Apostolical Constitutions," the antiquity and authenticity of which he endeavoured, with more zeal than precision and prudence, to prove, in the third part of his "Primitive Christianity." The consequence to himself was, his removal from his theological and pastoral functions, and also from his mathematical professorship at Cambridge; "as if Arianism," says the translator of Mosheim, "had extended its baneful influence even to the science of lines, angles, and surfaces." Whiston was followed by Dr. Clarke, who published his famous book; intitled, "The Scripture Doctrine of the Trinity," &c. in consequence of which, he was reproached with the title of *Semi-Arian*. See Semi-Arians. He was also threatened by the convocation, and combated by argument. Dr. Waterland, who has been charged with verging towards *Tritheism*, was one of his principal adversaries. The history of this controversy, during the last century, may be found in a pamphlet, intitled, "An Account of all the considerable Books and Pamphlets that have been wrote on either Side, in the Controversy concerning the Trinity, from the year 1712; in which is also contained an Account of the Pamphlets written this last Year, on each Side, by the Dissenters to the end of the year 1719;" published at London, 1720. The more recent treatises on the subject of the Trinity are well known to our theological readers. See Trinity. Mosheim's Eccl. Hist. Lardner's Works. Ben Mordecai's Apology, Letter I. Jortin's Rem. on Eccl. Hist. vol. i.

ARIANISM, the doctine of Arius, who lived in the beginning of the fourth century. See Arians.

ARIARATHIA, or Ariarathera, in *Ancient Geography*, a town of Asia, in Cappadocia. Steph. Byz.

ARIAS, or Arius, a river of Aria.

Arias *Montanus*, in *Biography*, a learned Benedictine monk of the sixteenth century, was born at Seville, of a noble but reduced family. Having completed his education at Alcala, where, besides the study of theology, he made himself master of the Latin and Greek languages, and also of Hebrew, Arabic, Syriac, and Chaldee; he travelled through France, Germany, Italy, the Netherlands, and England, for the purpose of acquiring an acquaintance with the modern languages. Upon his return he took priest's orders, and then accompanied the bishop of Segovia to the council of Trent, where he obtained great reputation. He afterwards retired to Aracena, a pleasant spot near the mountains of Andalusia, to prosecute his literary labours. From this retreat he was summoned by Philip II. and entrusted with the care of a new edition of the Polyglot *Bible*, which he much enlarged and improved. The execution of this work contributed so much to his reputation, that he became the object of envy; and he was under the necessity of taking a journey to Rome, to vindicate himself from the censure of those who reproached him with having too closely followed the explanations of the Jewish Rabbis. As soon as he returned to Spain, Philip offered him a bishoprick, as a recompence for his labours; but this he declined accepting, and contented himself with a pension of two thousand ducats, and the office of chaplain to the king. He died at Seville in 1598, at the age of seventy-one years. His mode of living was singularly abstemious, as he drank no wine, and seldom tasted animal food. He was indefatigable in his studies; and was regarded as one of the first literary characters in Spain. His writings, which are numerous, bear evident marks of sound sense, as well as profound erudition. Besides his "Dissertations on Jewish Antiquities," prefixed to the Polyglot, printed in the "Critici Sacri," and published separately, in 4to. at Leyden in 1596; he has left in Latin, "Commentaries on several parts of Scripture," published at Antwerp, at different periods, between the years 1583 and 1599; a "History of Mankind," in 1593; "A Treatise on the History of Nature," in 1601; "A Version of the Psalms and Ecclesiastes," in Latin verse, in 4to. 1574, with other poetical pieces; and a translation of Jonathan's Chaldee paraphrase of Hosea, and of the Itinerary of Benjamin of Tudela. Dupin. Nouv. Dict. Histor.

ARIASPE, or Agriaspe, in *Ancient Geography*, a town of Asia, in Drangiana, the *Bergaspe* of major Rennell's map, seated on the river Heermund, in the province of Segistan or Seistan. N. lat. 32° 15'. E. long. 63° 46'.

ARIASSOR, or Ariassus, a city of Pamphylia, which was a bishop's see. Ptolemy.

ARICA, in *Geography*, a jurisdiction in the bishoprick of Arequipa in Peru, extending along the coast of the South sea. It produces little else than Agi or Guinea pepper, and in some places large olives, of which they make oil and pickles.

Arica, a sea-port town of South America, in the province of Los Charcas in Peru. It is the port-town to most of the mines in that country; and it is the only place in this part of the coast which admits a landing. It was formerly strong and populous, and carried on a great trade, as the harbour is good and convenient for shipping. The immense booty taken here by sir Francis Drake in 1579, contributed to the decline of the opulence and trade of Arica. At that time most of the silver of Potosi was shipped in this port for

Lima; but ſince that period, the Spaniards have chiefly ſent it by land, as the moſt ſecure, though moſt difficult mode of conveyance. It alſo ſuffered much by an earthquake in 1605. As they have little or no rain in this place, their houſes are built without roofs. The valley of Arica is principally famous for the culture of Guinea pepper, which the Spaniards planted here, of which they raiſe annually to the value of eighty thouſand crowns. This port is ſtill much frequented, not merely on account of the mines, to which it affords an eaſy acceſs, but for the rock-ſalt which is dug out of the adjacent mountains, and ſhipped for the weſtern coaſt. S. lat. 18° 27'. W. long. 71° 5'.

ARICADA, in *Ancient Geography*, a town of Aſia, in Drangiana. Ptolemy.

ARICARETS, in *Geography*, a nation of South America, in Guiana, on the banks of a river called Aricari.

ARICHAT, a town in the iſland of Cape Breton.

ARICHI, in *Ancient Geography*, a people of Aſiatic Sarmatia, among the Mæotæ, near the Palus Mæotis. Ptol.

ARICIA, a town of Italy, in Latium, near the Alban mount, on the Appian way, about twenty miles from Rome. This city exiſted before the eſtabliſhment of the Greeks and Latins in Italy; and the inhabitants of it were often diſtinguiſhed among the enemies of Rome in its naſcent ſtate. Cicero ſpeaks of it as a municipal town; and Frontinus, ranking it in the number of colonies, ſays, that its walls were erected by the orders of Sylla. Near it was the "Nemus Aricinum," or grove of Diana, who hence obtained the epithet of "Aricina." Here ſhe had a temple frequented by her votaries, who travelled to it on foot from Rome, with flaming torches, and crowns on their heads.

ARICONIUM is placed, in Antonine's Itinerary, near Roſs, about eleven miles from Caerleon: our other antiquaries place it at Kencheſter. It was a town of the Silures.

ARICOURIS, in *Geography*, a people of South America, in Guiana, towards the river of the Amazons. De Laet ſays, they manifeſt no ſigns of religion, but ſeem to reſpect the ſun and moon, without paying them any worſhip; and yet they appear to believe the immortality of the ſoul, as they point to the heavens, as, after death, the abode of thoſe who have lived well. They are timid, ſuſpicious, and inclined to revenge. They are addicted to ſorcery, and conſult ſoothſayers, who, as they think, are inſpired by a demon called "Watipa," and thus enabled to foretel future events. Their eyes and hair are black, and they have no covering: but the men envelope themſelves all over in a kind of gummy dye, to preſerve their bodies from the heat of the ſun, and the women paint themſelves with it more ſlightly, and in a variety of figures.

ARIDANA, a town of Arabia, ten miles ſouth of Mecca.

ARIDAS, a kind of tapeſtry, manufactured in the Eaſt Indies, from a ſhining thread obtained from certain herbs; and hence called "Aridas of herbs."

ARIDED, in *Aſtronomy*, a fixed ſtar of the ſecond magnitude, in the extremity of the Swan's tail. It is alſo called Hierezim, Adigege, and Aridef.

ARIDELOSIS, ἀριδήλωσις, in *Rhetoric*, is ſometimes uſed for the figure commonly called SYNONYMIA.

ARIDSONG, in *Geography*, a town of Aſia, in the country of Thibet, one hundred and fifty-two miles north of Carmandu. N. lat. 30° 40'. E. long. 84° 45'.

ARIDULLAM, in *Natural Hiſtory*, the name of a foſſile ſubſtance, uſed in the Eaſt Indies in intermittent fevers. It is of a greeniſh yellow colour, and coarſe texture, and when burnt, emits fumes ſmelling like arſenic. It is properly of the ZARNIC kind, though ſomewhat different from all the European kinds.

ARIDURA, in *Phyſic*, a dryneſs, or want of juice and moiſture of the parts. Hence it is alſo uſed by ſome for an aridity or conſumption: and it is more particularly uſed to denote a hectic fever. The term is more frequently uſed by *Modern Writers*, to denote a particular atrophy, or waſting of ſome ſingle member of the body: in which ſenſe, it amounts to the ſame with what we otherwiſe call WITHERING.

ARIEN, in *Geography*, a ſmall iſland in the Adriatic, near the coaſt of Italy, three leagues north of Venice.

ARIENZO, a town of Italy, in the kingdom of Naples, and country of Lavora, fourteen miles north-eaſt of Naples. Its ſituation is low, but delightful, and it is ſurrounded with vineyards and gardens. It now belongs to Caraffa, duke of Madaloni.

ARIES, or the *Ram*, in *Aſtronomy*, a northern conſtellation, the firſt of the twelve ſigns of the zodiac; from which alſo a twelfth part of the ecliptic takes its denomination, and into which the ſun enters about the twentieth of March. The ſtars in this conſtellation, in Ptolemy's catalogue, are 18; in Tycho's, 21; in Hevelius's, 27; in the Britannic catalogue, 66; but they are moſt of them very ſmall, one only being of the ſecond magnitude, two of the third, and all the reſt ſmaller.

ARIES, in *Artillery*, denotes a battering-ram, or a military engine with an iron head, much in uſe among the ancients, to batter and beat down the walls of places beſieged.

Of this there were three kinds; the firſt rude and plain; the others artificial and compound.

The firſt ſeems to have been no more than a great beam, which the ſoldiers bore in their arms, and with one end of it, by main force, aſſailed the walls. This required a great force to work it; yet produced but a ſmall effect.

The ſecond or compound ram is deſcribed by Joſephus (De Excid. Hieroſol. 3.) thus: "The ram is a vaſt long beam, like the maſt of a ſhip, ſtrengthened at one end with a head of iron, ſomewhat reſembling that of a ram, whence it took its name. This is hung by the middle, with ropes, to another beam which lies acroſs two poſts; and hanging thus equally balanced, is by a great number of men violently thruſt forward, and recoiled backward, and ſo ſhakes the wall with its iron head, nor is there any tower or wall ſo thick or ſtrong, as to reſiſt the repeated aſſaults of this forcible machine."

The third only differed from the former, in that it was covered with a χελωνη, or ſcreen, to guard the ſoldiers; whence it was called *teſtudo arietaria*.

Mr. Felibien deſcribes a fourth ſort of battering-ram, which ran on wheels; and was the moſt perfect and effectual of them all. Vitruvius affirms, that the battering-ram was firſt invented by the Carthaginians, while they laid ſiege to Cadiz: theirs was the ſimple kind firſt mentioned. Pephaſmenos, a Tyrian, afterwards contrived to ſuſpend it with ropes; and finally, Polydus, the Theſſalian, to mount it on wheels, at the ſiege of Byzantium under Philip of Macedon. Yet Pliny aſſures us, that the ram was invented at the ſiege of Troy; and it was this that gave occaſion to the fable of a wooden horſe. The invention has been aſcribed by ſome to Artemorus, a Greek architect, who flouriſhed 441 years before Chriſt. Some have ſuppoſed, that the walls of Jericho, mentioned in the book of Joſhua, were beaten down by this inſtrument; the ram's horns by which they were overthrown being no other than the horns of the battering ram.

Plutarch tells us, that Marc Antony, in the Parthian war, uſed a ram of 80 feet long; and Vitruvius aſſures us,

they were ſometimes made 106, and ſometimes 120 feet long; to this great length perhaps the force of the engine was in great meaſure owing.

The ram was managed at once by a whole century of ſoldiers; ſo that it played continually and without intermiſſion; being uſually covered with a *vinea*, to protect it from the attempts of the enemy.

The battering ram is repreſented in *Plate* I. *Artillery*, *fig.* 1. This ram AB is ſuſpended by a rope *x* to the croſs beam *y*, at the top of the frame CD. Its head A is faſtened to a large beam by three or four bands of iron four feet broad. At the extremity of each of theſe bands *a* was a chain *b* alſo of iron, faſtened by one end to a hook *c*; and at the other extremity of each of theſe chains was a cable firmly bound to the laſt link. Theſe cables extended through the whole length of the beam to the end of the ram B, where they were bound firmly together with ſmall ropes. To the end of theſe cables was fixed another, compoſed of ſeveral ſtrong cords plaited together for ſome length, and then running ſingle. At each of theſe ſeveral men were placed to balance and work the machine. The unſuſpended ram differed from this only in the manner of working it: inſtead of being ſlung by a chain or cable, it moved on ſmall wheels, on another large beam.

Theſe battering-rams, by their own weight, and by the action of the men who impelled them, excited a force which in ſome caſes exceeded the utmoſt effect of our battering cannon. Dr. Deſaguliers (Lectures, vol. i. p. 65.) has demonſtrated that the momentum of a battering-ram, twenty-eight inches in diameter, one hundred and eighty feet long, with a head of caſt iron of one and a half ton, the whole ram weighing with its iron hoops, 41,112 pounds, and moved by the united ſtrength of 1000 men, would only be equal to that of a ball of thirty-ſix pounds weight ſhot point blank from a cannon. Mr. Attwood, comparing the effect of the battering-ram, having its metal extremity equal to a twenty-four pounder, with a cannon ball of twenty-four pounds weight, obſerves, that in order to their producing the ſame effect in penetrating a wall or making a breach in it, the weight of the ram muſt exceed that of the cannon ball in the proportion of the ſquare of 1700, the velocity of the ball, to the ſquare of the velocity with which the battering-ram could be made to impinge againſt the wall expreſſed in feet. Eſtimating this at ten feet in a ſecond, the proportion of the weights will be that of about 2,890,000 to 100, or 28,900 to 1; and therefore the weight of the battering-ram muſt be 346 ton. In this caſe, the battering-ram and the cannon ball, moving with the velocities of 10 and 1700 feet in a ſecond, would have the ſame effect in penetrating any obſtacle; but, as the weight of the ram was probably never ſo great as the above ſuppoſition ſtates it to have been, the force of a cannon ball to make a breach in walls muſt exceed that of the ancient aries: but the momentum of this, or the impetus by which it communicated a ſhock to the whole building, was far greater than the utmoſt force of cannon balls; for if the weight of the battering-ram were no more than 170 times greater than that of a cannon ball, each moving with its reſpective velocity, the momenta or forces of both would be equal; but as the weight of theſe ancient machines was certainly much greater than 170 times that of our heavieſt cannon balls, their momentum or impetus to ſhake or overturn walls and demoliſh buildings, was much ſuperior to that which is exerted by the modern artillery. And ſince the ſtrength of fortifications will in general be proportioned to the means which are uſed for their demolition, the military walls of the moderns have been conſtructed with leſs attention to their ſolidity and maſſy weight than the ancients thought to be a neceſſary defence againſt the aries; that ſort of coheſive firmneſs of texture which reſiſts the penetration of bodies being now more neceſſary than in ancient times. Nevertheleſs it is manifeſt, that even now ſolidity or weight in fortifications is alſo of material conſequence to the effectual conſtruction of a wall or battery.

The ram was frequently uſed in the fourteenth century. Sir Chriſtopher Wren employed it in demoliſhing the walls of the old church of St. Paul's previouſly to his rebuilding it; and found no machine ſo well adapted to this purpoſe. See CATAPULTA.

ARIES, in *Entomology*, a ſpecies of SCARABÆUS, a native of the Cape of Good Hope. The thorax is roundiſh, and the head armed with a very ſhort ſubulate horn. Fabricius. Gmelin.

ARIES, in *Zoology*, the Linnæan and Gmelinian ſpecific appellation of the common ſheep, or kind of OVIS, with compreſſed lunated horns, "cornibus compreſſis lunatis," Faun. Suec. Syſt. Nat. &c.; ovis domeſtica, of Ray; pecus, aries, ovis, vervex, agnus, of Plin. Aldr. Jonſt. &c.; brebis et belier, of Buff.; ſchaaf, wedder, hammel, lamb, of Geſn. Thierb.; and ram or common ſheep, of Penn. Briſſ. thus defines this ſpecies: "aries laniger, cauda rotunda brevi." Dr Shaw obſerves, in his Zoology, that the moſt prominent characters are: that the horns twiſt ſpirally outwards; that the tail is round and ſhort; and that the body is covered with wool; but theſe characters, he remarks, are ſo greatly varied in different races, that it is hardly poſſible to fix on an abſolute diſtinctive mark which ſhall apply to all the varieties.

Pallas, whoſe extenſive travels through the Ruſſian empire, and eſpecially Siberia and Great Tartary, enabled him to make many important obſervations on theſe uſeful animals, found what he regarded only one ſpecies ſubdivided into four varieties, diſtinguiſhed by their tails, the form of their heads, their ears, and fleece; and hence he condemns as unfounded and fanciful the idea of making ſpecific differences of the accidental varieties, which he imagines the education or mode of life, the climate, food, and croſſing of the breed have produced in ſheep, as in other animals; and in conformity with this opinion, he conſiders not only thoſe varieties found in Europe, but alſo thoſe of other quarters of the globe, as only accidental varieties of the ſame ſpecies; an opinion in which he appears confirmed by finding that they produce a prolific race, though the breed be ever ſo croſſed; and which he thinks would not be the caſe were they different ſpecies. Some preceding naturaliſts evidently entertain very oppoſite ſentiments on this ſubject; but whether we are to regard the ſeveral apparently diſtinct kinds of the ſheep as ſo many ſpecies, or as varieties originating from one parent ſtock only, it is deſirable, nay highly requiſite, to draw ſome line of diſcrimination between the more remarkable, or, if the expreſſion may be allowed, more permanent varieties, by which they may be aſcertained. This is confeſſedly a matter of the utmoſt difficulty. Linnæus has, we think, deviſed the beſt mode in which it can be accompliſhed without exciting the prejudices of naturaliſts, or claſhing with their opinions; and Gmelin has certainly improved upon it. A name and character are aſſigned to each variety, ſo far as it is deemed practicable to define them; and by arranging them ſtill as varieties only of the common ſpecies *Aries*, the reader is at liberty to form thoſe concluſions he may think proper. The varieties enumerated by Gmelin amount to ten that are very diſtinct, and are arranged in the following order.

1. *Anglica.* α.—Ovis anglicana. Amoen. Acad. 4. p. 174. Hornleſs

Horntefs ſheep of Pennant. In Lincolnſhire, and other counties in England, and alſo in many other parts of Europe, the hornleſs breeds of ſheep are raiſed in great numbers. Independently of this kind being deſtitute of horns, the tail and ſcrotum hang down as low as the knees; and by theſe characters it may be diſtinguiſhed.

2. *Ruſſica.* β.—Ovis ruſſica. Amoen. acad. 4. 174. This is the variety which Pallas calls ovis brachyura and ovis ruſſica; it inhabits Ruſſia, and is called the Ruſſian ſheep by the natives. According to Gmelin, this kind is horned; has a ſhort tail; and is covered with ſhort curly wool. Dr. Pallas acquaints us that it is not only reared throughout all the northern parts of Ruſſia, but likewiſe by the Finns and other neighbouring nations; and that ſome of this kind have been tranſported into Siberia, where they have ſupported themſelves on ſome paſtures, though in poor condition. In the ſouthern countries they are, however, in leſs eſtimation than the long-tailed and fat-tailed kinds, which are much ſuperior to them in ſize, fat, and flavour; but the ewe of the former will couple readily with the ram of the fat-tailed variety, and produce an animal larger and more noble than its mother, with a tail ſwelled at the baſe with fat, and meagre towards the end. This ſhort-tailed kind bears ſome reſemblance to the ſheep of Iceland, eſpecially in ſize, tail, and coarſeneſs of the fleece; yet it differs from that breed in one eſſential particular, the horns, which are much ſmaller in proportion. The Tſcherkeſſian ſheep, we are told, reſembles it alſo in the form of the head, ſtraight erect ears, and thickneſs of the fleece; but in texture the fleece is very different, being fine in the Tſcherkeſſian kind, and in the other as coarſe as dog's hair; and the ſhort-tailed kind is uniformly diſtinguiſhed by the tail being about a quarter of a yard ſhorter than the other variety.

3. *Hiſpanica.* γ.— Ovis hiſpanica. Amoen. Acad. 4. 174. Spaniſh ſheep. The ſpires of the horns are extended horizontally, and the wool is remarkably fine and plentiful on the animals of this breed. It is ſaid to be peculiar to Spain.

4. *Polycerata.* δ.—Ovis polycerata. Amoen. Acad. 4. 174. Ovis ſexcornis et tricornis. Aldr. Brebis a pluſieurs cornes, Belier d'Iſlande. Brebis d'Iſlande. Buff. Ove Gotlandia Pall.; and many horned ſheep of Pennant. This kind is diſtinguiſhed by having more than two horns; how far we are authorized to admit it as a definitive, rather than an accidental variety, is doubtful. In a ſupplement to the article ſheep in the work of Buffon, the count inſerts a few obſervations on the drawings of two Walachian ſheep, a ram and ewe, which were ſent him by Mr. Collinſon, one of the members of the Royal Society of London at that time, in the courſe of which this animal is mentioned; and from thence we ſhould rather conclude the variety is accidental. "The rams, ewes, and wedders of Iceland," ſays that writer, "differ chiefly from ours in having larger and thicker horns. Some of them have three, four, or five horns; but this peculiarity of having more horns than two muſt not be conſidered as common to the whole race of Iceland ſheep; for in a flock of four or five hundred, hardly three or four wedders can be found with four or five horns; and when theſe occur, they are ſent to Copenhagen as rarities. As a farther proof of their being ſcarce, they give a higher price in Iceland for this than for the common kind." Dr. Pallas ſpeaks of an accidental variety of the Kirguiſe ram with five horns, and of another with four horns diſpoſed with great ſymmetry. Dr. Shaw deſcribes the many-horned ſheep as a diſtinct variety. He obſerves that it occurs in the northern parts of Europe more frequently that in other regions, and that it is ſaid to be moſt common in Iceland. The horns are either three, four, or five in number; ſometimes placed with great regularity, and ſometimes differing in proportion and ſituation. A four horned variety, with very long hairs hanging from the breaſt, is alſo found in ſome parts of Europe: the two largeſt horns in this kind are ſtraight and nearly upright on the top of the forehead, the ſmaller pair are ſeated on each ſide of the head, and turn downwards. Gen. Zool.

5. *Africana.* ε.—Ovis Africana. Amoen. Acad. 4. p. 173. Aries pilofus, pilis brevibus veſtitus, Briſſ. Ovis Africana, pro vellere lanoſo pilis brevibus hirtis veſtita, Sloane. Ovis æthiopica, Charlet.; and ovis pilis brevibus, Gmel. The African ſheep covered with ſhort hair inſtead of wool. *Gliſ.* The African ſheep of Mr. Pennant and Dr. Shaw is the following ſpecies.

6. *Guineenſis.* ζ.—Auribus pendulis, palearibus laxis pilofis occipite prominente, Linn.: aries (ovis guineenſis) pilofus, pilis brevibus veſtitus, juba longiſſima, auriculis longis pendulis, Briſſ.; aries guineenſis ſ. angolenſis, Maregr.; ovis guineenſis ſ. angolenſis Maregravii, Raj.; moutons, Adanſ.; moutons de Guinée, Des Marches; belier de Senegal, belier des Indes, autre belier des Indes, et brebis des Indes, Buff.; ſheep of Sahara, Shaw, it.; African ſheep, Penn.; African ſheep, Shaw's Zool.; Guinea ſheep. Linnæus, in the twelfth edition of the Syſtema Naturæ, conſidered this animal as a diſtinct ſpecies, and aſſigned it the character above mentioned: "ears pendulous, dewlaps lax and hairy; hind part of the head prominent." Gmelin deems it a variety only. In point of figure, this creature is ſo very remarkable that it cannot eaſily be confounded with any other variety: "its meagre appearance, length of neck and limbs, pendent ears, and long arched or curved viſage," are ſtrikingly characteriſtic; and as Dr. Shaw further obſerves, "it is covered rather with hair than wool, and has a pair of pendent hairy wattles beneath the neck, as in goats; the horns are ſmall, and the tail long and lank." This kind is ſuppoſed to be moſt frequent in Guinea.

7. *Laticaudata.* η.—Arabica platyura, Ruſſel; Arabiæ ovis, Alder.; ovis Turcica, Charletta.; ovis cauda obeſa, Ludolf; ovis laticauda. Raj. Gmel.; aries (ovis laticauda) laniger, cauda latiſſima, Briſſ.; moutons de Barbarie ou a groſſe queue, Chardin; mouton de Barbarie, mouton d'Arabie, Buff.; ovis laticauda, platyceros ſ. Arabica, Amoen. Acad. 4. p. 173.; ovis ſteatopyga, aries kirgiſicus, Pall.; ſchaaf, deren Schwaentz gar feiſſt, Rauwolf; arabiſches ſchaaf, Geſn. Thierb.; die hieſige ſchaafe, Oſb. Broad-tailed ſheep. This kind is aſſerted to be the largeſt breed of ſheep in the world; and, according to Dr. Pallas and others, is reared throughout all the temperate regions of Aſia, from the frontiers of Europe to thoſe of China, in the vaſt plains of Tartary. All the Nomade hordrs of Aſia, the Turcomans, Kirguiſe, Calmucks, and Mongul Tartars rear it; and indeed it conſtitutes their chief riches, the number they poſſeſs being enormous. The Perſians alſo rear it in abundance, as likewiſe the Hottentots, as Kolben relates in his Travels to the Cape of Good Hope. Oſbeck ſays, in his Journey to China, that the fat-tailed ſheep is reared throughout that vaſt empire, and it occurs in moſt parts of Syria, Barbary, and Ethiopia. Pallas thinks there is ſufficient evidence that it is more univerſally reared in different countries than any other kind. The flocks of all the Tartar hordes reſemble each other in having a large yellowiſh muzzle, the upper jaw often projecting beyond the lower one, and by having long hanging ears; by the horns of the adult ram being large, ſpiral, wrinkled, and bent in a lunar form. The tails of theſe ſheep become oftentimes ſo large and heavy, as to greatly incommode the animal in walking

walking or grazing; they grow to the weight of fifteen, twenty, or thirty pounds, and even, according to ſome accounts, they have been known to increaſe to the weight of fifty pounds each. The ſhepherds are, therefore, very frequently obliged to faſten behind the ſheep a ſmall board furniſhed with wheels on which the tail may reſt, and the animal be in ſome degree relieved of the weight he would be otherwiſe obliged to bear. This kind is in great eſtimation, the fatty ſubſtance of the tail reſembling marrow, and the fleece in ſome countries being of an exquiſite fineneſs. Mr. Pennant remarks that both the broad and long-tailed varieties of this kind of ſheep were known to the ancients, being mentioned by Ariſtotle and Pliny; the former ſpeaking of the firſt, and the latter of the ſecond; one ſays the tail was a cubit broad, and the other a cubit long.

8. *Bucharica*. 9.—Auriculis magnis pendulis, pulvinari adipoſa minore, Pallas xi. 78.—Bucharian ſheep, with large pendulous ears, and ſmall fatty cuſhions. From Dr. Pallas we learn that this kind of ſheep is reared in immenſe flocks by the Bucharian Tartars, and it is alſo common in Perſia and Syria. Pallas and Gmelin both regard it as a mixed or hybrid breed, between the long-tailed and fat-tailed varieties; the former believes they never attain the ſize of either of the parents. The head is like that of the Kirguiſe ſheep; but the muzzle is ſharper like that of the Indian ſheep of Buffon; the body is rather ſmaller than that of the Kirguiſe ſheep; the ears large and pendent; and they have a ſmall uropygium or fat rump, like that of the Tartar ſheep on the Jeniſſy, eſpecially when begotten by a Kirguiſe ram; but in general they have a tail, fat and broad at the baſe, with a long narrow appendage, which reſembles the tail of the Tſcherkeſſian ſheep. The Bucharian Tartars have a very valuable traffic with the furs of the lambs of this variety, which are exquiſitely fine and beautiful. The ſame variety is likewiſe raiſed in great numbers by the Perſians; and it is ſuſpected by ſome writers that this is alſo the variety known more generally by the name of ovis macrocereas, an inhabitant of Syria, Paleſtine, and various countries of Africa.

9. *Longicauda*, 1.—Cauda longiſſima, Gmel.; alterum genus, Raj.; ovis arabica, Jonſt.; aries (ovis longicauda) laniger cauda longiſſima, Briſſ.; ovis dolichura ſive Tſcherkeſſica, Pall.; Schaaffe, Oſear.; ein ander arabiſch ſchaaff, Geſn. Thierb. Long tailed-ſheep. The long-tailed, or, as the natives of Ruſſia and Tartary call it, the Tſcherkeſſian ſheep, is deſcribed as a handſome animal, with a noble air, in its native country and the ſouth of Ruſſia, reſembling in its habits, horns, fleece, and length of tail, the Spaniſh, but more particularly the Engliſh ſheep. Its head is well-proportioned, and of an elegant form; ears ſtraight; horns large, even, rounded in the angles, tapering to a point, and bending inwards towards the back. The rams are ſeldom without horns, and the ewes have them often bent in a lunar form. The wool, though coarſe, is without admixture of hair, which is perhaps but an accidental diſtinction, and promiſes to be much meliorated by croſſing the breed, and rearing the animal with more care and ſkill. It is even known to become much finer without the aſſiſtance of art, merely from the influence of a temperate climate, as on mount Caucaſus. The tail of the ram is covered with fine long wool like the Indian ſheep deſcribed by Buffon, which trails on the ground ſo as to efface the prints made by the animal's feet on the ſand, and it contains often twenty joints or vertebræ. In paſſing from the ſtate of nature to that of ſervitude, it ſeems to have loſt its native ferocity, together with the coarſeneſs of its fleece. Dr. Pallas ſays, it is a mild gentle animal, and is leſs degenerate in form from the argali, which he deems the parent ſpecies, than the ſteatopyga; but which on the other hand has retained much more of its native wildneſs than the Tſcherkeſſian breed; perhaps becauſe it is allowed to range with little reſtraint on the wide extended plains of Great Tartary. The Tſcherkeſſian breed is reared in all the European regions of the Ruſſian empire, ſituated on this ſide the river Occa, in the nearer Poland, and by the paſtoral people of mount Caucaſus, and is commonly of a white colour. The ſame variety, we find in Ruſſel's Natural Hiſtory of Aleppo, is reared under the name of Bedouin ſheep by the Arabs, and in the weſtern parts of Mauritania. In the latter a trifling difference is obſervable, in the length and thickneſs of the tail. Long-tailed ſheep are likewiſe reared in Morocco, and which it is ſuppoſed belong to this variety, becauſe they poſſeſs the diſtinguiſhing character, a long tail, although in other reſpects they are different. Theſe have an ugly look; the head is covered entirely with hair; the ears are ſmall, and pendulous; and the wool remarkably long. The inhabitants of Ukraine and Podoli carry on an extenſive traffic with the ſkins of the Tſcherkeſſian variety.

10. *Capenſis*. 2.—Ovis auriculis magnis pendulis, cauda magna ex adipe vix prominente.—Cape ſheep of Pennant. An awkwardly formed animal with large pendulous ears, covered entirely with coarſe hair inſtead of wool. The tail, Dr. Shaw obſerves, is ſometimes ſo enveloped in fat as to be ſcarcely viſible, the parts on each ſide ſwelling out into a pair of naked hemiſpheres, of ſuch a ſize as ſometimes to weigh nearly forty pounds. The legs are rather long; the viſage ſomewhat arched; and the horns of the male like thoſe of the common ſheep.

In the General Zoology, by Dr. Shaw, the Ovis Strepſiceros, or Cretan ſheep, which Linnæus and Gmelin deem a diſtinct ſpecies, is conſidered alſo as a variety of *Aries*. The principal varieties of the ſheep, according to Dr. Shaw, are the following: Cretan ſheep (ovis Strepſiceros, Linn.); many horned ſheep (ovis polycerata, Linn.); African ſheep (ovis guineenſis, Linn.); broad-tailed ſheep (ovis laticaudata, Linn.); fat-rumped ſheep (ovis Steatopyga); Spaniſh ſheep (ovis Hiſpanica, Linn.); and hornleſs ſheep (ovis Anglica, Linn.).

Thus far have naturaliſts endeavoured to trace and define from the parent ſpecies, the more remarkable varieties into which theſe uſeful animals appear to be divided; and if we have digreſſed too far from the conciſeneſs of the Gmelinian order, by attending more fully than that writer to the collateral obſervations of Linnæus, of Pallas, and other diſtinguiſhed naturaliſts, who have entered minutely into the ſame inquiry; on a ſubject of ſo much importance, it is at leaſt excuſable. In the preſent inſtance, it is incumbent only to aſcertain the principal varieties, ſo far as the characters aſſigned to them may juſtify: to dwell on the intermediate variations into which theſe varieties have again degenerated is needleſs; by education or culture, the effects of climate, food, and croſſing breeds, theſe are now extended beyond the ability of the naturaliſt to aſcertain with accuracy; and it would at beſt but tend to obſcure the ſubject, were we to enlarge upon them. To the agriculturiſt, or the practical farmer of this country in particular, the hiſtory of the firſt variety, and perhaps one or two more, is obviouſly uſeful; but to treat on thoſe would alone extend this inquiry to undue limits. Nor does it with ſtrict propriety fall under the article *Aries*; it is a ſubject that deſerves the fulleſt inveſtigation, and elucidation the moſt ample; and will be duly attended to in its proper article, ſheep, or ovis. See SHEEP, and OVIS.

Aries *Kill*, in *Geography*, a ſmall creek which runs northerly into Mohawk river, two miles and a half weſt from Scoharie river in New York.

Aries *Moromorus*, in *Zoology*, a name given to the Gmelinian Camelus *Arcuatus*, or Peru camel, in Neiremberg's Natural Hiſtory. This creature is called the ſheep of Peru, moutons, or moutons de Perou, by Feuillé, Frezier, and other writers.

ARIETIS, in *Entomology*, a ſpecies of Leptura, in the Fauna Succica, and Syſtema Naturæ of Linnæus, Hiſtoire des Inſectes of Geoffroy, and Britiſh Inſects of Donovan. Degeer arranges it with the Cerambyces, under the ſpecific name of *quadrifaſciatus*; Scopoli calls it Stenocorus *arietis*; Fabricius makes it a Callidium; and Gmelin a Cerambyx in his family of that name, (palpis clavatis, Callidia).

This is a very common inſect in England; and probably throughout the other parts of Europe is not leſs frequent. It is found in gardens, and is eaſily diſtinguiſhed from other ſpecies of the ſame genus. The thorax is black; wing-caſes black, with four yellow tranſverſe bands; the ſecond of which is arched and curved upwards; and the legs are ferruginous. Fabr. Gmel. &c.

ARIETIS, a ſpecies of Veſpa, that inhabits South America. The colour is in general black; petiole of the abdomen, and the legs rufous. Fabricius.

ARIETTA, in *Muſic*, the diminutive of *Aria*. The French have a very confuſed notion of the meaning of this term, and call by the name of *ariette* the capital ſong of a muſical drama, and which the Italians term *l'aria d'abilita*, generally compoſed to diſplay the powers of a principal performer, in point of execution. *Arietta*, every where but in France, has been always underſtood to imply a little ſhort air, a *cavatina*. "Now we begin to emerge from barbariſm (ſays M. Guinguiné) why do we continue to ſpeak like barbarians?"

ARIETUM Levatio, in *Antiquity*, a kind of ſportive exerciſe, probably the ſame with that which in later times is called, "running at the quintain."

ARIGÆUM, in *Ancient Geography*, a town of India, ſuppoſed by major Rennel to be Irjab, in the modern Cabul, in the route of Tamerlane, near the ſouthern mountains. Alexander found it burnt and abandoned, according to Arrian.

ARIGENUS, the capital of the Viducaſſi, ſituate in the northern part of Gallia Lyonnenſis. Ptolemy.

ARIGNA, in *Geography*, a place ſituated amidſt valuable coal and iron mines in the county of Leitrim, Ireland, at which great iron works have been lately eſtabliſhed. As ſoon as the completion of the royal canal opens a communication between Dublin and the Shannon, ſo as to afford an eaſy conveyance of the articles to market, great advantages are expected. Dr. Beaufort.

ARIGNANO, a town or village of Italy, in the duchy of Tuſcany, on the river Arno, between Florence and Arezzo.

ARIGNAY, a town of France in the department of Upper Garonne, and chief place of a canton in the diſtrict of St. Gaudens, 5 leagues W. of Rieux, and 3 N.N.E. of St. Gaudens.

ARII, or Arians, in *Ancient Geography*, a denomination by which ſeveral people of Aſia were diſtinguiſhed. Thus, the Arii or Ἀρειοι, were the inhabitants of Aria, in the vicinity of the Sogdians, according to Herodotus: he alſo ſays that Arii or Ἀρειοι was an appellation commonly given to the Medes.—*Arii* were a people placed by Ptolemy in Arabia Felix.

Arii, or *Ariani*, were alſo a people of Germany, occupying the firſt rank, according to Tacitus, among thoſe who were denominated Lygians. They were more valiant, and alſo more fierce, than moſt of the other Germans; and with their ferocity they blended a conſiderable degree of cunning. They wore black bucklers, painted their bodies, and made their attacks in the night.

ARILLUS, in *Botany*, the ſeed-coat of the permanent huſk that inveſts the ſeed. Some have objected to this term, as improper; but Dr. Smith (Linn. Tranſ. vol. v. p. 265.) is of opinion, that it expreſſes the true nature of the tunic, to which it is applied, much better than the hypothetical one of nectarium, the erroneous one of capſule, or even the analogical denomination of corolla.

ARIM, in *Geography*, a town of Aſia, in India, ſuppoſed by the eaſtern geographers to be at an equal diſtance from the columns of Hercules on the weſt, and thoſe of Alexander to the eaſt, and therefore uſed by them in reckoning the longitudes.

ARIMA, a town of Japan, in a country of the ſame name. N. lat. 31° 45′. E. long. 129° 24′. The ſtrait of Arima lies between the ſmall iſland of Nangayuma, and that of Xinco.

Arima, in *Ancient Geography*, a mountain of Cilicia, or of Lydia.

ARIMANIUS, or Ahriman, in the *Perſian Theology*, denotes the devil or the principle of evil, which, as ſome ſay, co-exiſted from eternity with Ormuſd or Oromaſdes, the principle of good; each of them poſſeſſing the powers of creation, but each diſpoſed, by his unchangeable nature, to exerciſe them with different deſigns. Others ſay, that Ormuſd firſt ſubſiſted alone, but being diſſatisfied with a ſolitary exiſtence, and with having no power to oppoſe him, Ahriman was produced. Perhaps theſe divinities were originally, like Mithras, merely human beings; the one, a good prince, who had diſtinguiſhed himſelf by rendering important ſervices, civil or military, to his countrymen: the other, a tyrant, who had been the cauſe of grievous public calamities. Arimanius was not called by the Perſians a god, but an evil dæmon; and they always wrote his name with the letters inverted. This rude and vulgar ſuperſtition, which had no other object than individual men, was afterwards corrected by philoſophy, and changed into the worſhip of two ſpiritual beings, one the author of good, the other of evil. The ſyſtem which ſuppoſes two ſuch principles in nature, ſeems to have been held by the Perſian Magi, before the time of Zoroaſter; but it does not appear, how far they ſuppoſed them dependent upon the ſupreme divinity. Zoroaſter, however, certainly taught the doctrine of their inferiority to the firſt parent of all things. According to this ſyſtem the principle of good, it is ſaid, is eternally abſorbed in light, and the principle of evil eternally buried in darkneſs. The wiſe benevolence of Ormuſd formed man capable of virtue, and amply provided for him the means of happineſs. By his vigilant providence, the motion of the planets, the order of the ſeaſons, and the temperate mixture of the elements, are preſerved. But the malice of Ahriman has long ſince pierced *Ormuſd's egg*, or in other words, violated the harmony of his works. Since that fatal irruption, the good and evil are blended; the rankeſt poiſons ſpring up amidſt the moſt ſalutary plants; deluges, earthquakes, and conflagrations atteſt the conflict of nature; and the mind, as well as the habitations of man, is perpetually agitated with vice and misfortune. Ahriman's power, however, is ſubject to limitation and reſtraint. Ormuſd will ultimately triumph over the furious malice of his rival; and at that deciſive period, Ahriman and his followers, diſarmed

diſarmed and ſubdued, will ſink into their native darkneſs; and virtue will maintain the eternal peace and harmony of the univerſe. The modern PERSEES exalt the Ormuſd into the firſt and omnipotent cauſe, whilſt they degrade Ahriman into an inferior, but rebellious ſpirit. Their deſire of pleaſing the Mahometans, ſays Mr. Gibbon (Decl. and Fall of the Rom. Emp. vol. i. p. 322, 8vo.), may have contributed to refine their theological ſyſtem. Plutarch. de Iſide and Oſiride, apud Oper. t. ii. p. 351. Hyde de Rel. vet. Perſ. c. 11. 21, &c. See MAGI, and ZOROASTER.

ARIMANNI, in *Antiquity*, the denomination of a claſs of perſons employed in agriculture in the middle ages, who were free men. Among the writers of the middle ages, they were called alſo *conditionales*, *originarii*, *tributales*, &c. They ſeem to have been perſons who poſſeſſed ſome ſmall allodial property of their own, and, beſides that, cultivated ſome farms belonging to their more wealthy neighbours, for which they paid a fixed rent, and bound themſelves likewiſe to perform ſeveral ſmall ſervices, ſuch as ploughing a certain quantity of their landlord's ground, aſſiſting him in harveſt and vintage work, &c. It does not appear whether theſe Arimanni were removable at pleaſure, or held their farms by leaſe for a certain number of years. The former, ſays Dr. Robertſon (Hiſt. Ch. V. vol. i. p. 276, 8vo.), if we may judge from the genius and maxims of the age, ſeems to be moſt probable. Theſe perſons, however, were conſidered as free men in the moſt honourable ſenſe of the word. They enjoyed all the privileges of that condition, and were even called to ſerve in war; an honour to which no ſlave was admitted. Nevertheleſs, though their condition was greatly ſuperior to that of ſlaves, ſuch was the ſpirit of tyranny which prevailed among the great proprietors of land, and ſo various their opportunities of oppreſſing thoſe who were ſettled on their eſtates, and of rendering their condition intolerable, that many free men, in deſpair, renounced their liberty, and voluntarily ſurrendered themſelves as ſlaves to their powerful maſters, who might thus become more immediately intereſted to afford them protection, together with the means of ſubſiſting themſelves and their families.

ARIMANON, in *Ancient Geography*, a city of refuge beyond Jordan; probably the famous Ramoth in Gilead. Joſh. xxi. 38.

ARIMANON, in *Ornithology*, the name given by Buffon to that ſpecies of PSITTACUS, ſince called by Gmelin *taitianus*, and Otaheitan blue parraket by Dr. Latham. See TAITIANUS.

ARIMANTIS, in *Ancient Geography*, a town of Africa, in the Pentapolis. Ptolemy.

ARIMARA, a town of Aſia, in Syria, ſituate on the Euphrates. Ptolemy.

ARIMASPI, a people who inhabited the northern part of European Scythia, called Scythia Arimaſpæa, which lay eaſtward joining to Scythia, in Aſia. They were ſo called, it is ſaid, from the Scythian *Arima*, one, and *Spon*, eye; not becauſe they had but one eye, as ſome of the ancients abſurdly believed, but rather, as Bochart conjectures, becauſe they were ſuch excellent archers, at which exerciſe it is neceſſary to ſhut one eye; that the nick-name of *one-eyed* was given to them on that account. According to Diodorus, who places them in Aſia, to the ſouth of the Oxus, they were called *Evergetes*, becauſe, in an expedition of Cyrus, when his army was ſo diſtreſſed with famine, that the ſoldiers were reduced to the neceſſity of eating their comrades, this people ſupplied them with 3000 carriages of proviſions. Steph. Byz. aſcribes the appellation to the kind treatment which they afforded to the Argonauts, when they travelled through their country.

ARIMATHÆA, or RAMATHA, a city of Paleſtine, placed by Jerome between Lydda and Joppa; but M. D'Anville places it a little to the ſouth-eaſt of Lydda and Diopolis. Modern travellers ſpeak of a city called Ramatha, between Joppa and Jeruſalem. The name Ramatha, whence Arimathæa is derived, ſignifies height; but this place, which lay weſt of Jeruſalem, was very different from Ramathaim-Zophim, Samuel's country (1 Sam. i. 1.), which was north in the mountains of Ephraim, and was probably the ſame as Ramah, near Bethel, four leagues diſtant from Jeruſalem. Arimathæa was the city of Joſeph, the honourable counſellor, mentioned Luke, xxiii. 50. The ancient Arimathæa, ſays Volney (Travels in Egypt and Syria, vol. ii. p. 333.), is now *Ramla*, which is one-third of a league to the ſouthward of Lydda, or the preſent Loudd, and is in as ruinous a ſtate as Loudd itſelf. Within its boundaries nothing was found but rubbiſh; and yet the aga of Gaza reſides here in a ſerai, the floors and walls of which are tumbling down. He maintains about 100 horſemen, and as many Barbary ſoldiers, who are lodged in an old Chriſtian church, the nave of which is uſed as a ſtable, and in an ancient kan, which is diſputed with them by the ſcorpions. The adjacent country is planted with lofty olive trees, diſpoſed in quincunxes, which are decaying. Amidſt theſe plantations are every where found dry wells, mouldering ciſterns, and large vaulted reſervoirs, which prove that, in ancient times, this town muſt have been upwards of a league and a half in circumference: at preſent it ſcarcely contains 200 families. The manufacture of the place is ſoap, which is ſent into Egypt, and the ſpinning of cotton, which is chiefly purchaſed by two French houſes eſtabliſhed there. The aga built here, in 1784, a windmill, completed after the plan and under the direction of a Venetian carpenter; and this is the only windmill obſerved by Volney in Syria or Egypt, though it is ſaid to have been originally invented in theſe countries. The only remarkable antiquity at Ramla is the minaret of a ruined moſque, on the road to Yafa, which appears, by an Arabic inſcription, to have been built by Saif-el-din, ſultan of Egypt. In the adjacent plain between Ramla and Gaza, there is a number of villages, conſiſting of huts built of dried mud, which, like their inhabitants, exhibit every appearance of poverty and wretchedneſs. The only fuel is dung kneaded into cakes, and dried in the ſun. The environs of theſe villages are ſown, at the proper ſeaſon, with grain and water melons; and the reſt is a deſert, abandoned to the Bedouin Arabs, who feed their flocks in it.

ARIMINUM, RIMINI, a town of Italy, in Umbria, on the coaſt of the Adriatic, at the mouth of a river of the ſame name, and ſouth-eaſt of a ſmall river called Rubicon. Strabo (l. v.) aſcribes its foundation to the Umbri, who inhabited the country before the Senones. The Romans, when they became maſters of it, ſent a colony thither A. U. 485., and a new colony was ſent thither by Auguſtus. This is the firſt town of which Cæſar took poſſeſſion, after paſſing the Rubicon. It is now in a ſtate of great decay; but there are ſome monuments of antiquity that claim the attention of the curious traveller. In the market-place there is a kind of ſtone pedeſtal, with an inſcription, declaring, that on it Cæſar had ſtood and harangued his army; but the authenticity of this is not aſcertained to the ſatisfaction of antiquarians. The harbour is now choaked with ſand; and the brick tower, which formerly ſerved for a faro or light-houſe, is ſurrounded with gardens; but they ſtill ſhew on the coaſt the ſpot where St. Anthony is ſaid to have ſtood when he preached to the fiſhes. N. lat. 44° 8′. E. long. 13° 30′. Keyſler, vol. iii. p. 223. Moore's Travels, vol. i. p. 276. In the collection of Dr. Hunter there was a medal of bronze, which Dr. Coombe aſcribed to this city.

ARINE, Giran, a town of Africa, in Mauritania Cæſarienſis.

ARINGA, in *Ichthyology*, a name given by Paulus Jovius and others to the herring, *Clupea Harengus* of Linnæus.

ARINGIAN, in *Geography*, a town of the province of Tranſoxana, belonging to Samarcand.

ARINTHOD, a town of France, in the department of Jura, and chief place of a canton in the diſtrict of Lons-le-Saulnier, 2½ leagues ſouth of Orgelet. The place contains 1,315, and the canton 10,603 inhabitants: the territory includes 220 kiliometres, and 47 communes.

ARINUS, in *Entomology*, a ſpecies of Papilio *(Pleb. urb.)*, deſcribed by Cramer and Fabricius. The wings are deſtitute of tails, above and beneath black, with a ſnowy white tranſverſe ſpot on the firſt pair; extremity of the abdomen ſanguineous. Fabricius, Gmelin, &c.

ARIOGE, the name given by Cramer to the variety *β*, *Papilio Eubule* of Fabricius. See Eubule.

ARIOLA, in *Geography*, a ſmall town in the kingdom of Naples, in the Principato Ultra, with the title of a principality.

ARIOLATER, in *Entomology*, a ſpecies of Lamia, in the Fabrician Species Inſectorum. It inhabits India. The thorax is ſpinous, and lineated; wing-caſes brown, with a ſemicircular white line. Fab. *Obſ.* Gmelin, in his Syſt. Nat. adopts this ſpecific character; it belongs, in his arrangement, to the *Lamia* family, in the *Cerambyx* genus.

ARIOLATOR, is a ſpecies of Ichneumon that inhabits South America. The thorax is armed with two ſpines, and is of a rufous colour; the abdomen black, with four white ſtreaks. Fab. This is the *Ichneumon ſpinoſus* of Degeer, and is thus characteriſed by Linnæus in the twelfth edit. Syſt. Nat.: Ichneumon thorace ferrugineo biſpinoſo, alis faſciis binis fuſcis, abdomine faſciis quatuor albis. *Obſ.* The two erect ſpines on the poſterior part of the thorax are white; and the wings faſciated with brown.

ARIOLI, in *Antiquity*, a kind of prophets, or religious conjurors, who, by abominable prayers, and horrid ſacrifices at the altar of idols, procured anſwers to their queſtions concerning future events. Iſid. Orig. l. viii. c. 9. Theſe are alſo called *harioli*, and their operation, *hariolation*. Sometimes they were denominated *aruſpices*, or *haruſpices*. The arioli were diſtinguiſhed by a ſlovenly dreſs, diſorderly and matted beards, hair, &c.

ARION, in *Biography*, a perſon of great celebrity both as a muſician and poet, was a native of Methymne in the iſle of Leſbos, and flouriſhed about the year before Chriſt 620. He is ſaid to have been the inventor of the dithyrambic meaſure, and to have excelled in lyric poetry, which he ſung to his lute. After having been treated with great reſpect and kindneſs at the court of Periander, king of Corinth, he viſited Italy and Sicily, and acquired great wealth by the exerciſe of his profeſſion. Determining to return to Greece, he embarked, with all his effects, on board a Corinthian veſſel; but the ſailors, allured by ſuch a prize, conſpired to throw him overboard. In the mean while, he requeſted permiſſion to ſing one funeral ſtrain before his death; and having obtained leave, he ſtood upon the prow with his inſtrument in his hand, chanted with a loud voice his ſweeteſt elegy, and then threw himſelf into the ſea. A dolphin, as the fable ſays, charmed with his muſic, ſwam to him while floating on the waves, bore him on his back, and carried him ſafely to Cape Tænarus, in Sparta, whence he returned to his patron Periander. The ſailors, imagining that he was dead, and confiding in their own ſecurity, arrived at Corinth; and confounded by his appearance againſt them, paid the penalty of their evil purpoſe with their lives. Such is the ſtory which antiquity has preſerved; and the fable, whatever might be its origin, ſufficiently atteſts his reputation as a muſician. His life has been recorded by Herodotus, and alſo by Solinus, Plutarch, Aulus Gellius, and others. Nouv. Dict. Hiſtor.

Arion, in *Entomology*, a ſpecies of Papilio *(Pleb. rur.)* that inhabits Europe. The wings are without tails; above brown, diſk blue, with black ſpots; beneath grey, with ocellated dots. Fabricius, Donov. &c. The male has a ſingle black ſpot on the anterior wings, and a row of marginal ſpots on the poſterior ones; the female has about ſix black ſpots on the diſk of the anterior pair.

ARJONA, in *Geography*, a ſmall town of Spain, in Andaluſia, on the river Frio, between Jaen and Andujar.

ARIOSO, in *Muſic*, an adjective uſed adverbially, implies, according to Rouſſeau, a kind of melody bordering on the majeſtic ſtyle of a capital air.

ARIOSTI, Attilio, in *Biography*, a native of Bologna, was deſigned for the prieſthood, but devoted himſelf to the profeſſion of muſic, and became an eminent muſical compoſer and performer. He exerciſed this profeſſion at Bologna and Venice, and alſo in Germany, where in 1700 he compoſed a Ballet, and an Opera called "Attis," for the electoral princeſs of Brandenburg, to whom he was appointed "Maeſtro di capella." Having continued for ſome years in Italy and Germany, and diſtinguiſhed himſelf by his compoſition of operas and other pieces, and alſo by his performances on the violoncello, and viol d'amore, an inſtrument either invented or much improved by himſelf; he came to England in 1716, and played on his new inſtrument, the firſt of the kind heard in this country. When the Royal Academy of Muſic was eſtabliſhed in 1720, he was employed to compoſe ſeveral operas; and he formed one of the celebrated muſical triumvirate of the time with Handel and Bononcini; but both Attilio and Bononcini were obliged to give way to the ſuperior genius of Handel. The former, without much invention, is ſaid to have been a perfect harmoniſt, and to have treaſured up much good muſic in his head. By way of relieving his neceſſities, he publiſhed a book of cantatas by ſubſcription, and left England; after which his hiſtory is not known. Burney's Hiſt. Muſic, vol. iv.

ARIOSTO, Ludovico, a celebrated Italian poet, was born in 1474, at the caſtle of Reggio in Lombardy, and deſcended of a family allied to the dukes of Ferrara. At an early age he manifeſted his poetical genius by a drama on the ſubject of Pyramus and Thiſbe, which was acted by his brothers and ſiſters; and though his father for ſome time endeavoured to prevail with him to ſtudy the law, which he ſeems to have reluctantly proſecuted for ſome years without making any great progreſs, he was at length allowed to indulge his own inclination. At his father's death, when he was 24 years of age, he found himſelf in embarraſſed circumſtances, and was almoſt induced to abandon his favourite ſtudies. But being invited to the court of Alphonſo duke of Ferrara, he became the particular favourite of the duke's brother, the cardinal Hippolito of Eſte, and maintained his attachment to him, with ſome occaſional interruption, as long as he lived. Having recovered and much improved his early knowledge of the Latin language, Cardinal Bembo wiſhed him to employ it in his compoſitions rather than the Italian; but Arioſto declined it, alleging, "that he preferred being the firſt of Italian writers, to being the ſecond or third among the Latin ones;" and alſo adding, "that his genius was moſt inclined to the former." After the death of Hippolito, he was patronized by his brother Alphonſo, who was much delighted with his converſation, and enabled by his bounty to build a

ſmall

ſmall houſe at Ferrara, where he employed himſelf in thoſe ſtudies and compoſitions which made his name immortal. This retirement, in which he lived with the plainneſs and ſimplicity of a philoſopher, and where he enjoyed eaſe and liberty, he preferred to any other ſituation which he might have obtained under the offered favour of Pope Leo X. and ſeveral diſtinguiſhed princes and cardinals. When he was aſked why he had not built his houſe in a more magnificent manner, and more ſuitable to the noble deſcriptions which he had given of ſumptuous palaces, beautiful porticos, and pleaſant fountains, in his Orlando Furioſo, he replied, "that words were combined together with leſs expence than ſtones." Upon his door he inſcribed the following verſe:

"Parva, ſed apta mihi, ſed nulli obnoxia, ſed non
Sordida, parta meo ſed tamen ære domus."

Thus tranſlated by Sir John Harrington in his "Life of Arioſto," p. 420:

"This houſe is ſmall, but fit for me, but hurtful unto none,
But yet not ſluttiſh, as you ſee, yet paid for with mine owne."

Arioſto was ſo attached to a plain and frugal mode of life, that he ſays of himſelf in one of his poems, "that he was a fit perſon to have lived in the world when acorns were the food of mankind." But, though he was fond of retirement, he enjoyed the friendſhip of the moſt eminent men of learning of his time, who highly eſteemed him, and whom he mentions with great reſpect in the laſt canto of his "Orlando Furioſo." However, he was chiefly attached by obligation and friendſhip to the houſe of Eſte; and the adulation he beſtows upon it in ſeveral parts of his works would have ſubjected him to the charge of inſincerity and ſervility, if it had not been ſanctioned by the general practice of his age and nation. For the glory of his country he was ardently ſolicitous; and he often laments the injury and diſgrace which Italy ſuffered under the dominion of foreigners. In his general behaviour he was affable and condeſcending; and, on particular occaſions, he manifeſted a becoming degree of ſpirit and reſolution, even when he thought himſelf ill-treated by perſons of the higheſt rank. His charity and integrity are ſaid to have been exemplary: to his mother he was ſingularly dutiful and affectionate; and ſhewed her the greateſt reſpect in her old age. The writers of his life record ſeveral inſtances of his attachment to the fair ſex; and it is ſaid, that he was privately married to his miſtreſs Aleſſandra, by whom he had two illegitimate ſons; but that he did not acknowledge her as his wife, for fear of loſing ſome eccleſiaſtical benefices which were incompatible with a married ſtate. His conſtitution was delicate and infirm; and, notwithſtanding his temperance and general abſtemiouſneſs, his health was often interrupted. He bore his laſt ſickneſs with uncommon reſolution and ſerenity; affirming, "that he was willing to die on many accounts, and particularly becauſe he found that the greateſt divines were of opinion that we ſhall know one another in the other world;" and he obſerved to thoſe who were with him, "that many of his friends were departed, whom he deſired to viſit, and that he thought every moment tedious till he gained that happineſs." He died at Ferrara, on the 6th of July 1534, according to Sanſovino; and on the 8th of July 1533, according to Sir John Harrington; at the age of 59 years; and he was interred with ſingular tokens of reſpect in the church of the Benedictine monks, who, contrary to their cuſtom, attended his funeral. An epitaph, written by himſelf, was inſcribed upon his tomb. His death was regretted by all who knew him, and particularly by the men of letters, who honoured his memory in Latin and Italian poems. Sir John Harrington cloſes his account of him in theſe words: "his learning, his good behaviour, his honeſty, made him both beloved of all good men in his life, and bewailed of all honeſt men in his death; ſo as methinks, reading over his life, I could find in my heart to wiſh (ſaving for ſome very few things),

"Sic mihi contingat vivere, ſicque mori."

The works of Arioſto, who, as Dryden ſays, with all his faults, muſt be acknowledged a great poet, are ſatires, comedies, ſonnets, ſongs, ſmall pieces of poetry, and his great heroic poem, called "Orlando Furioſo," on the compoſition of which he beſtowed his principal attention, and which manifeſts the diſtinguiſhing exertion of his poetical powers. The author began this poem when he was about 30 years of age; and whilſt he was engaged in the compoſition of it, he roſe ſometimes at one or two o'clock in the morning, both at home and abroad, and continued to write as long as he found himſelf properly diſpoſed. The poem itſelf was ſingularly popular at its firſt publication, even among the loweſt claſs; and inſpired a very extraordinary degree of enthuſiaſm. Such were the reputation and authority which Arioſto acquired by it, that he commanded reſpect among the moſt licentious and abandoned. To this purpoſe it is related, that when he was governor of a province in the Apennines, which was overrun with ſmugglers and banditti, his influence was ſufficient to preſerve for ſome time the tranquillity of the diſtrict over which he preſided. Once, however, as he wandered in a fit of reverie to ſome diſtance from the fortreſs which he inhabited, he was ſurpriſed by a party of free-booters, to one of whom he was known as the author of "Orlando:" as ſoon as this information was communicated to the reſt, they fell at his feet, conducted him to the caſtle; and, at parting, told him that they reſpected him as governor on account of his character as poet. To ſuch a degree was Arioſto himſelf charmed with his own verſe, and ſo much did he alſo excel in his manner of reading, that he was always diſguſted if he heard his own writings repeated with an ill grace and accent. Accordingly, it is ſaid, that, when he accidentally heard a potter ſinging a ſtanza of his "Orlando" in an incorrect and ungraceful manner, he was ſo incenſed, that he ruſhed into his ſhop and broke ſeveral of the pots which were expoſed to ſale; when the potter expoſtulated with him for this unprovoked injury, Arioſto replied, "I indeed have broken half a dozen of your pots, which are not worth ſo many half-pence; and you have ſpoiled a ſtanza of mine, which is worth a conſiderable ſum of gold." A ſimilar tale has been told by Plutarch of Philoxenus, and applied alſo to Camoëns. The "Orlando Furioſo," after ten years labour, was publiſhed at Ferrara *in* forty cantos, in 1516; and the author gave it complete, in forty-ſix cantos, in 1532. This poem has been very differently appreciated by different writers, from the time of its firſt publication to the preſent day. Whilſt ſome have unduly extolled it, others have degraded it below its juſt rank. A French writer prefers it to the Odyſſey of Homer, and Sir John Harrington compares it with the Æneid of Virgil; and in anſwer to the objection, that Arioſto wants art, and recedes from the example of Homer and the precepts of Ariſtotle, he obſerves, that what was proper in Homer at the time when he wrote, would now appear otherwiſe from the different circumſtances of the age, and that with regard to the rules of Ariſtotle, he followed them very ſtrictly. Some have preferred Arioſto to Taſſo; whilſt others have regarded the latter as much ſuperior to the former, and have adopted the common ſaying, that "Arioſto's

tomb was in Taſſo." The "Orlando Furioſo," ſays a biographer of approved judgment and taſte (ſee Aikin's Gen. Biog.) "is a tiſſue of adventures in love and arms, ſlightly, and often not at all, connected by reference to the principal hero, and formed upon the fictitious manners of chivalry, with all its accompaniments of enchantments, transformations, and ſupernatural events of every kind, and not without a mixture of moral allegory: it has its tragic and comic ſcenes, its ſerious and burleſque; and the tranſitions from the one to the other are often immediate: thus, as a whole, nothing can be more wild, incongruous, and abſurd; and it might be thought proſtituting the dignity of epic poetry to beſtow the name on his performance, or to put it in parallel with any of the great works of that claſs. Yet the inexhauſtible invention, the boundleſs variety, the wonderful facility, and the profuſion of real poetical beauties of the moſt different kind, have ever rendered it a moſt attractive piece; and as far as the ends of poetry are to excite admiration or pleaſure, it certainly has attained them. Many even of the moſt cultivated critics are inclined to prefer its wild charms to the more regular and ſtudied beauties of Taſſo; and perhaps, in general opinion, it ſtill ſtands as the firſt ſpecimen of Italian heroic poetry. It is not free from the licentiouſneſs of its age, and has ſome ſingular ſtrokes of ridicule upon topics thought ſacred. But by much the greater part can offend the delicacy of taſte only, and not that of morals." Editions of this work have been numberleſs, and in various countries; and tranſlations, and imitations, of part or the whole, in different languages, have been very frequent. Mr. Hoole's tranſlation in Engliſh verſe is much eſteemed. Gen. Dict. Nouv. Dict. Hiſtor.

ARIPO, in *Geography*, a fort in Aſia, on the weſtern ſide of the iſland of Ceylon, at the mouth of the river Ceronda.

ARIS, a town of Poliſh Pruſſia, 74 miles ſouth-ſouth-eaſt of Koniſberg.

Aris, in *Ancient Geography*, a river of Greece, in Meſſenia, on the banks of which was built the city Thuria. Pauſanias.

ARISABIUM, a town of India, on the other ſide of the Ganges. Ptolemy. Some have thought that this is the modern Ava.

ARISARUM, in *Botany*. See Ambrosinia and Arum.

ARISBA, in *Ancient Geography*, a town of Aſia Minor, in the Troade, founded, ſays Steph. Byz., by the Mitylenians, but according to Photius, by the Mileſians. It was a little ſouth-eaſt of Abydos; the Trojans took it before the ruin of their city, and preſerved it as an ally. Alexander's army, after paſſing the Helleſpont, encamped near this city, when he went to viſit the ruins of Troy. This city ſtruck imperial Greek medals in honour of Trajan.—Alſo, a town of the iſland of Leſbos, ruined by an earthquake, according to Pliny.—Alſo, a town of Greece in Bœotia.

ARISBUS, a river of Thrace which ran into the Hebrus. Strabo.

ARISCH, Abu, in *Geography*, a principality of Arabia, is properly a part of Tehama, and ſtretching along the Arabian gulf northward from Loheja, for the ſpace of two degrees: like the reſt of Tehama, it is every where dry and barren, except in parts that are watered by the rivers from the mountainous regions of Yemen. The remarkable places in this principality are the capital, known by the ſame name, which is encompaſſed with walls, and is the ſeat of the ſheriff, twenty leagues north of Loheja, in N. lat. 16° 45′. and E. long. 42° 15′.; and the ſea-port town of Gezan, a day's journey from Abu Ariſch.

ARISE, Licence to, in *Law*. See Licence.

ARISH, El, in *Geography*, a town of Egypt, near a gulf of the Mediterranean to which it gives name, in the road from Catieh to Gaza, 42 miles eaſt-north-eaſt of Catieh, and 115 miles north-eaſt of Suez. The town is ſituated three leagues from the ſea, in a ſandy country; and it is the laſt place where water, which can be drank, is to be found, until you arrive at Salahia.

Arish, a Perſian long meaſure, containing 3197 Engliſh feet. Arbuth. Tab. 32.

The Perſian *ariſh*, according to Mr. Greaves, is a long meaſure equal to $38\frac{384}{1000}$ Engliſh inches.

ARISI, *rice*, an Indian word, which does not properly ſignify the plant which produces the rice, but the ſeed itſelf when cleanſed from its huſk, and rendered fit for uſe. The Indians call it ariſi in that ſtate; but in the huſk, and upon the plant, they call it nellon.

ARISTA, in *Aſtronomy*, the ſame as Spica virginis.

Arista, in *Botany*, a long needle-like beard, that grows out from the huſk of corn, or graſs; called alſo the *awn*.

Arista, in *Ichthyology*. See Atherina.

ARISTÆNETES, in *Biography*, a Greek pagan writer of the fourth century, was the friend of Libanius the rhetorician, and mentioned with reſpect by Ammianus Marcellinus. He periſhed in an earthquake that happened at Nicomedia in the year 358; and left two books of amatory epiſtles, written with terſeneſs, elegance, and tenderneſs, and containing quotations from Plato, Lucian, Philoſtratus, and others. An edition of theſe epiſtles, with notes, was publiſhed by Mercer, at Paris, in 1595, 8vo. and reprinted in 1600 and 1610. Fabr. Bib. Græc. l. ii. § 10. t. i. p. 432.

ARISTÆUM, in *Ancient Geography*, a town of Thrace, built on the ſummit of mount Hæmus, mentioned by Pliny, and Diodorus Siculus.

ARISTÆUS, in *Mythology*, the ſon of Apollo and the nymph Cyrene. He is ſaid to have communicated to mankind the art of curdling milk, of managing bees and forming hives, and of cultivating olives. At Thebes, he married Autonoé the daughter of Cadmus, by whom he had a ſon, the unfortunate Actæon, and a daughter named Macris. After the death of his ſon, he removed to the iſland of Cea, where he reſtrained the progreſs of a deſtructive plague, and erected an altar to Jupiter, and offered ſacrifices both to him and to Canicula, or the dog-ſtar; by whoſe favour, the Eteſian winds were cauſed to blow, and to mitigate the heat that had been ſo fatal; and from this time, it is ſaid, theſe winds have been regular every year for forty days. From Cea, he paſſed over to Sardinia, which he eſtabliſhed, cultivated, and peopled; and thence he proceeded to Sicily, and imparted his ſecrets to the inhabitants of that iſland. One of his principal ſtations was Arcadia, whither, according to Pindar, he removed from the iſland of Cea; and in Arcadia he taught the inhabitants the method of ſtocking their hives with bees; and hence Virgil (Georg. l. iv. v. 283.), gives him the name of *Arcadius*. He afterwards went to Thrace, where Bacchus admitted him to the myſteries of the Orgies, and imparted to him a variety of important and uſeful diſcoveries. This fabled benefactor of mankind lived for ſome time near mount Hæmus, and then diſappeared. His numerous ſervices were recompenſed both by Greeks and Barbarians, with divine honours; and the gods are ſaid to have placed him among the ſtars, ſo that he became the Aquarius of the zodiac. He was ſometimes called Agreus or Nomius. Huetius has curiouſly diſcuſſed the reſemblance of the fable of Ariſtæus, to the true hiſtory of Moſes. Gen. Dict.

Aristæus,

Aristæus, in *Biography*, was alſo an eminent Geometrician, of Crotonia, who lived before Euclid, 330 B. C. Pappus (Mathem. Collect. in proœm. lib. vii.) ſpeaks of him as a writer on conics, reſpected by Euclid. This Ariſtæus was a diſciple of Pythagoras, and ſucceeded him in the care of his ſchool after his death, and continued to teach his doctrine for thirty-nine years. Fabr. Bib. Græc. v. i. p. 496.

ARISTANDER, a famous ſoothſayer, was a native of Telmeſſus, a city of Aſia, whoſe inhabitants were ſaid to be naturally endowed with the gift of divination. He was firſt employed in the court of Philip of Macedon, and when this monarch dreamed that the queen's womb was cloſed with a ſeal, on which was engraved the figure of a lion, he interpreted it as ſignifying, that the ſon of whom ſhe was pregnant would have the heart of a lion. He accompanied Alexander in his Perſian expedition, and in order to anſwer the purpoſes of policy or ſuperſtition, he performed ſeveral myſterious rites before the famous battle of Arbela. On this, and alſo on ſeveral other occaſions, he predicted victory, and perhaps contributed to obtain it; it is ſaid, that by the ſucceſs of his art, he gained a very conſiderable degree of influence not only over the credulity of Alexander's ſoldiers, but over the mind of Alexander himſelf. Q. Curtius, l. iv. c. 2, 6, 13, 15. l. v. c. 4. l. vii. c. 7. l. ix. c. 4. Plut. in Alex. Oper. t. i. p. 684. Arrian. l. i. c. 8. Gen. Dict.

ARISTARCHUS, a celebrated Greek aſtronomer and philoſopher, was born at Samos, and flouriſhed about the middle of the third century before Chriſt. There has been a conſiderable difference of opinion about the preciſe time of Ariſtarchus; according to Blair's tables, he died at the age of eighty-one, in the firſt year of the 125th olympiad, or 280 years before Chriſt. Playfair, with Plutarch, who makes him contemporary with Cleanthes the ſucceſſor of Zeno, refers him to the 129th olympiad, or 264 years before Chriſt. But the time in which he flouriſhed may be more ſatisfactorily aſcertained by the teſtimony of Ptolemy; who informs us, that he made an obſervation of the ſolſtice in the fiftieth year of the firſt period of Calippus; and ſuppoſing with Blair, this period to commence in the year of Darius's death, or the 330th before Chriſt, the fiftieth year muſt have been the 280th before Chriſt. Ariſtarchus is well known to have maintained the modern opinion with regard to the motion of the earth round the ſun, and its revolution about its own center or axis. To this purpoſe Archimedes ſays in his "Arenarius," (apud Opera, p. 449. ed. Rivalti.) that "Ariſtarchus the Samian laid down a certain hypotheſis, from which it follows, that the world is much larger than we have ſtated; for he ſuppoſes that the fixed ſtars and the ſun are immoveable, and that the earth is carried round the ſun in the circumference of a circle." The editor remarks, that in this paſſage Archimedes ſeems to intimate that Ariſtarchus was the firſt author of this opinion. Sextus Empiricus alſo (Adv. Mathem. p. 410.), in ſpeaking of the hypotheſis of the earth's motion, plainly inſinuates that Ariſtarchus had been the firſt diſcoverer of it. Plutarch (Queſt. Plat. apud oper. t. ii. p. 1006.) obſerves, that this opinion was taught hypothetically by Ariſtarchus, and dogmatically by Seleucus. There is alſo a paſſage of Plutarch (De facie in orbe lunæ. Opera, t. ii. p. 933.), which, with the correction propoſed by Gaſſendus, and adopted by Menage, Fabricius, and Bayle, affords another deciſive teſtimony to prove, that the opinion of the motion of the earth was held by Ariſtarchus. "Bring not an accuſation againſt us, as Cleanthes thought the Greeks ought to have done againſt Ariſtarchus the Samian, as a diſturber of the foundation of the world, becauſe he endeavoured to explain the celeſtial appearances on the ſuppoſition that the heavens ſtand ſtill, and that the earth is carried in an oblique orbit, and at the ſame time revolves about its own axis." Ariſtarchus alſo taught, that the annual orbit of the earth is but merely as a point, compared with the diſtance of the fixed ſtars. His method of determining the diſtance of the ſun from the earth, was by means of the dichotomy of the moon (ſee Dichotomy); and in this way he concluded, that it contained at leaſt eighteen or twenty times that of the moon from the earth. He alſo found by methods, the detail of which would be too tedious, that the diameter of the moon bears a greater proportion to that of the earth than that of 43 to 108, but leſs than that of 19 to 60, ſo that the diameter of the moon, according to his ſtatement, ſhould be ſomewhat leſs than a third part of that of the earth. He alſo eſtimated the apparent diameter of the ſun at the 720th part of the zodiac. Beſides his aſtronomical diſcoveries, Ariſtarchus invented a peculiar kind of ſun dial, mentioned by Vitruvius, l. ix. c. 9. The only work of this ancient aſtronomer now extant is a treatiſe "On the magnitudes and diſtances of the ſun and moon;" firſt publiſhed by Vallus, at Venice, fol. in 1498; afterwards by Wallis, with his own notes, and Commandine's verſion, at Oxford, in 1683, 8vo.; and again in Wallis's works, vol. iii. A fragment of this work is introduced by Pappus in his "Coll. Mathem. l. vi. prop. 48. p. 135. Another work "On the mundane ſyſtem," has been aſcribed to him, but it is generally underſtood to be a ſpurious work, written by Roberval. Gen. Dict. Montucla. Hiſt. Mathem. tom. i. p. 218. Fabr. Bib. Græc. l. iii. c. 5. § 14. t. 2. p. 89.

Aristarchus, a Greek grammarian, was a native of Samothrace, reſided chiefly at Alexandria under Ptolemy Philometor, who intruſted him with the education of his ſon; and died in the firſt year of the 156th olympiad, or the 156th year before Chriſt. To Ariſtarchus the ancient commentators upon Homer attribute the diviſion of the Iliad and Odyſſey into books, according to the order and number of the Greek letters. He was a rigid critic, and exerciſed his talents in this way upon Homer, Pindar, Aratus, and other poets. Eraſmus (Adag.) ſays, that it was his practice, in reviſing Homer, to mark thoſe verſes which he thought unworthy of him with an obeliſk, and to condemn them as ſpurious, and to diſtinguiſh thoſe which he thought particularly excellent with an aſteriſk. Cicero alludes to this practice in two familiar epiſtles, viz. Ad. Fam. lib. iii. ep. 11. lib. ix. ep. 10. Oper. t. vii. p. 95. p. 290. ed. Olivet. Cicero in his oration againſt Piſo, (Oper. t. vi. p. 213.) uſes the name of Ariſtarchus proverbially for a ſevere critic, when he tells Piſo, that he is not an Ariſtarchus to affix a mark to a bad verſe, but a Phalaris to aſſault the perſon of the poet. Thus alſo when he requeſts his friend Atticus to examine his orations with ſtrictneſs, he calls him his Ariſtarchus, (Ep. ad Att. l. i. ep. 14. t. viii. p. 61.). Horace alſo ſuggeſts the ſame idea in his Ars Poetica, v. 445, &c.

"Vir bonus et prudens verſus reprehendet inertes,
Culpabit duros, incomptis allinet atrum
Tranſverſo calamo ſignum: ambitioſa recidet
Ornamenta; parum claris lucem dare coget:
Arguet ambiguè dictum? mutanda notabit:
Fiet Ariſtarchus: nec dicet, cur ego amicum
Offendam in nugis?

"A friendly critic, when dull lines move ſlow
Or harſhly rude, will his reſentment ſhow;
Will mark the blotted pages, and efface
What is not poliſh'd to its higheſt grace;
Will prune th' ambitious ornaments away,
And teach you on th' obſcure to pour the day:

Will

Will mark the doubtful phraſe with hand ſevere,
Like Ariſtarchus, *rig'rous* and ſincere:
Nor ſay, For trifles why ſhould I diſpleaſe
The man I love?"

Ariſtarchus was of a contentious temper, and had frequent diſputes, at Pergamus, with Crates the grammarian. In the decline of life he was dropſical, and ſought a remedy by ſtarving himſelf to death, which happened in the iſle of Cyprus. His ſchool of grammarians and critics ſubſiſted at Alexandria for ſeveral ages after his time, and produced no leſs than forty grammarians. Suidas ſays, that he wrote 800 books of commentaries; and therefore the apology which he is ſaid to have made for not writing, was not very proper: "I cannot write what I would, and I will not write what I can." Suidas. Gen. Dict. The name of Ariſtarchus has given title to ſeveral books.

ARISTARCHUS, a diſciple and companion of the apoſtle Paul, accompanied him to Epheſus, and here his life was in danger, and followed him in his ſubſequent travels. He was originally a Jew of Theſſalonica. Acts xix. Col. iv. 10. Philem. 24.

ARISTEA, in *Botany*, Schreb. 1712. Aiton, Kew. 3. p. 506. Claſs, *triandria monogynia*. Nat. Ord. *Enſatæ—Irides*, Juſſ. Gen. Car. *Cal.* ſpathes bivalve; *Cor.* petals ſix roundiſh, ſpreading nearly equal. *Stam.* filaments three, ſhorter than the petals, filiform; anthers oblong. *Piſt.* germ inferior, triangular; ſtyle filiform, longer than the ſtamens, declinate; ſtigma funnel-form, gaping, fimbriated, ſomewhat triangular. *Per.* capſule oblong, three-cornered, three-celled, three-valved. *Seeds* very many.

Eſſ. Gen. Char. Pet. ſix; ſtyle declinate; ſtigma funnel-form, gaping; capſ. inferior, with many ſeeds.

Species, 1. A. *cyanea*, graſs-leaved Ariſtea. Curt. Bot. Mag. 458. *Ixia africana*, Lin. Spec. Plant. p. 51. Miller, &c. *Moræa africana*, Murr. Syſt. Veg. This is a ſmall fibrous rooted plant, riſing to ſix or eight inches in height; leaves graſs-ſhaped, two or three inches long, bent inwards, forming a tuft at the root; flowers blue, with a white eye. A native of the Cape of Good Hope, whence it was introduced into the Kew garden by Mr. Maſſon, in 1774.

ARISTEAS, in *Biography*, a pagan officer under Ptolemy Philadelphus, king of Egypt, about two hundred and fifty years before Chriſt. To this perſon is aſcribed a Greek work, ſtill extant, entitled "An hiſtory of the interpreters of ſcripture," or of that Greek tranſlation of the Hebrew ſcripture which we call the Septuagint. The account which Ariſteas gives is briefly as follows. Whilſt Demetrius Phalereus, a noble Athenian, was employed by order of Ptolemy Philadelphus, in collecting books from all nations for the royal library at Alexandria, he was inſtructed to procure a copy of the ſacred books of the Jews, and to engage proper perſons from Jeruſalem to tranſlate them into Greek. As the king wiſhed for information what was proper to be previouſly done towards facilitating the accompliſhment of his object, Ariſteas, (the pretended author of the hiſtory of the ſeventy-two interpreters.) Soſibeus of Tarentum, and Andreas, three noblemen of the king's court, favourably inclined towards the Jews, recommended the releaſe of the Jewiſh captives who were detained in Egypt, and whoſe whole number amounted to 198,000, before any meſſage was diſpatched to Jeruſalem. Accordingly, a degree was iſſued for their releaſe; and twenty drachmas each were paid out of the treaſury for this purpoſe, ſo that the whole ſum devoted to their redemption was not leſs than 662 talents. When this was done, Demetrius propoſed that a letter ſhould be written to Eleazar, the high-prieſt at Jeruſalem, requeſting him to ſend from thence a true copy of the Hebrew original of the ſacred books, and with it ſix perſons out of each of the twelve tribes of Iſrael, to tranſlate it into the Greek language. The bearers of this meſſage were Ariſteas and Andreas, who carried with them, as royal preſents, ſeveral gifts for the temple, in money for ſacrifices and other uſes of the ſanctuary, 100 talents; in utenſils of ſilver, ſeventy talents; and in thoſe of gold, fifty talents; and of precious ſtones, as ornaments to the utenſils, five times the value of the gold. Upon their arrival at Jeruſalem, they were received by the high-prieſt, and by the Jews, with great reſpect, and their requeſt was immediately granted. Having received from the high-prieſt a true copy of the law of Moſes, written in golden letters, and ſix elders out of every tribe, i. e. ſeventy-two in all, they returned to Alexandria. The ſeventy-two elders being introduced to the king, they were tried by ſeventy-two queſtions, propoſed to them, to each one in their order; and as their anſwers were ſatisfactory, the king gave to each of them three talents, and ſent them into the iſland of Pharos adjoining to Alexandria, in order to perform the work aſſigned them. In the courſe of ſeventy-two days they completed their buſineſs, and as they agreed in the verſion of each period by common conference together, Demetrius wrote it down; and when the whole had been read and approved in the king's preſence, each of the tranſlators received another preſent of three rich garments, two talents in gold, and a cup of gold of the weight of a talent; and they were all ſent home into their own country. Such is the account of Ariſteas, which he addreſſed in form of a letter to his brother Philocrates. A Latin verſion of this hiſtory by Palmerius was prefixed to the Latin edition of the Bible, printed at Rome in 1471. It was alſo printed in Greek at Baſil, in 1561, 8vo and as an appendix to the edition of Joſephus, at Cologne, in 1691, with notes by Fabricius; and another edition was publiſhed at Oxford, in 1692, 8vo. It is univerſally allowed even by thoſe who diſpute the genuineneſs of this hiſtory, that it is ancient; becauſe it agrees with the accounts of the Septuagint, given by Joſephus and Euſebius, which appear to have been borrowed from Ariſteas: and ſome modern writers have concurred with theſe and other ancient writers in admitting the truth of the narrative. But thoſe who have taken great pains in examining this ſubject, have produced a conviction that now pretty generally obtains, that the tradition relating to the appointment of ſeventy-two interpreters by Ptolemy Philadelphus, for the purpoſe of tranſlating the Hebrew ſcriptures into Greek, is entitled to no credit; and that the ſtory was invented by the Jews of Alexandria, in order to give importance and authority to the tranſlation, which they had been under a neceſſity of making, after Greek had become their common language. The work aſcribed to Ariſteas, a pagan officer in the court of Ptolemy, was probably written by ſome Helleniſt Jew at Alexandria, not leſs than 200 years after the reign of Ptolemy Philadelphus; in proof of which it is alleged, that Alexander Polyhiſtor, who wrote about that time, mentions a hiſtory of the Jews by Ariſteas. Hody (Bibl. Text. Orig. Oxon. 1705. fol.), Van Dale (Diſſert. ſupr. Ariſt. de Septuag. Amſt. 1704, 4to.), F. Simon (Crit. Hiſt. Vet. Teſt. l. ii. c. 2.), Dupin (Proleg. ad Bibl. l. i. c. 6. § 2, 3.), and Prideaux (Conn. p. ii. b. 1. vol. iii. p. 49.) Archbiſhop Uſher (Syntagma de Septuag. Interpret. verſ.), Morinus (Exercit. Biblicæ), Walton (Prolegomena to the Polyglot Bible, c. 9.), Voſſius (de LXX. Interpret.), and many others, concur in rejecting the hiſtory of Ariſteas, as a fiction; and they have urged a variety

of objections, that ſeem to be unanſwerable, againſt its authenticity. Although there was in the reign of Ptolemy Philadelphus a Greek tranſlation, the narrative of Ariſteas was written at a time when the Jews were much given to religious romances; and whilſt the author pretends to be a heathen Greek, he every where ſpeaks as a Jew. He makes Ptolemy advance an incredible ſum for redeeming captives and obtaining this verſion; a ſum which Prideaux eſtimates at nearly two millions ſterling, which may be reckoned above twenty times as much as the whole library was worth. Beſides, the queſtions propoſed to the ſeventy-two interpreters, and their extemporary anſwers, carry very much the air of a fiction. The repreſentation of ſeventy-two elders being ſent from Jeruſalem to Alexandria, and ſix being choſen out of every tribe, has the appearance of a Jewiſh fiction, as it concerns the Jewiſh ſanhedrim, and the twelve tribes, of which a heathen Greek muſt probably have been ignorant. Beſides, this is ſaid to have been tranſacted by Demetrius Phalereus, who was baniſhed, or poiſoned, or dead, at the time when this verſion was made. Nor is it probable that ſix elders of every tribe in Paleſtine could have been found ſo well ſkilled in both languages as to make an exact verſion from the Hebrew into the Greek. Moreover, why ſhould ſeventy-two be ſent, when ſeven would have been ſufficient for the work, and ſuch a number might have been more eaſily obtained. Gen. Dict. Fabr. Bibl. Græc. lib. iii. c. 12. § 2. t. ii. p. 317.

ARIST'ELLA, in *Botany*. See STIPA.

ARISTERA, in *Ancient Geography*, an iſland ſouth-eaſt of the peninſula of Argolis.

ARISTERIA, a town of Syria, in the Cyrrheſtic territory. Ptolemy.

ARISTIDA, in *Botany*, an exotic graſs (from *ariſta*, an awn or beard). Lin. g. 94. Schreb. 125. Claſs, *triandria digynia*. Nat. Order, *Gramineæ*. Gen. Char. *Cal.* glume one-flowered, bivalve; valves linear-ſubulate, membranaceous, unequal. *Cor.* glume bivalve, thicker than the calyx; outer valve linear, converging longitudinally, hirſute at the baſe, terminated by three awns ſubequal, patulous; inner valve lanceolate, ſharp, very ſhort, wrapped within the outer valve; nectary, two-leaved; leaflets, lanceolate, obtuſe. *Stam.* filaments capillary; anthers oblong. *Piſt.* germ turbinate; ſtyles capillary; ſtigmas villoſe. *Per.* none; glume converging, involving, gaping. *Seed*, one, filiform, the length of the corolla, naked.

Species, 1. A. *adſcenſionis*. Browne, jam. 135, 1. "Panicle branching, ſpike ſcattered, corollas one-valved;" culms in tufts, one or two feet high, decumbent, jointed, ſimple; branches of the panicle preſſed cloſe, ſubdivided, upright; florets on ſhort pedicles, narrow, brown; awn three-parted at the baſe; anthers dark purple. This ſpecies, according to Linnæus, has the habit of the *feſtuca ovina*. It is a native of the iſle of Aſcenſion, and of Jamaica, where it is called the bearded graſs. 2. A. *americana*. Swartz. obſ. 41. t. 2. f. 2. Browne, jam. 135. f. 2. "Panicle ſimple, corollas two-valved, one with dorſal, the other with terminating awns;" culm half a foot high, jointed, ſubdivided; leaves linear, ſtiff, even; panicle with ſimple alternate ſpreading branches; florets moſtly pointing one way, approximated; rachis compreſſed, ſomewhat flexuoſe. Dr. Browne calls this the ſmaller bearded graſs, a native of Jamaica. 3. A. *plumoſa*, "panicled, the middle awn longeſt and woolly, culms villoſe." The woolly horns give this ſpecies the appearance of *ſtipa pennata*, but the panicle is more compound, all the parts ſmaller, and the culm villoſe; the awn is alſo naked towards the baſe, where it has two briſtles or little awns, which are oppoſite, ſhort, ſpreading. We are informed by Linnæus, that this ſpecies was found in America, by Schreber. 4. A. *arundinacea*, "panicled, corollas two-valved, middle awn longer, ſmooth;" culms four feet high; leaves rolled inwards, narrow, even, ſtriated; panicle oblong, hoary; outer valve of the corolla awned at the tip; awn length of the flower, naked, and at its baſe, a minute awn ſcarcely viſible. Found in the Eaſt Indies, by Koenig. 5. A. *gigantea*, "panicle elongated, looſe, one-ranked; calyces one-flowered; awns of the corolla ſubequal, ſtraight;" culm lofty, branched, ſmooth; panicles about eight inches long, terminal; calyx very ſmooth, unequal, bluiſh; corolla ſmooth, with equal ſhort awns, almoſt naked. Found on the iſland of Teneriffe, by Maſſon. 6. A. *hyſtrix*. Pluk. Alm. 191. f. 3. "Panicle divaricated, very ſpreading; flowers ſimple, ſmooth, awns ſtraight, divaricated;" culm creeping, ſtoloniferous, ſmooth, very tough, leafy, ſhort; leaves convoluted; panicle terminating, large; peduncles and pedicels binate; rachis angular; flowers filiform, oblong; calyx one-flowered; valves unequal; corolla longer than the calyx, convoluted, terminated by three equal ſtraight ſpreading awns. Obſerved in Malabar by Koenig.

ARISTIDES, ſurnamed *the Juſt*, in *Biography*, the ſon of Lyſimachus, an illuſtrious Athenian, was diſtinguiſhed for valour and ability, and peculiarly eminent for juſtice, magnanimous ſelf-denial, and virtuous patriotiſm, diſregarding his own private intereſt or power, where theſe might interfere with the welfare of his country. From his early youth he manifeſted a firm and ſteady temper, and a diſdain of meanneſs and diſſimulation. In the courſe of his diligent application to ſtudy, he betimes directed his attention to the ſubjects of government. Accuſtomed to admire the laws of Lycurgus, he preferred an oligarchy to the unbounded democracy that prevailed at Athens, to which his early and perſevering antagoniſt Themiſtocles was ardently attached. Hence aroſe that competition between them, which diſplayed itſelf on various occaſions, in the progreſs of their advancement to public offices. Ariſtides engaged in the ſervice of his country from the pureſt principles of patriotiſm; and his character was held in ſuch general eſtimation, that when the following verſes of Æſchylus, deſcribing Amphiaraus, were once recited in the theatre,—

> "To be, and not to ſeem, is this man's maxim;
> His mind repoſes on its conſcious worth,
> And wants no other praiſe,"

the attention of the whole audience was directed to Ariſtides, as the perſon to whom this deſcription might with the utmoſt propriety be applied. Ariſtides and Themiſtocles were ſo much the champions of oppoſite parties in the Athenian ſtate, that their mutual competition led them to counteract one another even in meaſures that were juſt and uſeful. Ariſtides, however, could not purſue this line of conduct without ſelf-reproach; and having, on a particular occaſion, reſiſted a propoſal of Themiſtocles, which he thought right in itſelf and conducive to the public good, he exclaimed, as he came out of the aſſembly in which the meaſure had been debated, "The affairs of the Athenians will never proſper, till they throw both of us into the *barathrum*," that is, the dungeon for condemned criminals. In the office of public treaſurer, he convicted Themiſtocles and others with whom he was connected, of peculation; and thus he excited a party againſt himſelf, which accuſed him of having miſapplied the public money; and he was cleared only by the interpoſition of the court of Areopagus. When he was again inveſted with the ſame public truſt, he allowed the perſons who were concerned

cerned with him to act fraudulently without controul, but at the ſame time kept a ſecret account againſt them. His conduct was univerſally applauded, and it was the general wiſh that he might be continued in office. However, when they were proceeding to elect him, he gave them a ſevere rebuke, and told them, "that while he had ſerved them faithfully, he was the object of their diſpleaſure and calumny; but when he had violated his truſt, he was applauded, as an excellent citizen." He then expoſed the frauds, and all parties were aſhamed of their conduct.

The firſt public diſplay of his generous and patriotic character was when Darius ſent the Perſian hoſt to invade Attica. The republican equality of the Athenian democracy extending to military inſtitutions, their army was commanded by ten generals, each of whom had the ſupreme direction for one day in their reſpective turn. Ariſtides, one of the ten, perceived that a viciſſitude of command muſt interrupt unity of deſign, and prevent a regular ſyſtem and ſteady plan of military operations. The ableſt of the generals he well knew to be Miltiades; and he was aware that it was expedient for the country, in time of preſſing emergency, to be guided by its greateſt ability. The day approaching when it belonged to him to aſſume the command, he generouſly yielded his authority to the approved valour and experience of Miltiades. The other generals followed this magnanimous example, ſacrificing the dictates of private ambition to the intereſt and glory of their country; and the commander in chief thus enjoyed an opportunity of exerting, uncontrouled, the utmoſt vigour of his genius.

After the defeat of the Perſians in the famous battle of Marathon, in the year before Chriſt 490, Ariſtides was entruſted with the care of the ſpoils, which he faithfully brought to the public account, without reſerving any thing to himſelf. The following year he was archon or chief magiſtrate, and he continued to watch the welfare and intereſts of his country. Formed in ſuch ſchools of moral and political knowledge as then flouriſhed at Athens, he had learned to prefer glory to pleaſure, the intereſt of his country to his own perſonal renown, and the dictates of juſtice and humanity even to the intereſts of his country. His ambition was rather to deſerve, than to acquire, the admiration of his fellow-citizens; and while he enjoyed the inward ſatisfaction of conſcious rectitude, he was little anxious about the external rewards of ſplendid actions. Earneſt to promote beneficence, he did not court popularity, but his conduct, without ſeeking the favour of the multitude, commanded their eſteem and reſpect. His opinion gave law to the courts of juſtice, or rather ſuch was the effect of his equity and diſcernment, that he alone became ſovereign umpire in Athens. In all important differences he was choſen arbitrator; and the ordinary judges were deprived of the dignity and advantages formerly reſulting from their office. The Athenian magiſtrates were extremely diſpleaſed with an authority which had in a great degree ſuperſeded their juriſdiction. But the moſt formidable foe of Ariſtides was Themiſtocles; pre-eminent in genius that exerted itſelf in every department of public conduct, and excelling in arms, in policy, in eloquence, he ſecured a certain path to popularity. The affability of his manners, the magnificence of his entertainments, and profuſion of his gifts, confirmed among the populace the impreſſion of his talents and qualifications. Themiſtocles beheld with jealouſy the influence acquired by the ſtern integrity of Ariſtides, and being himſelf ſo much better calculated for winning the affections of the multitude, ſucceeded in rendering the upright patriot obnoxious to the people. Ariſtides truſting to the innocence and integrity of his own heart, diſdained to employ any unworthy means, either for gaining the favour, or for averting the reſentment, of the multitude. The conteſt, therefore, ended in his baniſhment for ten years, by the oſtraciſm, by which the majority of the Athenian aſſembly might expel any citizen, however inoffenſive or meritorious had been his paſt conduct, who, by his preſent power and greatneſs, ſeemed capable of diſturbing the equality of republican government. Among thoſe who voted againſt him on this occaſion, one perſon was a ruſtic citizen, who, unable to write his name on the ſhell by which his concurrence in the ſentence was ſignified, accidentally met with Ariſtides, and requeſted him to inſcribe his name. The patriot aſked him, "Did Ariſtides ever injure you?" the voter replied, "I do not ſo much as know him; but I am diſguſted with everywhere hearing him called "the Juſt." Ariſtides took the ſhell, wrote his own name upon it, and returned it to the voter. Upon his leaving Athens, he lifted his hands towards heaven, and prayed that the Athenians might never be compelled to remember Ariſtides.

While Ariſtides was in exile, Xerxes had brought to a concluſion his immenſe preparations for the invaſion of Greece. But when the Perſian armament endangered his country, he ſacrificed all reſentment to patriotiſm, joined his countrymen, who lamented his abſence and wiſhed his return, and at Salamis performed important ſervices. Some time after the victory at Salamis, in the year before Chriſt 480, to which his concurrence with Themiſtocles greatly contributed, this commander informed the Athenians that he had conceived a project of great advantage to the ſtate, but which he could not ſafely communicate to the public. The people directed him to diſcloſe it to Ariſtides The object of this ſcheme was the deſtruction of the whole confederate fleet of Greece, their own ſhips excepted, which would render Athens ſole miſtreſs of the ſea. Ariſtides reported his opinion, that the project of Themiſtocles was eminently advantageous, but that nothing could be more unjuſt; and this determined them againſt acquieſcing in it.

Mardonius having attempted to induce the Athenians to ſubmiſſion, Ariſtides, now chief annual magiſtrate, inſpirited and invigorated his gallant countrymen to perſevere in reſiſtance, and in the following ſummer commanded the Athenian troops in the battle of Platæa, which entirely diſcomfited the armament of Xerxes. When Athens was rebuilt, Ariſtides was active in promoting a popular decree, which gave to all the citizens a ſhare in the government, and enjoined that the archons ſhould be choſen out of the whole body. The virtues of Ariſtides were now celebrated throughout Greece; and the finances of the confederates were committed to his management. This important office he executed with ſuch ſkill and fidelity, as very greatly improved the public reſources. The placability of his diſpoſition was eminently diſplayed in his conduct towards his inveterate antagoniſt, Themiſtocles; for when he had incurred the diſpleaſure of the ruling party, Ariſtides declined concurrence in the capital proſecution of him; and when Themiſtocles was baniſhed, he was ſo far from triumphing on occaſion of his fall, that he ever afterwards ſpoke of him with a greater degree of reſpect. After having contributed ſo momentouſly to the good of Athens and of Greece, Ariſtides died of old age, about 467 years before Chriſt, either in Pontus, or at Athens, univerſally regretted by the affectionate admiration of his country. He, who had long managed the common treaſury of Greece, left not a ſufficient ſum to defray the expence of his funeral. His ſon Lyſimachus received a preſent of three hundred pounds from

the public, to enable him to purſue and finiſh his education. His daughters were maintained and portioned at the expence of the treaſury. Plut. in vit. Ariſt. Oper. t. 1. p. 315, &c. Anc. Un. Hiſt. vol. v. p. 214—246. Travels of Anacharſis, vol. i.

Aristides, *Ælius*, a celebrated ſophiſt, was born at Adriani or Adrianothera, a city of Myſia, in Bithynia, and flouriſhed about the year 176, under the reigns of Antoninus Pius, Aurelius, and Commodus. He was a diſciple of Polemon the rhetorician of Smyrna, of Herodes at Athens, and of Ariſtocles at Pergamus, acquired great reputation as an orator, and has left ſeveral orations, which appear to have been compoſed with peculiar attention, and abound with many excellent moral ſentiments. The ſubjects were laudatory, in praiſe of the heathen divinities, of illuſtrious men, of great cities and ſtates, &c.; gratulatory, on the reſtoration of Smyrna after an earthquake; ſuaſory, to perſuade the Athenians to aid the Spartans and Thebans, to induce the inhabitants of Smyrna to aboliſh licentious comedies, to recommend mutual harmony to the ſtates of Aſia, &c.; apologetic, in defence of Pericles, Miltiades, Cimon, and Themiſtocles, and alſo in vindication of himſelf from the charge of vanity, &c. From ſeveral of theſe orations it appears, that Ariſtides was credulous and ſuperſtitious, and rigidly devoted to the worſhip of the gods, particularly Eſculapius, to whom he conceived himſelf much indebted for hints, communicated in his dreams, and conducive to his health. In one of his orations he expreſſes his diſpleaſure againſt ſome ſophiſts, whom he compares with chriſtians, as Dr. Lardner ſuppoſes; and whom he calls the wicked or atheiſtical people of Paleſtine, becauſe they did not worſhip the eſtabliſhed deities of the Greeks and Romans. On another occaſion he undeſignedly pays a tribute of reſpect to the liberal diſpoſition of the chriſtians; for in an oration or epiſtle, written A. D. 178, congratulating the people of Smyrna upon their reſtoration after the deſtructive earthquake of 177, he celebrates not only the liberality of the emperors, but likewiſe the generous compaſſion of many others in the cities of Aſia, among whom M. Tillemont reaſonably imagines there were ſeveral chriſtians. The people of Smyrna, in gratitude for the intereſt which he took in their calamity, and re-eſtabliſhment of their city, for his pathetic repreſentation of their circumſtances which moved the compaſſion of the emperor Antoninus, and induced him to iſſue an order for reſtoring the city, honoured Ariſtides as the founder of their new city, and erected in their forum a braſs ſtatue to his memory. An inſtance of the vanity of this orator is mentioned by Philoſtratus (de vit. Sophiſt. l. 2. c. 9.); for, when Marcus Aurelius came to Smyrna, Ariſtides neglected, for three days, to pay his reſpects to the emperor. When at length he viſited him, the emperor aſked him, "How it had happened that he had ſo long delayed his viſit?" "I was employed (he replied) in a work on which my mind was ſo intenſely occupied, that I could not divert my attention from it." The emperor, pleaſed with his ingenuouſneſs and his application, requeſted Ariſtides to appoint a time when he might hear him declaim. "Let it be to morrow, if you pleaſe," ſaid the orator; "but I muſt deſire my friends to be preſent, and that they may be permitted to applaud, and clap their hands with all their might." The emperor ſmiling, told him, "that would depend upon himſelf." In the orations of Ariſtides there are many paſſages, which not only ſhew that he was a fine writer and good ſpeaker, but an advocate for what he imagined to be truth and virtue. If he ſays, he had rather be a fine ſpeaker than be Darius the ſon of Hyſtaſpes, he joins with it a ſober and virtuous life. And again, in another place, where he expreſſes his ſuperior value for learning and eloquence above all things, he ſays; "nor can he be ſo ſtupid as to deſpiſe glory if it comes to his ſhare, and ſo far as it may flow from fine ſpeaking, and a life of virtue ſuited to his diſcourſes; for he did not deſire to obtain it by other means." "A character of ſuch eminence," ſays Lardner, "muſt have been an ornament to the popular religion and its rights; and the charms of eloquence in his hymns to the gods, and in his other orations, cannot but have had powerful attractions."

Among the works of Ariſtides, are found an epiſtle "On the Cauſes of the Increaſe of the Nile," in which he ſets aſide the common explanations of this phenomenon, and aſcribes it wholly to the immediate power and providence of God; and an excellent treatiſe "On popular and ſimple Diction," exemplified from Demoſthenes and Xenophon; which latter piece was publiſhed by Aldus, among the Greek rhetoricians, at Venice, in 1508. The oration of Ariſtides in praiſe of Athens, intitled "Panathenaica," written in imitation of Iſocrates, is annexed to H. Stephens's edition of Iſocrates, publiſhed in 1593. The entire works of this orator were publiſhed in Greek, at Florence, in 1517, folio; or in Greek and Latin, in three vols. 12mo., by P. Stephens, in 1604; at Upſal by Norman, in 1677; and by Jeb, in two volumes 4to., at Oxford, in 1722. Philoſtrat. de vit. Sophiſt. Suidas. Lardner's Works, vol. viii. p. 81—88. Fabr. Bib. Græc. l. iv. c. 30. § 4, 5. t. iv. p. 373, &c.

Aristides, a painter of Thebes, was cotemporary with Apelles, about the year 334 before Chriſt, and diſtinguiſhed for force and felicity of expreſſion. He is ſaid to have been the firſt who painted *mind*, and expreſſed the affections and paſſions. One of his ſubjects was the repreſentation of the deſtruction of a town, and deſcribed by Pliny. Among other ſcenes of horror, a child was painted clinging to the breaſt of its wounded mother, who feared that after ſhe was dead the child ſhould ſuck blood inſtead of milk. This piece was carried by Alexander to Pella in Macedon. The Bacchus and Ariadne of this maſter was part of the plunder of Corinth; and after it had been bought by Attalus, king of Pergamus, at a very high price, it was reſerved by Mummius for the temple of Ceres at Rome. For another piece Attalus is ſaid to have given one hundred talents. Ariſtides's old man with a lyre teaching a boy to play, was fixed in the Capitol. His Sick Man was much admired. Pliny, H. Nat. l. xxxv.

Aristides, an eloquent Athenian philoſopher, and a convert to Chriſtianity, flouriſhed about the year 126; and retaining the habit of his former profeſſion, preſented to the emperor Adrian an apology for the Chriſtians, which was extant in Jerom's time, and which he repreſents as a monument with the learned of his ingenuity. This apology was imitated by Juſtin in the book which he preſented to Antoninus Pius, his ſons, and the Roman ſenate. It is to be regretted that no fragment of this eminent Chriſtian apologiſt's compoſition now remains. Euſeb. H. E. l. iv. c. 3. Hieron. ad. Magn. ep. 84. Lardner's Works, vol. ii. p. 290.

Aristides *Quintilianus*, author of the moſt ample and, in many inſtances, ſatisfactory treatiſe among the ſeven Greek writers on muſic publiſhed by Meibomius. He flouriſhed after Cicero, and before Ptolemy; which is all the information that can be obtained concerning the period of his exiſtence. With many wild and fanciful notions about muſical effects, his doctrines often breathe taſte and feeling, but the taſte and feeling of an enthuſiaſt. His moral diſtinctions of melopoeia are as curious and fanciful as thoſe which the Arabs aſſign to the ſtrings of their lute. (See

Arabian *Muſic.)* He allows of three modes, τροποι, or ſtyles of melopœia; the *dythirambic*, or bacchanalian; the *nomic* conſecrated to Apollo; and the *tragic*: acquainting us that the firſt of theſe modes employed the ſtrings or ſounds in the middle of the great ſyſtem; the ſecond, thoſe at the top; and the third, thoſe at the bottom.

"Theſe modes had other ſubaltern modes that were dependent on them; ſuch as the *erotic* or amorous, the *comic*, and the *encomiaſtic* uſed in panegyrics. All theſe being thought proper to excite or calm certain paſſions, were by our author imagined to have had great influence upon the manners, ηθη; and with reſpect to this influence, melopœia was divided into three kinds: firſt, the *ſyſtaltic*, or that which inſpired the ſoft and tender paſſions, as well as the plaintive, or, as the term implies, ſuch as affect and penetrate the heart; ſecondly, the *diaſtaltic*, or that which was capable of exhilarating, by kindling joy, or inſpiring courage, magnanimity, and ſublime ſentiments; thirdly, the *heſychaſtic*, which holds the mean between the other two, that is, which could reſtore the mind to a ſtate of tranquillity and moderation.

"Theſe imaginations are evidently drawn from the dreams of Pythagoras. Iamblicus, in his life of that philoſopher, tells us, that he had invented certain muſical airs, with which, by a happy mixture of genera, he could at his pleaſure govern the paſſions of his ſcholars, and awaken terror, anger, melancholy, compaſſion, emulation, fear, and deſires of all kinds, as well as ſtimulate appetite, pride, caprice, and vehemence; guiding ſuch affections according to virtue, with ſuitable melodies, as with ſo many ſalutary and healing medicines.

"Ariſtides Quintilianus, however, defines the three genera in a manner more conſonant to modern ideas and feelings than any of the other Greek writers.

"The *Diatonic* is the moſt natural, becauſe all who have ears, though uninſtructed with muſic, are capable of ſinging it.

"The *Chromatic* is more artificial, for it can only be ſung by ſuch as are adepts in muſic.

"The *Enharmonic* is the moſt refined and difficult of all, and has been received and practiſed only by the greateſt artiſts." Burney's Hiſt. of Muſ. vol. i.

ARISTIPPUS, founder of the Cyrenaic ſect, was a native of Cyrene in Africa, and flouriſhed about the firſt year of the 97th olympiad, or the 392d year before Chriſt. During his attendance at the Olympic games, he heard of the fame of Socrates, and immediately went to reſide at Athens, that he might become his diſciple. After his introduction to the ſchool of this great maſter of wiſdom, he was for ſome time eſteemed, on account of his genius and improvement, one of its chief ornaments; but his fondneſs for effeminate and luxurious indulgence gave great offence to Socrates and his friends. Of this propenſity on the part of Ariſtippus, and his maſter's deſire to correct it, we have a beautiful illuſtration in a dialogue preſerved by Xenophon, Mem. l. ii. Involved in expences which his patrimony could not defray, he ſet up a ſchool of Rhetoric, and he is remarked to have been the firſt diſciple of the Socratic ſchool who took money for teaching. With a view, probably, of diverting or of ſilencing the reproofs of Socrates, he ſent him a preſent of 20 minæ, or about 64*l.*; but Socrates refuſed the preſent, alleging that his demon forbade him to receive it. At length the freedom of his manners alienated him from Socrates, and obliged him to leave Athens.

Devoted to a life of pleaſure, Ariſtippus viſited the iſland of Ægina, and there met with the celebrated Lais, whom he accompanied to Corinth. In this voyage, he was terrified by a ſtorm, and one of the crew obſerving that he was ſomewhat diſconcerted, aſked him, "Why are you philoſophers afraid, when we illiterate ſeamen fear nothing?" "Becauſe," replied Ariſtippus, "we have more to loſe." In his way from Corinth to Aſia, he was ſhipwrecked on the iſland of Rhodes; and accidentally perceiving a geometrical anagram on the ſand, he exclaimed to his companions, "take courage, I ſee the footſteps of men." When they arrived at the principal town in the iſland, he procured by his addreſs accommodation for himſelf and his fellow-travellers, thus confirming one of his own aphoriſms, "If you aſk what advantage a man of learning hath above one that is illiterate, ſend them together among ſtrangers, and you will ſee." After ſome interval, Ariſtippus repaired to the court of Dionyſius, tyrant of Sicily. When he firſt came to Syracuſe, he was aſked by Dionyſius, "Why he viſited his court?" To which he replied, "to give what I have, and to receive what I have not." By the verſatility of his diſpoſition, and ſuppleneſs of the ſyſtem which he had adopted, as well as by the politeneſs of his manners, he accommodated himſelf to every ſituation, verifying the maxim of the poet:

"Omnis Ariſtippus decuit color, et ſtatus, et res—"
"Yet Ariſtippus every dreſs became,
In all offices, in every ſtate the ſame."
Hor. ep. i. 17. 23.

Whilſt he ridiculed the ſingularities which were affected by other philoſophers, particularly the ſtately gravity of Plato, and the rigid abſtinence of Diogenes, he complied with the requiſition of Dionyſius, which enjoined all the gueſts at a public feſtival to appear in purple robes; whilſt Plato refuſed, he adorned himſelf with a rich and ſplendid dreſs, and converſed and danced with the eaſe and grace of a courtier. By theſe flexible and captivating manners, he conciliated the regard of the Sicilian tyrant, and gained a command of the royal favours. Thus diſtinguiſhed, he became the object of envy to his brethren; and this circumſtance will account for many of thoſe tales that have been circulated to the diſadvantage of this philoſopher both by ancient and modern writers. However it is impoſſible wholly to exculpate him from the charge of libertiniſm. The reaſon of Ariſtippus's leaving Syracuſe is not known, nor is it certain whither he removed. Æſchines, who remained in Sicily till after the exile of Dionyſius, on his return to Athens, found Ariſtippus teaching in the city, probably about the year 366 before Chriſt; and it is pretty certain that he and the reſt of the philoſophers left Syracuſe before the expulſion of the tyrant. But whether he ever returned to his own country, and alſo when and how he died, are circumſtances concerning which we have no certain information.

Ariſtippus was, without doubt, the man of pleaſure in practice, as well as the preceptor of pleaſure by profeſſion. And yet, though he deviated from the ſtrictneſs of Socratic morals both in his principles and his conduct, he muſt be allowed the credit of elegant manners, a thirſt after knowledge, ready wit, and an ingenuous temper. The manner in which he became re-united to his friend Æſchines, who had offended him, affords an amiable illuſtration of the latter quality. In the midſt of a diſpute which was becoming violent, "Let us give over," ſaid he, "and be friends, before we make ourſelves the talk of ſervants; we have quarrelled, it is true, but I, as your ſenior, have a right to claim the precedency in the reconciliation." Æſchines acquieſced, and acknowledged his ſuperior merit. The following repartees, ſelected from a great number attributed to Ariſtippus, deſerve to be recorded. Polyxenus, a friend of

Ariſtippus, happened to call upon him when preparations were making for a ſumptuous entertainment, and began a tedious diſcourſe againſt luxury: Ariſtippus, tired of the harangue, invited Polyxenus to ſtay and ſup with him, and he accepted the invitation. "I perceive then," ſays Ariſtippus, "it is not the luxury of my table that offends you, but the expence." When he was aſked, "what he had gained by philoſophy?" he replied, "a capacity of converſing, without embarraſſment, with all claſſes of men." A wealthy citizen complaining that Ariſtippus, in requiring 500 drachmas for the inſtruction of his ſon, had demanded as much as would purchaſe a ſlave: "purchaſe then one with the money," ſaid the philoſopher, "and you will be maſter of two." To one who boaſted of his ſkill and activity in ſwimming, he ſaid, "Are you not aſhamed to value yourſelf on that which every dolphin can do better?" The following maxims are not unworthy of the Socratic ſchool: "Philoſophers," ſaid Ariſtippus, "excel other men in this, that if no laws exiſted, they would live honeſtly." "It is better to be poor than illiterate; for the poor man only wants money, the illiterate want the diſtinguiſhing characters of human nature." "The houſes of the wealthy are frequented by philoſophers, for the ſame reaſon that induces phyſicians to frequent thoſe of the ſick." "The truly learned are not thoſe who read much, but they who read what is uſeful." "Young people ſhould be taught thoſe things which will be uſeful to them when they become men." For the diſtinguiſhing ſentiments of the Cyrenaic ſect, founded by Ariſtippus, ſee CYRENAICI. Diogenes Laertius, lib. ii. § 62—80. Brucker's Hiſt. Philoſ. by Enfield, vol. i. p. 182—186. Travels of Anacharſis, vol. iii.

ARISTO of *Chios*, a Greek philoſopher of the Stoic ſect, was the ſon of Miltiades, and the intimate aſſociate of Perſeus; and as they both attended the lectures of Zeno at the ſame time, he muſt have flouriſhed about 260 years before Chriſt. He was called, on account of his perſuaſive powers of eloquence, the Siren. His loquacity and love of pleaſure diſpleaſed his maſter, from whom he removed to the ſchool of Polemon; and afterwards he made unſucceſsful attempts to eſtabliſh a ſchool of his own. He oppoſed the doctrine of uncertainty maintained by the Academic philoſophers, and particularly by Arceſilaus; and made ſeveral innovations on the Stoic philoſophy. He excluded from the courſe of his ſtudies both phyſics and logic; the former as incomprehenſible, and the latter as unuſeful to the purpoſes of human life. He taught, with the Stoics, that virtue alone is the ſupreme good; but alſo that in other things there is no difference which can render one more deſirable than another. This doctrine of indifference he applied to moral actions, repreſenting all actions as alike; ſo that to a wiſe man it was the ſame thing whether he performed the part of an Agamemnon or a Therſites, provided he did it well. Seneca charges him with rejecting and contemning the preceptive part of philoſophy in its relation to the particular duties of life. Whilſt he diſcouraged all ſpeculations in opinions, he maintained that the divine nature is incomprehenſible, and he doubted whether the gods have perception or animal life, thus in effect denying the exiſtence of deity. "Philoſophers," ſays Ariſto, "injure, inſtead of benefiting their diſciples, if what is well meant be ill interpreted; and thus it is that the pupils of Ariſtippus became diſſolute, and thoſe of Zeno moroſe." He ſhould have added, ſays Bayle, that every teacher ſhould avoid ambiguous maxims, and prevent falſe gloſſes being put upon them; nor ſhould we infer, that the doctrines of theſe philoſophers had not a tendency, even if rightly underſtood, to produce hurtful effects. While he inveighed againſt Arceſilaus, he himſelf became addicted to pleaſure in his old age. His death is ſaid to have been occaſioned by his bald head being ſcorched with the heat of the ſun. Cic. de Fin. l. iv. c. 27. Nat. Deor. l. i. c. 14. Seneca's Ep. 89. 94. Diogenes Laertius. Gen. Dict. Brucker by Enf. vol. ii. p. 352.

ARISTO of *Ceos*, a Peripatetic philoſopher, filled the Ariſtotelian chair about 230 years before Chriſt, being the fourth in ſucceſſion from the celebrated founder of that ſchool, and died about the year before Chriſt 183. He is repreſented by Cicero (de Fin. l. v. c. 5.) as a neat and elegant orator, but deficient with regard to the dignity and authority of a philoſopher. Athenæus (l. x. p. 419. and l. xii. p. 456.) cites a work aſcribed to him, and intitled "Amatory Similes."

ARISTO, *Titus*, a Roman lawyer, very much diſtinguiſhed by his talents and character, lived in the time of Trajan, about the year 110. The younger Pliny, in his Epiſtles, (l. i. ep. 22. l. viii. ep. 14.) highly extols both his learning and his character; but if it be true that in an illneſs, which he is ſaid to have borne with great patience, he ſummoned his friends, and intreated them to aſk his phyſician, what was likely to be the iſſue of his diſorder? ſo that if they pronounced it incurable, he might put an end to his own life, we muſt admit the high panegyric of Pliny with conſiderable abatement. Aulus Gellius (l. xi. c. 11.) ſpeaks of him as the author of many books. Gen. Dict.

ARISTOBRATHRA, in *Ancient Geography*, a town of India, on this ſide of the Ganges. Ptolemy.

ARISTOBULUS, in *Biography*, an Alexandrian Jew, was preceptor of Ptolemy Euergetes, eldeſt ſon of Ptolemy Philometor, king of Egypt, and flouriſhed about 145 years before Chriſt. He was an admirer of the Greek philoſophy, and united the ſtudy of the Ariſtotelian ſyſtem with that of the Moſaic law. Euſebius repreſents him as a favourite of Ptolemy, and cites from his "Commentaries on the books of Moſes," inſcribed to that prince, ſeveral verſes of Orpheus, in which mention is made of Moſes and Abraham. Theſe verſes are alſo found in the works of Juſtin Martyr; but ſo much altered as to afford reaſon for ſuſpecting their authenticity. In the Commentary the author alſo aſſerts, that part of the law had been tranſlated into Greek in the time of Alexander; and that the whole was tranſlated, under the care of Demetrius Phalereus, in the reign of Ptolemy Philadelphus. But the commentary was not written till 120 years after the reign of that king; and as Demetrius Phalereus was in exile during the reign of Ptolemy Philadelphus, he could not have ſuperintended the Septuagint tranſlation. It is therefore probable, that Ariſtobulus either invented the ſtory of the Septuagint interpreters, or borrowed it from Ariſteas, in order to ſupport the credit of this tranſlation with his brethren in Paleſtine. See ARISTEAS. Ariſtobulus ſeems to have been deſirous of aſcribing the Grecian philoſophy to a Hebrew origin, as we learn from Clement of Alexandria (Strom. lib. i.); and of eſtabliſhing an opinion that Pythagoras, Plato, and other Greek philoſophers, were acquainted with the Jewiſh law. It is not unlikely that he forged the above-mentioned verſes of Orpheus, and alſo the tales reſpecting the Greek verſions of the Hebrew ſcriptures. Upon the whole, Ariſtobulus may be ranked with thoſe who have been ſuſpected of practiſing pious frauds. Euſeb. Præp. Ev. l. xii. c. 13. l. viii. c. 8. Brucker by Enf. vol. ii. p. 167.

ARISTOCRACY, in *Politics*, a form of government, where the ſupreme power is lodged in the hands of the optimates, i. e. of a council or ſenate compoſed of the principal

perſons of a ſtate, either in reſpect of nobility, capacity, or probity. The word is derived from ἄριστος, *optimus*, and κρατέω, *impero, I govern*.

In an ariſtocracy, the legiſlative and executive authority is veſted in a ſelect aſſembly, the members of which either fill up by election the vacancies in their own body, or ſucceed to their places in it by inheritance, property, tenure of certain lands, or in reſpect of ſome perſonal right or qualification. The ſeparate advantage of an ariſtocracy conſiſts in the wiſdom which may be expected from experience and education; for a permanent council naturally poſſeſſes experience; and the members who ſucceed to their places in it by inheritance, will probably be trained and educated with a view to the ſtations which they were deſtined by their birth to occupy. In an ariſtocracy, however, there is leſs honeſty than in a republic, and leſs ſtrength than in a monarchy. Its miſchiefs are diſſenſions in the ruling orders of the ſtate, which, from the want of a common ſuperior, are liable to proceed to the moſt deſperate extremities; and oppreſſion of the lower orders by the privileges of the higher, and by laws partial to the ſeparate intereſts of the law makers. It would be a very happy thing, ſays Monteſquieu, if by ſome indirect method or other, the people could be emancipated from their ſtate of annihilation; and, conſequently, the beſt ariſtocracy is that in which the part of the people who have no ſhare in the legiſlature is ſo ſmall and inconſiderable, that the governing party may have no intereſt in oppreſſing them. Thus when Antipater made a law at Athens, that any perſon who was not worth 2000 drachmas ſhould be excluded from the right of ſuffrage, he formed by this means the beſt poſſible ariſtocracy; becauſe the ſum was ſo ſmall, that few of any rank or conſideration in the city were excluded. The more an ariſtocracy borders on democracy, the nearer it approaches to perfection; and it is the more imperfect in proportion as it draws towards monarchy. In an ariſtocracy, the laws ſhould tend, as much as poſſible, to infuſe a ſpirit of moderation, which would ſupply the place of the ſpirit of equality in a popular ſtate; and as modeſty and ſimplicity of manners conſtitute the ſtrength of an ariſtocratic nobility, the nobles ſhould not be inveſted with perſonal and particular prerogatives, diſtinct from thoſe of their body. There are two principal ſources of diſorder, which ſhould be avoided; theſe are exceſſive inequality between the governors and the governed, and the ſame inequality between the different members of the body that governs.

Ariſtocracies, ſays archdeacon Paley, are of two kinds; firſt, where the power of the nobility belongs to them in their collective capacity alone; that is, where although the government reſide in an aſſembly of the order, yet the members of that aſſembly ſeparately and individually poſſeſs no authority or privilege beyond the reſt of the community; ſuch is the caſe in the conſtitution of Venice. Secondly, where the nobles are ſeverally inveſted with great perſonal power and immunities, and where the power of the ſenate is little more than the aggregated power of the individuals who compoſe it; ſuch was the caſe in the conſtitution of Poland. Of theſe two forms of government, the firſt is more tolerable than the laſt; for although many, or even all the members of a ſenate ſhould be ſo profligate as to abuſe the authority of their ſtations in the proſecution of private deſigns, yet, whilſt all were not under a temptation to the ſame injuſtice, not having the ſame end to gain, it would be ſtill difficult to obtain the conſent of a majority to any ſpecific act of oppreſſion, which the iniquity of an individual might prompt him to propoſe: or if the will were the ſame, the power is more confined: one tyrant, whether the tyranny reſide in a ſingle perſon, or a ſenate, cannot exerciſe oppreſſion in ſo many places at the ſame time, as may be carried on by the dominion of a numerous nobility over their reſpective vaſſals and dependents. Of all ſpecies of domination, this is the moſt odious; the freedom and ſatisfaction of private life are more reſtrained and haraſſed by it, than by the moſt vexatious laws, or even by the lawleſs will of an arbitrary monarch, from whoſe knowledge, and from whoſe injuſtice, the greateſt part of his ſubjects are removed by their diſtance, or concealed by their obſcurity. An ariſtocracy of this kind has been productive, in ſeveral inſtances, of diſaſtrous revolutions; and the people have concurred with the reigning prince in exchanging their condition for the miſeries of deſpotiſm. This was the caſe in Denmark about the middle of the ſeventeenth century, and more lately in Sweden. In England, alſo, the people beheld the depreſſion of the barons, under the houſe of Tudor, with ſatisfaction, although they ſaw the crown acquiring thereby a power which no limitations, provided at that time by the conſtitution, were likely to confine. From ſuch events this leſſon may be drawn; "that a mixed government, which admits a patrician order into the conſtitution, ought to circumſcribe the perſonal privileges of the nobility, eſpecially claims of hereditary juriſdiction and local authority, with a jealouſy equal to the ſolicitude with which it provides for its own preſervation." Mont. Sp. of Laws, vol. i. p. 18. 72—77. Paley's Princ. of Philoſ. vol. ii. p. 180—182. See OLIGARCHY.

ARISTOGITON, in *Biography*, an Athenian who, with Harmodius, attempted to reſtore the liberty of their country by the overthrow of the two tyrants Hippias and Hipparchus.

Harmodius and Ariſtogiton, connected not only as citizens of Athens, but as friends, reſolved to revenge an affront offered to the daughter of the former by Hipparchus, who had obliged her to retire from a public proceſſion, at which ſhe was entitled to have aſſiſted, carrying a baſket of flowers. Nothing leſs would ſatisfy the reſentment of theſe two men, than the depoſition of the tyrants. Having concerted the proper meaſures for their enterpriſe, they ſecretly imparted their plan to a ſmall number of the citizens, and fixed the day of execution to be the feaſt of Panathenæa, when all the citizens wore arms. They accordingly attacked and ſlew Hipparchus, in the year 514 before Chriſt, but were themſelves inſtantly apprehended, and Harmodius was put to death. Ariſtogiton was put to the torture, in order to force him to declare his accomplices. The moſt intimate friends of Hippias were named, and immediately put to death. When Ariſtogiton was aſked by the tyrant, if there were any more? "There now remains," ſaid he with a ſmile, "only yourſelf worthy of death." Leæna, the miſtreſs of Harmodius, is ſaid to have behaved with ſimilar intrepidity; for fearing leſt the pains of torture might extort from her a confeſſion, ſhe bit off her tongue, and ſpit it out. Though theſe champions of liberty periſhed themſelves, yet the ſpirit which they excited continued to operate until it effected the emancipation of the Athenians, and drove Hippias into exile three years after this event, or about the year 510 before Chriſt. Having reinſtated freedom, the Athenians erected in the forum ſtatues, made by Praxiteles, to the memory of Harmodius and Ariſtogiton, who had begun this revolution, and ſet them up to public view, that the ſight of them might inſpire the citizens with a more violent hatred of tyranny. They ſung hymns to their praiſe at the Panathenæa, decreed that no ſlaves ſhould bear their names, and very extenſive privileges were granted in perpetuity to their deſcendants.

However, neither the characters nor the motives of theſe conſpirators, whatever benefit might reſult from their conſpiracy, ſeem to have deſerved ſuch teſtimonies of reſpect. Thucyd. l. vi. c. 56. Plat. in Hipp. t. ii. p. 229. Philoſtr. in Vit. Apollon. l. vii. c. 4. p. 283. Aulus Gellius, l. ix. c. 2. Travels of Anacharſis, vol. i. p. 171.

ARISTOLOCHIA, in *Botany*, birthwort (ἀριστολοχία, and λόχια, or λοχεῖα, from its ſuppoſed uſe in diſorders attending parturition). Linn. g. 1022. Schreb. 1383. Juſſ. 73. Gærtn. 14. Claſs, *gynandria hexandria*. Nat. Order, *Sarmentaceæ*. *Ariſtolochiæ*, Juſſ. Gen. Char. *Cal.* none. *Cor.* monopetalous, tubular, irregular; baſe ſwelling, ſubglobular, tortuloſe; tube oblong, hexagon-cylindric; limb dilated, extended below into a long tongue. *Stam.* filaments none; anthers ſix, faſtened at bottom to the ſtigmas, four-celled. *Piſt.* germ oblong, inferior, angular; ſtyle ſcarcely any; ſtigma ſubglobular, ſix-parted, concave. *Per.* capſule large, ſix angled, ſix-celled. *Seeds* ſeveral, depreſſed, incumbent.

Eſſ. Gen. Char. Stigmas ſix. *Cal.* none. *Cor.* monopetalous, tongue-ſhaped, entire. *Capſ.* ſix-celled, inferior.

Species 1. A. *bilobata*, two-lobed birthwort. A. longa ſcandens, foliis ferri equini effigie Plum. Ray. "Leaves two-lobed, ſtems twining;" ſtem filiform, ſubdivided, leaves cordate; lobes oblong, nerved, entire; petioles crooked ſmooth; peduncles one-flowered, longer than the leaves; corolla ligulate; tube globoſe, many-keeled, curved, hexagonal, bluiſh, funnel-ſhaped, at the throat marked with longitudinal brown lines; limb elongated, ſpatulate. Native of Dominica and Hiſpaniola, covering trees and ſhrubs, and flowering from November till January. 2. A. *trilobata*, three-lobed birthwort. Jacq. obſ. 8. t. 3. Browne, 329. 3. Swartz. obſ. 341. "Leaves three-lobed, ſtem twining; flowers very large, bagged at the baſe, tongue linear, very long." This is a climbing plant like the former; the ſtem is aromatic, and the flowers large and ventricoſe. It is a native of the Weſt Indies, and South America; introduced here about the year 1775; and flowers in June and July. 3. A. *pentandra*, five-ſtamened birthwort. Jacq. Amer. 232. t. 147. pict. 115. t. 224. "Leaves cordate, haſtate-ſubtrilobate, ſtem twining, bracte cordate, embracing." The flowers of this are ſmaller, and have only five ſtamens. It is a native of America. 4. A. *peltata*, peltated birthwort. Jacq. Amer. pict. 114. 222. "Leaves kindney-ſhaped, ſubpeltate, ſtem twining;" ſtem filiform, ſtriated; leaves ſmall, nerved, entire, ſmooth, ſtanding on footſtalks which embrace the ſtem; corolla ſpotted, brown; tube globoſe at the baſe, crooked, reflex, an inch long, brown, dotted with green; throat funnel-ſhaped, pubeſcent at bottom; border having a lip an inch in length, tongue-ſhaped, retuſe at the tip, ſlightly emarginate, ſet with convex, acute, dark purple dots, green below the tip to the throat. A native of St. Domingo and South America, where it flowers in February and March. 5. A. *maxima*, greateſt birthwort. Jacq. Amer. 223. t. 146. pict. 114. 223. "Leaves oblong, acuminate, ſtem twining, peduncles many-flowered." This has ſtrong climbing ſtems by which it mounts up to the top of the talleſt trees; leaves four inches long, two broad, oval, obtuſe, thick; flowers curved in looſe cluſters at the ends of the ſhoots; fruit like a purſe, very large. It was ſent to England by Mr. R. Miller, from New Spain, and ſince found by profeſſor Jacquin, to whoſe elegant figure of it we have above referred. 6. A. *bilabiata*, two-lipped birthwort. Swartz. obſ. 342. Plum. ſpec. 5 ic. 32. f. 1. "Leaves cordate-tongue-ſhaped, obtuſe, ſtem twining, corolla two-lipped;" ſtems filiform; branchlets alternate, looſe, three or four leaved; leaves entire, ſtiffiſh, ſmooth, petioles ſhorter than the peduncles; corolla middle-ſized, brown purple, ſtriated; tube globoſe at the baſe; border elongated, oblong, blunt, reflex; funnel of the tube, ſplit, ſo as to make the corolla bilabiate. A native of South America. 7. A. *erecta*, upright birthwort. "Leaves lanceolate, ſeſſile, ſubhirſute; ſtem erect, peduncles ſolitary, one-flowered, flowers very long; ſtalk three feet high, leaves long, narrow, hairy, with very ſhort footſtalks; flowers ſolitary, axillary, four inches long, of a dark purple colour; ſeeds flat, heart-ſhaped. Diſcovered at Vera Cruz by Dr. Houſtoun, who ſent the ſeeds to Europe about the year 1733, where it was cultivated by Mr. Miller. 8. A. *arboreſcens*, tree birthwort. Pluk. alm. 50. t. 78. f. 1. "Leaves cordate-lanceolate; ſtem erect, ſhrubby," about two feet high; branches ſtrong enough to ſupport themſelves; flowers ſolitary, axillary. A native of North America. 9. A. *caudata*, tailed birthwort, Jacq. Amer. 233. t. 145. pict. 114. t. 221. "Leaves cordate, obtuſe, emarginate at the tip, lobes incumbent, lip tailed;" the lobes of the leaves lap over each other at the baſe; the lip of the corolla ends in a briſtle-ſhaped tail. A native of America. 10. A. *odoratiſſima*, ſweet-ſcented birthwort. Browne, 329, 1. Sloane, v. 1. 162. t. 104. f. 1. "Leaves cordate; ſtem twining, ſhrubby; peduncles ſolitary; lip of the corolla very large;" root long geniculated; ſtem climbing, ſix or eight feet high; branches numerous; leaves cordate or triangular, four inches long, longitudinally ribbed; corolla yellowiſh. The whole plant has a ſtrong grateful ſmell. A native of Jamaica, where it is called *contrayerva*; cultivated by Miller in 1752. 11. A. *ſipho*, broad-leaved birthwort. L'Heritier, ſtirp. nov. 1. p. 13. t. 7. "Leaves cordate; peticled; flowers ſolitary; border trifid, equal; bracte ovate; ſtem twining, ſhrubby." This is a tall twining ſhrub with few branches, of a camphoraceous ſmell; leaves ſpreading, remote, roundiſh, ſinuate-cordate, veined; peduncles lateral, one-flowered; bracte decurrent, embracing the peduncle; corolla of a purpliſh brown, an inch and a half long; tube ſhaped like a ſyphon, with a trifid flat border. A native of North America, and introduced here by Mr. Bartram about the year 1763. It flowers in June. 12. A. *anguicida*, ſnake-killing birthwort. Jacq. Amer. 232. t. 144. pict. 114. t. 220. Morris. hiſt. 3. f. 12. t. 17. f. 7. "Leaves cordate, acuminate; ſtem twining, ſhrubby; peduncles ſolitary; ſtipules cordate;" root thick; ſtems ſlender, long, jointed, purple; corollas purple, ſtraight, truncated as it were with a lanceolate lip. If the juice of the root mixed with the ſaliva be put into the mouth of a ſerpent, it may be handled with ſafety; but will recover in two hours. A native of Mexico and the Weſt Indies. 13. A. *maurorum*, Mooriſh birthwort. Mor. hiſt. 3. f. 12. t. 17. f. 11. "Leaves haſtate, quite entire; ſtem weak, ſimple; flowers ſolitary, recurved." It has ſeveral filiform ſtems producing ſeven or eight leaves on each ſide of the upper part of the ſtem, theſe are aſh-coloured, oppoſite, reſembling thoſe of *oſmunda regalis*. The flowers are larger than thoſe of common birthwort, brown, and appear among the lower leaves. Diſcovered by Rauwolf in olive grounds about Aleppo. 14. A. *Indica*. Indian birthwort. Gærtn. Pract. i. 45. Carelu. vegon. Rheed. Mal. 8. 48. t. 25. "Leaves cordate, rather acute; ſtem twining; peduncles many-flowered;" ſtems ſhrubby, ſtriated, ſlender; leaves entire, ſmooth, frequently retuſe or emarginate; peduncles axillary, with alternate acute bractes, within which ſtands a ſingle flower on its proper pedicel; corolla a duſky purple. A native of the Eaſt Indies and Cochinchina. 15. A. *boetica*, Spaniſh birthwort. Mor. t. 17. f. 6. "Leaves cordate, rather acute; ſtem twining; peduncles about three, longer than the petioles;" the ſtems are ſlender, ſtriated, ſpreading over hedges and buſhes; leaves acuminate, on long petioles;

flowers

flowers crooked, oblong, very dark purple; ſtipules ovate-rhombed, and mucronate. Found by Cluſius in Andaluſia. An evergreen, and odorous plant, flowering in January and February, cultivated by Gerard, in 1597. This was formerly called climbing birthwort. 16. A. *ſempervirens*, evergreen birthwort, *ſiphlochia cretica*. Bauh. pin. Mor. Hiſt. 12. t. 17. f. 16. "Leaves cordate-oblong, acuminate, waved; ſtem weak, flowers ſolitary;" the ſtems are many, trailing, more than a foot long, ſtriated, angular; leaves nerved, dark coloured, evergreen, on long petioles; flowers axillary, crooked, longer than the leaves, of a dark purple externally, internally yellow. A native of the iſland of Crete or Candia, flowering in May and June. Cultivated in the Chelſea garden in 1739. 17. A. *ſerpentaria*, Virginia birthwort or ſnake-root. Woodv. Med. Bot. 291. t. 106. Mat. Med. "Leaves cordate-oblong, flat; ſtem weak, flexuoſe, round; flowers ſolitary;" root a congeries of ſmall fibres, yellowiſh; ſtem jointed, firm, from ſix inches to a foot in height; leaves lanceolate cordate, nerved; flowers blue or purpliſh, on long footſtalks, proceeding from the lower joints of the ſtem; tube compreſſed at the throat, ventricoſe and round at the baſe, ſpreading at the border. It flowers in May, and perfects its ſeeds in Auguſt. A native of Virginia and Carolina. Cultivated by Tradeſcant at Lambeth, in 1632. 18. A. *piſtolochia*. Lin. ſp. 1364. "Leaves cordate-crenulate, netted underneath, petioled; flowers ſolitary;" the ſtems are angular, branching, ſeldom riſing to a foot in height, and ſcarcely ſtrong enough to ſupport themſelves; bracte heart-ſhaped at the baſe of the peduncle; flowers ſmall, lip bent inwards, tube and beginning of the petal yellow, broader and blood-coloured. A native of the ſouth of France, Spain, and Swiſſerland. Cultivated by Gerard in 1596. 19. A. *rotunda*, round-rooted birthwort; "leaves cordate, ſubſeſſile, obtuſe; ſtem weak, flowers ſolitary;" the roots are roundiſh, about the ſize of a ſmall turnip; they ſend out three or four weak trailing branches, to the extent of two feet; leaves rounded at the end; flowers ſtand ſingly, cloſe to the petioles, they are of a purpliſh black colour, and curved inwards at the lip. A native of the ſouth of Europe, flowering from June till the end of Auguſt. 20. A. *longa*, long-rooted birthwort. Woodv. Med. Bot. p. 294. f. 107. "Leaves cordate, petioled, obtuſe; ſtem weak; flowers ſolitary, fruit ovate;" the root is very long, ſomewhat fuſiform; ſtems weak, angulated; branches trailing; peduncles at the axils of the leaves; flowers of a pale purple colour, angulated, tube gradually widening to the mouth, which is ovate and terminating in a pointed apex. A native of the ſouth of Europe. It flowers at the ſame time as the A. *rotunda*, which it very much reſembles. They were both cultivated by Gerard in 1596. 21. A. *hirſuta*, rough birthwort. Tournef. itin. i. t. 147. "Leaves cordate, rather obtuſe, ſhaggy; flowers ſolitary, pendulous, recurved, ſubtruncate." This ſpecies has ſome reſemblance to the preceding, but the leaves are hairy, and not ſo deeply eared at the bottom, the flowers are alſo much larger; ſtem ſtriated, hairy, leaves obtuſe, dagger-pointed; corolla incurved, and recurved, without an elongated lip. Tournefort ſays the root is nearly two feet in length, and two inches in thickneſs; ſtems two feet high, knotted, at each knot ariſes a ſingle leaf three inches long; flowers axillary, of the ſhape of an S, and of a pale green, mixed with a purple colour. It is a native of the iſland of Scio or Chios. 22. A. *clematitis*, common birthwort. Hudſ. 394. With. 1003. Woodv. Med. Bot. ſupp. f. 238. Eng. Bot. 398. "Leaves cordate, ſtem erect, flowers axillary, crowded;" ſtems two feet high, ſimple ſtriated, ſmooth, a little zigzag; leaves alternate, on footſtalks without ſtipules, heart-ſhaped, entire, ſmooth, broad, veined, nerved; flowers five or ſix in a cluſter, axillary, of a pale yellow, appearing from July till September, conſiſting of one petal, globoſe at the baſe, with ſix furrows, theſe funnel-ſhaped, and terminating in a tongue-like figure; ſtyle ſimple, with ſix ſtigmas. Smith. Found in England about the ruins of nunneries, abbeys, &c. The following five are new ſpecies. 23. A. *ſcandens*, Mill. Dict. n. 10. "Leaves cordate, on very long footſtalks; ſtems climbing; flowers terminal, on very long peduncles." This climbs to a very conſiderable height; leaves broad, longitudinally veined; flowers in looſe cluſters at the extremities of the branches, and on long peduncles. It grows about Tolu in New Spain, from whence Mr. R. Millar ſent the ſeeds to England. 24. A. *conſertа*. Mill. Dict. 11 "Leaves cordate, petioled; ſtem climbing; flowers in axillary cluſters." This climbs to the height of three or four feet; leaves ſhort, ſomewhat like thoſe of A. *rotunda;* flowers dark purple. It was diſcovered by Mr. R. Millar at Campeachy. 25. A. *bracteata*, Retz. obſ. 5. 29. n. 80. "Leaves cordate, obtuſe; ſtem weak; flowers ſolitary; bractes cordate, petioled." Stem flexuoſe, ſtriated; flowers peduncled, ſhorter than the leaf, with a long curved lip. Found by Koenig about Madras. 26. A. *obtuſata*, Swartz. prod. 126. Plum. ic. 27. t. 53. "Leaves cordate, rounded at the tip, three-nerved, netted, and tomentoſe beneath; ſtem twining; peduncles ſolitary." A native of the Caribbee iſlands. 27. A. *grandiflora*, Swartz. prod. 126. Browne, jam. 327. n. 2. "Leaves broad, cordate; ſtem twining, ſubherbaceous; peduncles ſolitary; tip of the corolla very large, with a long tail." Flowers large, five or ſix inches round the margin; throat cloſed longitudinally for a conſiderable time; lip terminating at the lower extremity in a long ſlender appendix. A native of Jamaica (about St. Ann's).

Medicinal Properties. The A. *rotunda*, *longa*, and *clematitis*, formerly were admitted into the materia medica of the Britiſh pharmacopœias; and the laſt is ſtill retained by the Edinburgh college. The virtues which the ancients aſcribed to their roots were very conſiderable, and they were conſequently employed in various diſeaſes, particularly thoſe thought to proceed from obſtructions more eſpecially of the uterine ſyſtem; and we are informed by Dr. Cullen, that in ſome caſes of this deſcription, he found the *ariſtolochia* an uſeful remedy. Though many ſpecies of this genus have been recommended for their medicinal powers, it is only that of *ſerpentaria* which has continued to maintain its character as a medicine of importance. The root of *ſerpentaria*, as well as that of ſome of its congeners before mentioned, was firſt recommended as a medicine of extraordinary power in counteracting the poiſonous effects of the bites of ſerpents; ſince that time it has been principally employed in fevers, eſpecially thoſe of the malignant kind; a practice founded on a ſuppoſition that the morbific matter of theſe fevers was to be ſubdued by the ſame means as that of the poiſon of ſerpents: hence the *ſerpentaria* has been deemed the moſt powerful of thoſe medicines termed alexipharmics. But ſince this theory has been exploded, its good effects are now aſcribed to its tonic and antiſeptic properties. It is certainly a powerful ſtimulant and diaphoretic, and has been found very uſeful in fevers, where theſe effects have been required, as appears from the writings of Huxham, Hillary, Pringle, &c. See Woodville's Med. Bot. p. 293.

Propagation and Culture. Thoſe ſpecies that are natives of hot climates, as 1, 7, 9, 10, 12, 14, 23—27, require a ſtove to preſerve them. The ſeeds, by which they are to be propagated, ſhould be brought over in their pods, and immediately on their arrival here, ſhould be ſown in ſmall pots filled with light

light earth, and ſhould this happen in autumn or winter, the pots ſhould be plunged into the tan of the bark ſtove, and under the ſhade of large plants. After remaining till March, they ſhould be plunged into a hot-bed under frames, where the plants ought to appear in May. But if the ſeeds arrive in ſpring or ſummer, they muſt be ſown in ſmall pots, and plunged into a moderate hot-bed, obſerving to ſhade them conſtantly during the heat of the day; but the ſeeds ſown at this ſeaſon of the year ſeldom grow the ſame year, and in that caſe the pots ſhould be plunged in the tan-bed of the ſtove in autumn, and in the ſpring following treated as before directed. When they are ſtrong enough, they ſhould be tranſplanted into ſeparate ſmall pots, and treated as other tender plants of the ſame countries. 8. The tree birthwort will live in the open ground, but requires ſhelter in winter. 11. is hardy and may be propagated by ſeeds, ſuckers, or by parting the roots. 13, 15, 16, 18, are propagated by parting the roots; they ſhould be ſcreened from ſevere froſt. 17, 19, 20, 21, are propagated by ſeeds, in pots placed under a frame to defend them againſt froſt, but the glaſſes to be taken off when the weather is mild; and they would be greatly improved by removing them to a gentle hot-bed in March. As the ſeaſon advances, they ſhould be gradually enured to bear the open air; when the pots are taken out of the bed, they may be expoſed to the morning ſun, but ſcreened during the heat of the day. They are to be refreſhed with water moderately during dry weather only. In winter, the pots muſt be ſheltered as before; and, in March, before the roots begin to ſhoot, they ſhould be tranſplanted into ſeparate ſmall pots, and placed under the frame till ſpring, when they may be removed into the open air, and treated in the ſame manner as in the former year. The next ſpring they may be turned out of the pots, and planted in a warm border, where they will only require to be kept clean from weeds, and the roots defended from the froſt, by covering the border, in autumn, with old tanner's bark. By this management the plants will become much healthier and ſtronger than if kept in pots, and when they are three years old, will flower, and produce plenty of ſeeds. The 22d ſpecies ſpreads ſo rapidly by its creeping roots, that it will be found troubleſome, unleſs planted where it cannot injure other plants. All the ſpecies are perennial, and their ſtems generally require ſupporting. See Martyn's Mill. Dict.

ARISTOMENES, in *Biography*, a famous general of the Meſſenians, diſtinguiſhed by his love of liberty and his valour, and alſo by the viciſſitudes of his fortune, was the ſon of Nicomedes, and a deſcendant of the royal family of Meſſene. The oppreſſion of the Spartans rouſed his indignation, and he took up arms, in connection with the Argives and Arcadians, for the reſcue of his country; and thus commenced the ſecond Meſſenian war, in the year before Chriſt 684. which terminated in the year 668 before the ſame æra. The firſt battle was fought in a village of Meſſenia, and the victory was long doubtful; but Ariſtomenes by his valour determined the fate of the day; and the army unanimouſly ſaluted him as king. This honour, however, he declined, and choſe to retain that of general. His next object was to intimidate the Spartans by a ſingle act of courage; and with this view he repaired to Lacedæmon, and having ſecretly entered the temple of Minerva, he affixed to the walls a buckler, with this inſcription, "Ariſtomenes has conſecrated this to the goddeſs, from the ſpoils of the Lacedæmonians." In a ſecond engagement the Lacedæmonians were again defeated, and one of their towns was taken and pillaged; but in this action Ariſtomenes received a wound in the thigh, which however did not prevent his marching to inveſt Sparta, whence he was under a neceſſity of retreating. In the third year of the war, the Meſſenians were betrayed by the treachery of Ariſtocrates, king of Arcadia, and ſuffered a defeat, attended with the loſs of the greateſt part of their army. Thus weakened and diſtreſſed, the reſolution of Ariſtomenes was invincible; and with a ſmall band of ſelect men, he contrived to haraſs the Spartans, and to penetrate into Laconia. At length the valiant general was taken priſoner, and confined in a deep cavern amidſt the other wounded and dying priſoners. In this noiſome receſs he continued three days; when perceiving at a ſmall diſtance from him a fox preying upon a dead body, he ſeized its leg and permitted it to conduct him to a ſmall hole through which he could diſcern the light. Having enlarged the aperture with his hands and nails, he obtained a paſſage through which he made his eſcape, undiſcovered, to his countrymen at their poſt on mount Ira. He ſoon renewed his ravages among the enemy, and compelled them to a truce; but he was perfidiouſly ſeized by ſome Cretan ſoldiers in the ſervice of Sparta, and carried away captive. Theſe Cretans, who were ſeven in number, ſtopped at the houſe of a widow with one daughter; and whilſt they were intoxicated with wine, the woman cut the thongs by which he was bound, and ſet him at liberty. Thus releaſed, he ſlew all his guards, and accompanied by the mother and daughter, haſtened to Ira, where the latter was married to his ſon. Ira was treacherouſly ſurrendered to the Spartans; but Ariſtomenes forming a ſmall band of his followers into a column, marched directly to the enemy's line, which opening to the right and left, as he advanced, afforded him an unmoleſted paſſage. He then joined the Arcadians, by whom he was kindly received; and propoſed to them a bolder exploit than any which he had yet achieved. "I have ſtill left," ſaid he, "five hundred brave ſoldiers who will follow me where I pleaſe; if you aſſiſt me, whilſt the Spartans are occupied in the pillage of Ira, I will march immediately to Lacedæmon and ſurpriſe it." The propoſal was received with great applauſe; but, before it could be executed, the Arcadian king contrived to delay it till he had forewarned the Spartans of their danger. His treachery was diſcovered, and the enraged people ſtoned him to death. Thus diſappointed, he ſent the Meſſenians, under the conduct of his ſon, to the iſland of Sicily, where they founded the city of Meſſina, about the year 668 before Chriſt, according to Pauſanias; and he remained in Greece, watching a favourable opportunity for accompliſhing the deſigns againſt the Spartans which he was ſtill meditating. Such was his reputation, that when a perſon of the firſt rank at Rhodes conſulted the oracle at Delos whom he ſhould marry, he was directed to eſpouſe the daughter of the moſt worthy of the Greeks, meaning Ariſtomenes. On a viſit to his ſon-in-law, Ariſtomenes died, and a magnificent tomb was erected for him at Rhodes. The independence of his country, however, expired with him. Pauſanias, l. iv. c. 21, 22, 23. Anc. Un. Hiſt. vol. v. p. 413—423. Travels of Anacharſis, vol. iv. p. 38—53.

ARISTONAUTÆ, in *Ancient Geography*, a town of Achaia, near the frontiers of Sicyonia, north of Pallene, and at the bottom of a ſmall gulf.

ARISTONIS URBS, a city of Egypt in the road from Coptos to Berenice, 25 miles from Dioſpolis.

ARISTONUS, in *Biography*, an eminent Grecian ſculptor. The exact time when he lived is not known. He erected a ſtatue of Jupiter at Olympia, the face of which was placed towards the riſing of the ſun. The god held the eagle with one hand, and in the other the thunder. His head was crowned with the flowers of ſpring.

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The eagle is neceſſarily attached to Jupiter in order to diſtinguiſh the god, but with reſpect to the other attributes, we may fairly infer that they were introduced in order to point out the union of juſtice and mercy in the divine nature. The thunder, an emblem of his power to execute judgment, is placed in his hand, but the bloſſoms of ſpring are as a crown upon his head, to ſhew that it is his delight and his glory rather to bleſs mankind. The face of this ſtatue being turned towards ſun-riſe, ſeems to ſtrengthen this idea, and might be intended to exhibit the care and government of the Divine Being in the conduct of his providence.

ARISTOPHANES, a celebrated comic poet, flouriſhed about the middle of the fifth century before Chriſt, and was contemporary with Sophocles, Socrates, Euripides, and ſeveral others of the greateſt men in Greece. The place of his birth is not known; but it is generally ſuppoſed that he was not a native of Athens, though he was much eſteemed in this city, where he ſeems to have reſided and been admitted to the honour of a denizen. Having been accuſed by Cleon of aſſuming the title of a citizen without poſſeſſing a legal right to it, in his defence he parodied two verſes which Homer has put into the mouth of Telemachus, of which this is the ſenſe: "I am, as my mother tells me, the ſon of Philip; for my part I know little of the matter; for what child knows his own father?" This ſtroke of pleaſantry, it is ſaid, having induced his judges to confirm him in his privileges as a citizen, he breathed nothing but vengence againſt Cleon, and compoſed a piece againſt him abounding with the bittereſt ſarcaſms. As he advanced in life he employed thoſe talents for poetry which diſtinguiſhed his early age, in that ſpecies of dramatic writing, called "The Old Comedy," which flouriſhed during the Peloponneſian war, and a little before it, and which introduced on the ſtage real perſons by name, in order to make them the objects of invective or ridicule. Having reduced this kind of comedy from its rude and unconnected ſtate into a better and more uſeful form, he made it the vehicle of very unallowable and licentious ſeverity and abuſe. This was particularly the caſe in his firſt comedies; but he is ſaid to have become more moderate in his later performances, and to approach in his manner to what was called "Middle Comedy," in which real perſons were not introduced, but the characters were in ſome meaſure diſguiſed by fictitious names; ſee COMEDY. His firſt efforts were directed to the reformation of abuſes in the ſtate; and he laſhed, without diſcrimination, the uſurpation and miſconduct of the great, and the follies and vices of the people in general. Whilſt he expoſed the ſiniſter deſigns of the magiſtrates and generals of the Athenians by his wit and ſatire upon the theatre, he at the ſame time took care to defend the commonwealth againſt its foreign enemies; inſomuch that Lacedæmon and other cities which were jealous of the grandeur of Athens, frequently experienced that Ariſtophanes alone was worth an army to that city, and that it was impoſſible to ſucceed while they followed the advice of this poet, who had made the ſtage a kind of ſchool for the art of war, and all other virtues which can render a city formidable to its enemies. We are told that the freedom with which he reprehended the errors and faults of the philoſophers, poets, generals, and miniſters of ſtate, and thoſe of the maſs of citizens, was ſo well received by the Athenians, that they caſt handfuls of flowers upon his head, and carried him in triumph through the city with the greateſt reſpect and loudeſt acclamations. As a recompence for the zeal which he manifeſted on behalf of the commonwealth, they paſſed a public decree, that he ſhould be honoured with a crown of the ſacred olive in the citadel, which was the higheſt token of reſpect that could be paid to any citizen. Two excellent actors, Calliſtratus and Philonides, performed in the comedies of Ariſtophanes. When the firſt appeared, it was underſtood that the comedy was directed only againſt the vices of individuals; and when the ſecond acted, that it attacked the leaders of the adminiſtration. But the licentious attacks of Ariſtophanes, though often applauded by the multitude, were diſapproved and condemned by the moſt intelligent part of the public. Accordingly, by one decree, the acting of comedy was prohibited; by a ſecond, it was forbidden to mention any perſon by name; and by a third, to attack the magiſtrates. But theſe decrees were ſoon forgotten or repealed; nor would the multitude conſent to relinquiſh a ſpecies of entertainment in which all the abuſive and obſcene expreſſions their language afforded, were laviſhed on the objects of their jealouſy or reſentment. Towards the end of the Peloponneſian war, the licentiouſneſs of the poets was reſtrained, and Ariſtophanes himſelf ſubmitted to this reformation in his latter pieces. But no reformation which he might effect in the ſtate, much leſs any gratification which he might afford to the ſplenetic humour of individuals, can atone for or excuſe his malignant attack on the reputation and life of Socrates. His comedy of "The Clouds," was written with a view to expoſe to ridicule this admirable philoſopher. To this purpoſe he repreſents him ſuſpended in a baſket, reſembling his thoughts to the ſubtle and light air which he reſpires, and invoking the clouds, the tutelary deities of the ſophiſts, whoſe voice he imagines that he hears in the midſt of the fogs and darkneſs by which he is ſurrounded. To inflame the more againſt him the prejudices of the people, he accuſes him of teaching the youth of Athens to contemn the gods, and to deceive men. This piece, which was received at its firſt and ſecond recital with applauſe, though it did not obtain the crown, is thought to have contributed towards preparing the Athenians for that unjuſt decree, which bereaved that age of its brighteſt ornament. Ariſtophanes, notwithſtanding the malignity of his ſatire, the occaſional obſcenity of his humour, and the licentiouſneſs of his morals, was univerſally admired among the ancients on account of the Attic elegance of his ſtyle, and the peculiar poignancy of his wit. The purity and elegance of his diction was ſo much admired even by Plato, the diſciple of Socrates, that in an epigram he repreſents the graces ſearching for a deſirable manſion, and at length fixing it in the mind of Ariſtophanes; and St. Chryſoſtom, the moſt eloquent of the Greek fathers of the church, is ſaid to have laid him always under his pillow when he went to bed. Nevertheleſs, many of the ancients felt and cenſured the faults of Ariſtophanes. The character which Plutarch (in Compar. Ariſtoph. & Menand., Oper. t. ii. p. 853 and 854.) gives of him, is as follows: "he outrages nature, and addreſſes himſelf more to the populace than to a genteel audience; his ſtyle is conſtantly mixed and unequal, elevated to bombaſt, familiar even to vulgarity, and buffooniſh even to childiſhneſs. In him the father is not to be diſtinguiſhed from the ſon, the citizen from the peaſant, the warrior from the tradeſman, nor a god from a menial ſervant. His impudence can only be endured by low people; his wit is bitter, ſharp, and cutting; his pleaſantry conſiſts chiefly in a play upon words, groſs equivocations, and far-fetched and licentious alluſions. In him, ſubtlety of expreſſion becomes malignant, and ſimplicity appears ſtupid; we are more inclined to hiſs than to laugh at his raillery, and his gaiety is effrontery; in ſhort, he writes not to pleaſe rational and worthy people, but to gratify envy, ſpite, and debauchery." Upon the whole, we may obſerve, that ſuch wit as his would not be admired in any modern

modern compoſition. Friſchlin has written an expreſs vindication of Ariſtophanes, in anſwer to the objections of Plutarch. Cicero likewiſe, in his firſt book "De legibus," ſtiles him the moſt witty poet of the "Old Comedy," and highly commends him for endeavouring to expel the new deities out of the city, and to prevent the admiſſion of ſcandalous forms of religion. Brumoy thinks that Plutarch's remarks are too ſevere; and Mr. Cumberland has defended the author of the "Clouds," with true claſſical zeal, ſomewhat, perhaps, at the expence of Socrates and Euripides. Athenæus (Deipn. l. x. c. 9.) informs us, that he wrote his comedies when he was drunk, as Alcæus likewiſe did his poems. Julius Cæſar Scaliger compares Horace to this poet; but Friſchlin is of opinion, that Plautus has a greater affinity to him in his manner of writing, and has actually imitated him in many parts of his plays. By others, his writings have been repreſented as containing within them the germ of true comedy, and the models of the beſt comic ſtyle; and they maintain that the author well underſtood that ſpecies of raillery, which, in his age, was pleaſing to the Athenians, and which muſt pleaſe in every age.

Ariſtophanes is ſaid to have invented a peculiar kind of verſe, which was called by his name, and is mentioned by Cicero in his "Brutus." Suidas tells us, that he likewiſe invented the "tretrameter" and "octameter" verſe. Eleven of the fifty-four comedies ſaid to have been written by this poet, ſtill remain, and theſe belong entirely to the firſt æra, known by the name of "the Old Comedy." Of this kind of drama Eupolis, Cratinus, and Ariſtophanes, were the three moſt celebrated authors. Of "the Middle Comedy," he gave a ſpecimen in his "Cocalus," that is now loſt, in which he did not introduce real perſons, as in his "Equites," "Clouds," and "Frogs," but fictitious ones. Madame Dacier obſerves, that there are but two of them, "Plutus," and the "Clouds," which, with a regard to decency, will admit of a tranſlation into the modern languages. The deſign of the latter has been already mentioned. The former, written after the magiſtrates had given orders that no perſon ſhould be expoſed by name on the ſtage, was intended to reproach the Athenians with their avarice, which had been the occaſion of their committing many errors in concerns of the greateſt importance. This is the moſt eſteemed of any of the comedies now extant. Euripides, to whom this poet had a particular averſion, is ſatirized in ſeveral of his plays, particularly in his "Frogs," his "Acharnenſes," and his "Theſmophoriuzaſæ." The beſt editions of Ariſtophanes are thoſe of Kuſter, Bergler, and Brunck. Gen. Dict. Travels of Anacharſis, vol. iv. p. 48. 53, &c. Nouv. Dict. Hiſtor.

ARISTOPHANEUM, in *Ancient Phyſic*, a name given to a kind of emollient plaſter, prepared of pitch, wax, opopanax, apochyma, and vinegar.

ARISTOPHILI, in *Ancient Geography*, a people of Aſia, in the Paropamiſus. Ptolemy.

ARISTOTELIA, in *Antiquity*, annual feaſts, celebrated by the citizens of Stagira, in honour of Ariſtotle, who was born there; in gratitude for his having procured from Alexander, the re-building and re-peopling of that city, which had been demoliſhed by king Philip. It is ſaid, that after his death at Chalcis in the iſland of Eubœa, they fetched away his bones, built an altar upon his tomb, called the place by his name, and held their aſſemblies there afterwards. Mandeville, in his fabulous account of his voyages, ſays, that this was ſtill in being in his time; that is, in the fourteenth century. Ammon. in Vit. Ariſtot. Stanley's Hiſt. of Philoſ. p. iv. c. 8.

ARISTOTELIA (from Ariſtotle), in *Botany*, a ſmall ſhrub, a native of Chili. Schreb. n. 816. L'Heritier ſtirp. nov. 31. t. 16. Juſſ. 433. Claſs, *dodecandria monogynia*. Gen. Char. *Cal.* perianth one-leaved, five-parted; diviſions lanceolate, concave, acute, upright. *Cor.* petals five, wedge-ſhaped, concave, erect, lying over each other at the ſides, ſcarcely longer than the calyx. *Stam.* filaments fifteen, very ſhort; anthers linear, ſhorter than the germ. *Piſt.* germ ſuperior, roundiſh, rather three-cornered; ſtyle filiform, longer than the corolla; ſtigmas three, recurved. *Per.* berry ſubglobular, obtuſely three-cornered, three-celled. *Seeds* two, or ſolitary in each cell, angular.

Eſſ. Gen. Char. *Cal.* five-leaved. *Cor.* five-petalled, berry three-celled. *Seeds* two in each cell.

Species, 1. A. *macqui*, ſhining-leaved Ariſtotelia; root woody; ſtem brachiate, round, grey, tubercled; branches ſpreading, beſet with wart-like glands; leaves oppoſite, oblong-ovate, acuminate, ſerrate; the younger leaves of a ſhining bright green, ſomewhat viſcid, on foot-ſtalks; ſtipules in pairs, minute, like glands; peduncles racemed, axillary, nodding; flowers pedicelled, drooping, globoſe, herbaceous; calyx villoſe; ſtyle often trifid; berry the ſize of a pea, of a dark purple, becoming black. This ſmall ſhrub is a native of Chili, whence it was firſt ſent to Europe by Dombey, and known by the name of *macqui*. The inhabitants of Chili make a wine of the berries, which they give in malignant fevers. It is hardy enough to bear the open air in general. But in ſevere winters it ought to have the protection of a green-houſe. It flowers in April and May, and was introduced here about 1773, by Meſſrs. Kennedy and Lee. Loureiro has given the name of *Ariſtotelia* to a genus of the claſs *gynandria*, found in China.

ARISTOTELIAN, ſomething that relates to the philoſopher Ariſtotle.—Thus we ſay, an Ariſtotelian dogma, the Ariſtotelian ſchool, &c. See ARISTOTLE.

ARISTOTELIAN *philoſophy*, the philoſophy taught by Ariſtotle, and maintained by his followers.

The Ariſtotelian is otherwiſe called the *Peripatetic philoſophy*; the riſe, progreſs, viciſſitudes, and fate of which, ſee under ARISTOTLE, and PERIPATETICS.

ARISTOTELIANS, a ſect of philoſophers, otherwiſe called Peripatetics.

ARISTOTELICA *rota*. See ROTA.

ARISTOTLE, in *Biography*, was born at Stagira, on the coaſt of Thrace, in the beginning of the ninety-ninth olympiad, eighty-five years after the birth of Socrates, and 384 before the birth of Chriſt. Stagira, as well as the neighbouring Greek cities, enjoyed the precarious dignity of independent government: it was the ally of Athens in the Peloponneſian war, and, like other nominal allies, experienced the ſtern dominion of that tyrannical republic. The city of Stagira indeed owes its celebrity wholly to Ariſtotle and his family; and, if its name is ſtill familiar to modern ears, this proceeds merely from having communicated to our philoſopher the appellation of Stagirite. His father, Nicomachus, who was the phyſician and friend of Amyntas, king of Macedon, derived his deſcent through a long line of medical anceſtors from Æſculapius the companion of the Argonauts, whoſe ſkill in the healing art had raiſed him to a ſeat among the gods. Nicomachus improved a branch of knowledge which was the inheritance of his family, by writing ſix books on natural philoſophy and medicine. The mother of Ariſtotle was Pheſtis. He loſt his parents in early youth, but inherited from them a large fortune. He was left to the guardianſhip of Proxenus, a citizen of Atarna in Myſia, who received the young Stagirite into his family, and ſkilfully directed his education. At the age of ſeventeen, Ariſtotle was attracted by the

love of learning to Athens, and particularly by the deſire of hearing Plato in the academy, the beſt ſchool of ſcience as well as morals then exiſting in the world, and where the moſt aſſiduous ſtudent might find competitors fit for exciting his emulation and ſharpening his diligence. Plato early obſerved of him, that he required the rein rather than the ſpur. His induſtry in peruſing and copying manuſcripts was unexampled, and almoſt incredible; he was named, by way of excellence, the ſtudent or reader. Plato often called him the "ſoul of his ſchool;" and, when Ariſtotle happened to be abſent from his prelections, often complained, "Intellect is not here," and that he ſpoke to a deaf audience. As the ſtudent advanced in years, his acuteneſs was as extraordinary in canvaſſing opinions, as his induſtry had been unrivalled in collecting facts: his capacious mind embraced the whole circle of ſcience; and, notwithſtanding his pertinacity in rejecting every principle or tenet which he could not on reflection approve, his very ſingular merit failed not to recommend him to the diſcerning admiration of Plato, with whom he continued to reſide twenty years, even to his maſter's death; alike careleſs of the honours of a court, to which the rank and connections of his family might have opened to him the road in Macedonia; and indifferent to the glory of a name, which his great abilities might have attained by eſtabliſhing a ſeparate ſchool, and founding a new ſect in philoſophy. While Ariſtotle thus attended to the improvement of his mind, he did not neglect whatever might adorn his perſon. His figure was not advantageous; he was of a ſhort ſtature, his eyes were remarkably ſmall, his noſe was high, his limbs were diſproportionably ſlender, and he liſped or ſtammered in his ſpeech. For his ungracious perſon Ariſtotle is ſaid to have been anxious to compenſate by the finery and elegance of his dreſs: his mantle was ſplendid; he wore rings of great value; and he ſhaved both his head and his face, while the other ſcholars of Plato kept their long hair and beards. This fondneſs for dreſs, however, neither altered his character, nor interrupted his ardent paſſion for knowledge. When he was about ſix and thirty years of age, he loſt his maſter Plato. Of that ſage he always ſpoke with a degree of reſpect approaching to veneration. Soon after Plato's deceaſe, Ariſtotle wrote verſes in his praiſe, and erected altars to his honour. The epitaph inſcribed by Ariſtotle on the monument of his maſter, is preſerved in a Latin verſion of an ancient life of Ariſtotle, written in Greek, and aſcribed by ſome to Ammonius, and by others to Philoponus, and it is as follows:

"Gratus Ariſtoteles ſtruit hoc altare Platoni,
Quem turbæ injuſtæ vel celebrare nefas."

"To Plato's ſacred name this tomb is rear'd,
A name by Ariſtotle long rever'd!
Far hence, ye vulgar herd! nor dare to ſtain
With impious praiſe this ever-hallow'd fane."

Theſe extraordinary tokens of reſpect on the part of Ariſtotle, afford a preſumption amounting almoſt to certainty, that there is no truth in the relation of which Ariſtoxenus is ſaid to have been the original author, and which has been tranſmitted by Ælian, Diogenes Laertius, and others, that Ariſtotle gave great offence to Plato by the effeminate elegance of his dreſs, and by his pertneſs and loquacity; and that in reſentment of the preference manifeſted by his maſter in favour of Xenocrates and Speuſippus, he intruded into the ſchool, perplexed Plato at the age of eighty, when his faculties were failing, with ſubtle queſtions, drove him from the academy, and took poſſeſſion of the chair, till it was reclaimed for Plato by his diſciple Xenocrates. In the Latin tranſlation of the life of Ariſtotle above mentioned, this calumny is charged on Ariſtoxenus, who, as Suidas obſerves, entertained a perſonal enmity againſt Ariſtotle, for preferring Theophraſtus to him in the ſucceſſion of his ſchool. For the aſſertion that Ariſtotle inſtituted a new ſchool before Plato's death, we have, therefore, no ſufficient authority. It has been alſo related by Ælian, (Var. Hiſt. l. v. c. 9.) whoſe teſtimony, indeed, does not deſerve implicit credit, and alſo by Athenæus (Deipnoſoph. l. viii. p. 354.) that Ariſtotle, in his youth, was ſo much addicted to pleaſure as to ſpend his patrimony; that he afterwards entered into the army; and abandoning a military life, profeſſed medicine, and practiſed pharmacy; till at length he was led by accident to turn his attention to philoſophy. But the age at which he was admitted into the academy, and other circumſtances, very much invalidate the credibility of this account. The connections which Ariſtotle had formed, at the time of his maſter's death, with ſome of the moſt illuſtrious, as well as the moſt extraordinary, perſonages of his own or any age, might naturally inſpire him with the deſign of leaving Athens, after he had loſt the philoſopher and friend whoſe fame had firſt drawn him thither, and whoſe inſtructive ſociety had ſo long retained him in that celebrated city. Ariſtotle might probably have directed his views to the ſucceſſion in his deceaſed maſter's chair at the academy; and upon the election of Speuſippus, diſappointment and diſguſt might have furniſhed additional motives to his leaving Athens. Whatever might have been the caſe in this reſpect, Ariſtotle, while a boy at Atarna, had contracted an intimacy with Hermias, who, originally in a ſtate of ſervitude, had been enabled by the bounty of a patron to proſecute the ſtudy of philoſophy; and having become a fellow-ſtudent with Ariſtotle at Athens, ſoon united with him in the bands of affectionate eſteem, which finally cemented into firm and unalterable friendſhip. Ariſtotle through life purſued the calm and ſecure paths of ſcience, but Hermias ventured to climb the dangerous heights of ambition. His enterprizing ſpirit, ſeconded by good fortune, raiſed him to the ſovereignty of Aſſus and Atarna, Greek cities of Myſia. Thither, at the invitation of his royal friend, Ariſtotle repaired. At Atarna he found the wiſh of Plato realized; and in his friend Hermias, philoſophy ſeated on a throne. In that city he reſided near three years, enjoying the inexpreſſible happineſs of ſeeing his enlightened political maxims illuſtrated in the virtuous reign of his fellow-ſtudent and ſovereign. But Hermias being afterwards depoſed, Ariſtotle was obliged to fly. When Hermias was put to death by Artaxerxes, king of Perſia, Ariſtotle erected a ſtatue of his friend in the temple of Delphos, and wrote in praiſe of him an epitaph, and a hymn to virtue; of which we have an elegant tranſlation, with ingenious remarks, in biſhop Hurd's Notes on Horace's Art of Poetry, v. 219. Ariſtotle, on this occaſion, eſcaped to Mitylene in the iſle of Leſbos, in company with Pythias, the kinſwoman and adopted daughter of the king of Aſſus and Atarna, but now miſerably fallen from the lofty expectations in which her youth had been educated. But this ſad reverſe of fortune only endeared her the more to Ariſtotle, who married the fair companion of his flight in his thirty-ſeventh year; which is preciſely that age pointed out by himſelf as the fitteſt, on the male ſide, for entering into wedlock. Pythias died ſhortly afterwards, leaving an infant daughter, whom Ariſtotle named after a wife tenderly beloved, and who repaid his affection with the moſt amiable ſenſibility. Ariſtotle was now diſtinguiſhed thoughout Greece, and Philip of Macedon, acquainted with his fame, and apprized of his merits, early deſigned to requeſt his acceptance of the tuition of his ſon Alexander, and at length prevailed on him to undertake the charge,

charge, in the fourth year of the 109th Olympiad, or the 341ſt before Chriſt, when Alexander was fourteen years of age. See ALEXANDER.

In the education of Alexander, the Stagirite ſpent near eight years, or five (Juſtin. Hiſt. l. xii. c. 16.), during which long period, in an office of much delicacy, he enjoyed the rare advantage of giving the higheſt ſatisfaction to his employers, while he excited the warmeſt gratitude in his pupil. But the ambition of Alexander had early taken root; and the peculiarities of his character had diſplayed themſelves in a very public and very important tranſaction, which happened long before the Stagirite arrived at the court of Pella. This was his intercourſe with the Perſian ambaſſadors, which has been mentioned under the article ALEXANDER. In training ſuch a youth, ſays Dr. Gillies, the Stagirite had a rich field to cultivate; but he could only hope to give a new direction to paſſions, which it was too late to moderate or controul. In his treatiſe on politics, he has carefully delineated the plan of education beſt adapted to perſons of the higheſt rank in ſociety; and, in performing the taſk aſſigned to him by Philip, this plan was to be ſkilfully modified, by adjuſting it to the peculiar circumſtances and extraordinary character of his pupil. Alexander's loftineſs could not be conquered, but it might be made to combat on the ſide of virtue; if he was angry, it was proved to him that anger was the effect of inſult, and the mark of inferiority. His love for military glory, which, while it is the idol of the multitude, will always be the paſſion of the great, could neither be reſtrained nor moderated; but, to rival this tyrant of his breaſt, ſtill more exalted affections were inſpired, which rendered Alexander as much ſuperior to conquerors, as conquerors deem themſelves ſuperior to the loweſt of the vulgar. Agreeably to a maxim inculcated in that book of Ariſtotle's politics which relates to education, the two years immediately following puberty conſtitute that important period of life, which is peculiarly adapted for improving and ſtrengthening the bodily frame, and for acquiring that corporeal vigour which is one main ſpring of mental energy. During this intereſting period of youth, with the proper management of which the future happineſs of the whole life is ſo intimately connected, Ariſtotle obſerves that the intellectual powers ought indeed to be kept in play, but not too ſtrenuouſly exerciſed, ſince powerful exertions of the mind and body cannot be made at once, nor the habits of making them be ſimultaneouſly acquired. In conformity with this principle, Alexander was encouraged to proceed with alacrity in his exerciſes, till he acquired in them unrivalled proficiency; after which, the whole bent of his mind was directed to the moſt profound principles of ſcience. Ariſtotle having directed the ſtudies of his pupil to ſuch ſubjects as expanded and invigorated the underſtanding, proceeded to thoſe which regulate private and public conduct. He carefully inſtructed his pupil in ethics and politics. He wrote to him, long afterwards, a treatiſe on government; and exhorted him to adjuſt the meaſure of his authority to the various characters of his ſubjects, agreeably to a doctrine which he frequently maintains in his political works, that different nations require different modes of government, reſpectively adapted to their various turns of mind, and different habits of thinking.

The influence which Ariſtotle acquired with his royal pupil he employed to beneficent purpoſes. One diſtinguiſhed inſtance is his conduct to his native country. See ALEXANDER, ARISTOTELIA, and STAGIRA.

After the moſt intimate communication during the ſpace of eight or nine years, the pupil and the preceptor ſeparated for ever, to purſue, in a career of almoſt equal length, the moſt oppoſite paths to the ſame immortal renown; the one by arms, the other by philoſophy; the one by gratifying the moſt immoderate luſt of power, the other by teaching to deſpiſe this and all ſimilar gratifications. During his eaſtern triumphs, terminated in the courſe of ten years by his premature death, Alexander gave many illuſtrious proofs of gratitude to the virtuous director of his youth. Although the tutor declined accompanying his pupil in this expedition, their mutual regard was maintained by a friendly correſpondence; and the conqueror furniſhed the philoſopher with materials for his Natural Hiſtory, by ſending him, at a great expence, from different countries, a large collection of animals. See Plin. H. N. l. viii. c. 16. Athen. l. ix. However, in a ſubſequent period, Alexander's reſentment againſt Calliſthenes was transferred to Ariſtotle, and a mutual alienation took place between the philoſopher and the prince.

Having taken leave of the Macedonian capital, Ariſtotle returned to his beloved Athens, where he ſpent thirteen years, almoſt the whole remainder of his life, inſtructing his diſciples, and improving the various branches of his philoſophy. Finding the academic chair occupied by Xenocrates, the ſucceſſor of Speuſippus, he obtained permiſſion to apply to the purpoſes of public inſtruction a large building in the ſuburbs of the city, called the Lyceum, which had been uſed for military exerciſe. Accordingly, about the ſecond year of the 111th olympiad, or the 335th year before Chriſt, he opened his ſchool, and founded a new ſect of philoſophers, denominated, from the circumſtance of his walking when he delivered his lectures, PERIPATETICS. Here he delivered his acroatic, acroamatic, or eſoteric and exoteric philoſophy; the former, conſiſting of phyſics and logic, and delivered to a ſelect audience; the latter, compoſed of rhetoric, ethics, and politics, and delivered to the public at large. See ACROATICS. The talents and virtues of Ariſtotle expoſed him to envy and calumny, and the ſound wiſdom of his philoſophy excited the hatred of the many pretenders that naturally abounded in ſuch a reſervoir of literature as Athens. He regarded with equal contempt, vain pretenders to real ſcience; or real profeſſors of ſciences which he deemed unproductive of any beneficial purpoſe. "He fought," (ſays his modern biographer and interpreter), "only for truth, and was careleſs of the obſtacles which ſtood in his way to attaining it, whether they were found in the errors of philoſophers, or in the prejudices of the vulgar. Such a man, in ſuch a city as Athens, where, ſince the days of Socrates, the learned taught publicly, and converſed freely with all deſcriptions of perſons, could not fail to have many rivals and many enemies. Sophiſts and ſcioliſts, ſoothſayers and ſatiriſts, and that worſt of banes ſatirical hiſtorians, heaped obloquy on a character, the ornament of his own age, and deſtined to be the inſtructor of poſterity." In pretended piety, the enemies of Ariſtotle found the means of accuſing a ſage whoſe incomparable wiſdom corroded their envy. After having taught thirteen years in the Lyceum with the higheſt reputation, he was charged with irreligion before the Areopagus by the hierophant Eurymedon, abetted by Demophilus, a perſon of weight in the republic, and both of them inſtigated to this cruel proſecution by our philoſopher's declared enemies. The heads of the accuſation were, "that Ariſtotle had commemorated the virtues both of his wife Pythias and of his friend Hermias, with ſuch ceremonies and honours as the piety of Athens juſtly reſerved for the majeſty of the gods." Though theſe accuſations were extremely frivolous, yet Ariſtotle was condemned, but eſcaped puniſhment by leaving the country. After making a rhetorical defence of himſelf, and accompanying it with a proverbial line:

"Ὄχνη ἐπ' ὄχνῃ γίγαται, σῦκα δ' ἐπὶ σύκοις."

"Pears upon pears, and figs on figs grow here:"

importing that Athenians would always be Athenians, he withdrew from Athens, aſſigning this reaſon for his conduct, according to Ælian, (l. iii. c. 36). "I am not willing to give the Athenians an occaſion of being guilty of injuſtice a ſecond time againſt philoſophy;" referring probably to the caſe of Socrates, and which he conſidered as ſimilar to his own. In the ſecond year of the 114th Olympiad, or the 324th year before Chriſt, Ariſtotle, accompanied by a few friends, retired to Chalcis in Eubœa, and there, in the ſixty-third year of his age, and the third year of the 114th Olympiad, or 323 years before Chriſt, he died.

The cauſe and manner of his death have been variouſly repreſented. Suidas ſays, that he drank hemlock, becauſe he had been called to account for the hymn written by him in honour of Hermias. Others, for it is needleſs to advert to the tales of monkiſh writers, report, that the occaſion of his death was too intenſe an application to abſtruſe inquiries, and particularly ſo on the queſtion concerning the tides of the Euripus, which ebbed and flowed ſeven times in a day. He was twice married; firſt to Pythias, and afterwards to Herpilis a native of Stagira, by whom he had a ſon named Nicomachus, to whom he addreſſed one of his treatiſes on morals. His conſtitution was infirm; but his health was preſerved, and his life prolonged, notwithſtanding cloſe and ſedulous application, by his temperance.

Ariſtotle exhibited a character as a man, worthy of his pre-eminence as a philoſopher; inhabiting courts without meanneſs and without ſelfiſhneſs; living in ſchools without pride and without auſterity; cultivating with ardent affection every domeſtic and every ſocial virtue; manifeſting on all occaſions that regard to truth, which is emphatically expreſſed in the adage ſaid to be his, "Amicus Plato, Amicus Socrates, magis tamen amica veritas;" while with indefatigable induſtry he reared that wonderful edifice of ſcience, the plan of which we are ſtill enabled to diſcover from his imperfect and mutilated writings.

Of Ariſtotle's writings the fate was as extraordinary as unmerited; few of them were publiſhed in his life-time; the greater part of them nearly periſhed through neglect. The manuſcripts and library were bequeathed to Theophraſtus, the moſt illuſtrious of his pupils. Theophraſtus again bequeathed them to his own ſcholar, Neleus, who, carrying them to Scepſis, a city of the ancient Troas, left them to his heirs in the undiſtinguiſhed maſs of his property. The heirs of Neleus, men ignorant of literature and careleſs of books, totally neglected the intellectual treaſure that had moſt unworthily devolved to them, until they heard that the king of Pergamus, under whoſe dominion they lived, was employing much attention and much reſearch in collecting a large library. Afraid that the deſpotic power of the prince might ſeize ſo valuable an acceſſion, they hid their books under ground; and the writings of Ariſtotle, as well as the vaſt collection of materials from which they had been compoſed, thus remained in a ſubterraneous manſion for ſeveral generations, a prey to dampneſs and to worms. At length they were relieved from their priſon, or rather raiſed from the grave, and ſold for a large ſum, together with the works of Theophraſtus, to Apellicon of Athens, a lover of books rather than a ſcholar (ſee Apellicon), through whoſe labour and expence the work of reſtoring Ariſtotle's manuſcripts, though performed in the ſame city in which they had been originally written, was very imperfectly executed. To this, not only the ignorance of the editors, but both the condition and the nature of the writings themſelves, did not a little contribute. (See Dr. Gillies's Life of Ariſtotle, vol. i. p. 35.) Hiſtory has not informed us what became of Ariſtotle's original manuſcript; but the copy made for Apellicon was, together with his whole library, ſeized by Sylla, the Roman conqueror of Athens, and by him tranſmitted to Rome. Tyrannion, a native of Pontus, who had been taken priſoner by Lucullus, procured the manuſcript from Sylla's librarian. He communicated the uſe of it to Andronicus of Rhodes, who then flouriſhed as a philoſopher at Rome. See Andronicus. The Rhodian having undertaken the taſk of arranging thoſe long injured writings, finally performed the duty of a ſkilful editor. From the æra of Andronicus's publication to that of the invention of printing, a ſucceſſion of reſpectable writers, on civil and ſacred ſubjects (not excepting the venerable fathers of the Chriſtian church) confirm by their citations and criticiſms the authenticity of moſt of the treatiſes ſtill bearing Ariſtotle's name. According to the moſt credible accounts, he compoſed above 400 different treatiſes, of which only 48 have been tranſmitted to the preſent age. But many of theſe laſt conſiſt of ſeveral books; and the whole of his remains together ſtill form a golden chain of Greak erudition, exceeding four times the collective bulk of the Iliad and Odyſſey.

The works of Ariſtotle are referred to three heads, God, Nature, and Man. Whatever reaſonings relate to theology, though ſcattered in different treatiſes, may be referred to his metaphyſics; a name unknown, indeed, to Ariſtotle, but given to his theological works by his editors, and importing, that the fourteen books which bear it, ſhould immediately follow his numerous treatiſes on the ſubjects of phyſics or natural philoſophy; that we may not reſt ſatisfied with the knowledge of bare effects, but proceed to the inveſtigation of cauſes, and of the deity himſelf, the primary cauſe of all. In connection with his "fourteen books under the title of metaphyſics," we may mention his treatiſe "of the univerſe and its cauſe," and "a refutation of Xenocrates, Zeno, and Gorgias." Ariſtotle's doctrines concerning Being conſidered abſtractedly, concerning deity, and concerning the ſoul, are comprehended under the term "metaphyſics;" becauſe they *paſs beyond* ſenſible bodies to objects that are perceived only by the underſtanding; and this branch of ſcience is called by him "the firſt philoſophy." The doctrine of Being, or ontology, is nothing more than the definition and arrangement of general terms; and from a ſeries of definitions Ariſtotle deduces ſuch corollaries as neceſſarily follow from them. The firſt principle or axiom, as he ſtates it, of this doctrine is, that it is impoſſible that the ſame thing ſhould be, and ſhould not be, in the ſame ſubject, at the ſame time, and in the ſame reſpect. To this univerſal principle, which is itſelf incapable of demonſtration, becauſe it is a primary truth, all demonſtration may be reduced. Being exiſts either by itſelf, or by accident; on the firſt all properties or accidents depend; but of the latter no certain knowledge can be obtained. Being may be either in power, or act; and power is either active or paſſive. The former is the principle of motion or change, and the latter conſiſts in the ſubject upon which active power is exerciſed. Power remains when it is not exerted in action; and action takes place when a thing is otherwiſe than when it was in power. Again, Being is either notional, as it is conceived in the mind, or real, as it exiſts in nature. To unity, which is one of the properties of Being conſidered with reſpect to numbers, are nearly related, identity, equality, and ſimilarity. Being alſo admits of genus and ſpecies. The doctrine of Ariſtotle concerning the First Mover, is more important. From the circular motion

motion of the heavens, which he conceives to be eternal, he deduces his notion of the Firſt Mover; itſelf unmoved and eternal, which eternally communicates motion to other ſubſtances. This ſubſtance, the cauſe of eternal motion, is itſelf ſimple, pure energy, immaterial, eternal, and immutable; and its act, by which it is the firſt cauſe of all motion, conſiſts in the ſimple energy of pure intelligence. This influence operates, independently and immediately, upon inferior intelligences of the ſame nature with itſelf; and by their agency the motions of the primary and ſubordinate ſpheres are produced. The Firſt Mover is in its eſſence incorporeal; indiviſible, becauſe unity is perfect; immutable, becauſe nothing can change itſelf; and eternal, becauſe motion is eternal. This incorporeal intelligence, happy in the contemplation of himſelf and the firſt cauſe of all motion, is, according to the ſyſtem of Ariſtotle, the Being of Beings, or God. Perplexed with difficulties in his conception of the mode by which motion was communicated, he recurred to analogy, and ſuppoſed that the Firſt Mover acts upon the firſt celeſtial ſphere to give it motion, in a manner ſimilar to that by which the mind of man acts upon the human body. From the well-known fact, that the motion of the body follows the conceptions and volition of the mind, he aſſumed a certain intellectual influence, exerciſed by the Firſt Mover, as the principle of local motion, and thus imagined that he had ſolved the great problem that had hitherto been found inexplicable, in what manner mind acts upon body.

Hence has ariſen an inquiry, whether Ariſtotle is to be ranked in the claſs of Theiſts or of Atheiſts. From the preceding curſory view of his ſyſtem, it appears that it does not exclude the idea of deity; for he ſpeaks of the Firſt Mover as a being diſtinct from the world, ſeparate from matter, and poſſeſſing intellect, deſire, and a power of communicating motion; upon whom the univerſe is dependent, not as upon an animating principle, but an external moving power. This being he repreſents as ſuperior to all other intelligent natures, and calls him God. At the ſame time, Ariſtotle's notion of a deity cannot be reconciled with juſt conceptions of the divine nature and attributes. Although he makes God the cauſe of all motion, yet, by ſuppoſing the univerſe to have exiſted from all eternity, he diveſts him of the glory of creation, and connects him with a world already formed by a chain of neceſſity, for no other purpoſe than to make him the firſt ſpring of a vaſt machine. God indeed, in the ſyſtem of Ariſtotle, is immutable; ſo is likewiſe the celeſtial ſphere, in which he is ſuppoſed to reſide. In producing motion he acts neceſſarily; and eternally employed in the contemplation of his own nature, he obſerves nothing, and cares for nothing beyond himſelf. Poſſeſſing neither immenſity nor omnipreſence, and far removed from the inferior parts of the univerſe, he is not even a ſpectator of its inhabitants and their concerns, and cannot therefore be a proper object of reverence and worſhip. As to thoſe intelligent natures which he conceived to be inferior to the Firſt Mover, Ariſtotle taught, that they are ſimple immaterial ſubſtances, preſiding over the lower celeſtial ſpheres; but he has no where clearly determined, whether they were proper objects of religious worſhip. It is probable, that he ranked every thing of this kind among the popular ſuperſtitions, and that this was the cauſe of the complaints which were brought againſt him by the Athenians.

On the ſubject of Mind, Ariſtotle aſſerted with Plato, that there are in man different faculties, which have reſpectively a different organ; but he expreſſes himſelf in ſuch obſcure terms, that it is not eaſy to perceive his true meaning. The ſoul, which is the firſt principle of action in an organized body, poſſeſſes life potentially, but does not move itſelf. It is not a rare body, compoſed of elements; for it differs from theſe in having perception. It has three faculties, the nutritive, the ſenſitive, and the rational. The firſt is that by which life is produced and maintained. The ſecond is that by which we perceive and feel, without perceiving itſelf or its organs, but ſome external object by the intervention of its organs, which are adapted to produce the ſenſations of ſight, hearing, ſmell, taſte, and touch. The external ſenſes, by means of ſenſible ſpecies or forms that are immaterial, perceive objects as wax receives the impreſſion of a ſeal without receiving any part of its ſubſtance; but the difference of theſe objects is perceived by the common or internal ſenſe. Perception differs from intellect; the former being common to all animals, the latter belonging to a few. Fancy is the perception produced by the immediate action of the ſenſes. Memory is derived from fancy, and has its ſeat in the ſame power of the ſoul; being the effect of ſome image impreſſed upon the ſoul by means of the ſenſes. Reminiſcence is that mental faculty, by which we ſearch for any thing which we wiſh to recollect, through a ſeries of things nearly related to it, till at laſt we call to mind what we had forgotten. The intellect is that part of the ſoul by which it underſtands; and it is paſſive and active; the former being the ſeat of the ſpecies or forms of things, and the latter the efficient cauſe of all knowledge. The principle of local motion is the deſire or averſion which ariſes from the practical exerciſe of the underſtanding; and it produces either rational volition or ſenſitive appetite. The production of animal life ariſes from the union of the nutritive ſoul with animal heat. Life is the continuance of this union, death its diſſolution.

As to the Soul or firſt principle of animal life, and of all perception, intelligence, or action, Ariſtotle was at a loſs in explaining its ſpecific nature. He could only define the mind to be that principle by which we live, perceive, and underſtand. When he attempted to form an abſtract conception of this principle, he was perplexed; and he was ſo unacquainted with the nature of this ſubſtance, or ſo undeciſive in his opinion, or perhaps ſo anxious to conceal it, that he recurs to the uſe of a term, which merely expreſſes the confuſed idea which he had formed to himſelf from obſerving its operations, and called Ἐντελεχεια, or "perfect energy," denoting ſome unknown ſource of ſenſitive and rational life in certain organiſed bodies. It does not certainly appear from the writings of Ariſtotle, whether he thought the ſoul of man mortal or immortal; but the former appears moſt probable, from his notion of the nature and origin of the human ſoul, which he conceived to be an intellectual power, externally tranſmitted into the human body from an eternal intelligence, the common ſource of rationality to human beings. We have no evidence that he ſuppoſed the union of this principle with any individual to continue after death.

Ariſtotle's hiſtories of the heavens and of the earth; of animals, plants, and minerals; and even of man, conſidered merely as a material and ſentient being, may, conformably with modern language, be arranged under the head of Nature; though, in Ariſtotle's own acceptation, that term has a more limited ſenſe; and is confined to terreſtrial objects, and thoſe exiſting between this earth and the lunal ſphere.

The phyſical writings of Ariſtotle are the following: "Of Phyſics, or the Doctrine of Nature;" explaining the principles and properties of natural bodies: "Of Heaven;" treating of the univerſe, the celeſtial ſpheres, and ſimple bodies or elements: "Of Generation and Corruption;" "Of Meteorology;" "Of the Hiſtory of Animals;"

"Of

"Of the parts of Animals and their Cauſes;" "Of the Production of Animals;" "Of the Progreſſion of Animals;" "Of the Soul, or Vital Principle;" "Of the Senſes;" "Of Memory;" "Of Sleep;" "Of Dreams;" "Of Animal Motion;" "Of the Length of Life;" "Of Youth and Old Age;" "Of Reſpiration;" "Of Plants;" "Of Breath;" "Of Marvellous Facts;" "Of Phyſiognomy;" "Of Sounds;" "Of Colours;" and "Problems."

In Ariſtotle's ſyſtem of "Φύσις," the principles of nature are neither the "ſimilar parts" of Anaxagoras, nor the "atoms" of Leucippus and Democritus, nor the "ſenſible elements" of Thales, nor the "unity" of Parmenides, nor the "numbers" of Pythagoras, nor the "ideas" of Plato; but they were the three following, viz. "form, privation, and matter;" the two former being contrary to each other, and the latter the common ſubject of both. Matter, according to Ariſtotle, is a primary ſubſtance without quantity or quality, form or figure, or any of the properties of body. This incorporeal matter, though really borrowed from the Pythagoreans, Ariſtotle claimed as his own invention, and he boaſted of his having been the firſt who had diſcovered the true principle of bodies. Form is the peculiar nature or eſſence of any thing, or that which makes it to be what it is. Privation is the abſence of form, ſo that matter and form are the conſtituent principles of things, and privation is accidentally aſſociated with them. In order to unite matter and form, Ariſtotle for this purpoſe conceived in his mind a vague notion, which he has very obſcurely and unſatisfactorily explained, of ſome internal cauſe of motion and arrangement, to which he applied the term "nature." Cauſes are diſtinguiſhed by this philoſopher into four kinds; material, of which things are made; formal, by which a thing is that which it is, and nothing elſe; efficient, by the agency of which any thing is produced; and final, or the end for which it is produced. Subſtances he divides into eternal, as the heavens which revolve round the earth with a circular motion peculiar to the celeſtial ſpheres; and periſhable, as animal or terreſtrial bodies. The heavenly ſphere has neither levity nor gravity, is liable to no change, and is eternal. Its natural motion is circular, but there are other ſpheres which move in a contrary direction to this, in order to produce the viciſſitudes of terreſtrial things. The motion of the firſt ſphere, or "primum mobile," is equable and uniform; this and the firſt mover being eternal and immutable. The ſtars are of the ſame nature with the ſpheres that ſupport them, but more denſe; and they communicate light and heat to the air, and thence to the inferior world, by means of friction; and they are moved in conſequence of the motion of the ſpheres, in which they are placed. The earth is ſpherical, and immoveably fixed in the center of the motion of all the ſpheres. The firſt ſphere revolves with the greateſt velocity from weſt to eaſt, and the inferior ſpheres in a contrary direction. The velocities of the ſpheres of the ſeven planets are inverſely as their diſtances from the firſt ſphere. The world, according to this philoſopher, is finite and eternal; and there is only one world. Bodies, according to his ſyſtem, are either ſimple elements produced by the union of the firſt matter and form, or compound terreſtrial bodies produced from the combination of elementary bodies. The elements are four, namely, fire, air, water, and earth. The two principles of motion are gravity and levity; by the former, bodies deſcend towards the center of the world, and by the latter, they riſe towards the heavens. The element of earth has ſimple gravity; that of fire, ſimple levity; air and water partake of both. Compound bodies ſuffer a perpetual ſucceſſion of diſſolution and production; and this change is effected by the action of the circular motion of the heavens, by means of which the ſun and ſtars, which are the immediate agents in production and diſſolution, approach towards or recede from the earth. An action and a paſſion that are reciprocal ariſe from the mutual contact of different bodies. In ſenſible bodies there are certain primary qualities, ſome active and others paſſive, which conſtitute their ſpecific difference. Of this kind are heat and cold, moiſture and dryneſs, heavineſs and lightneſs, hardneſs and ſoftneſs, roughneſs and ſmoothneſs, and the like. From the union of the two firſt of theſe pairs of primary qualities, the elements are formed: as fire, from heat and dryneſs; air, from heat and moiſture; water, from cold and moiſture; and earth, from the union of cold and dryneſs. All the elements may be tranſmuted; and all mixed bodies are formed by the combination of all of them. From the general principles of production and diſſolution, and from the mutual action and paſſion of the ſimple qualities, Ariſtotle endeavours to aſſign the cauſes of natural appearances, and to explain the nature of mixed bodies, both perfect and imperfect. In his ſpeculative phyſics, Ariſtotle diſplays an extenſive practical knowledge of nature. His writings in natural hiſtory are a continued chain of phyſical and anatomical facts, which appear to have been the reſult of accurate obſervation. He collected by diligence, and by the aſſiſtance of others, and particularly of Alexander his pupil, a great number of natural bodies which he accurately examined; and he appears to have himſelf diſſected, or to have been preſent at the diſſection of, many animals, eſpecially of fiſhes.

Upon the philoſophy of man, as our author calls it, that is, of man conſidered as a ſocial and rational being, endowed with ſentiment, affection, and intellect, Ariſtotle's writings are as clear and copious as they are ſolid and ſatisfactory. His treatiſes on logic, ethics, and politics, as well as his books on rhetoric and poetry, may all be referred to this one head, and viewed as connected parts of one great ſyſtem of knowledge. In the moſt important, "ethics," contained in ten books to Nicomachus, ſeven to Eudemus, two intitled "the greater morals," and a ſmall part comprehending definitions of "virtues and vices," he conſidered, in the firſt place, their object, to wit, happineſs; and afterwards the faculties of the mind, their exertions and determinations which tend to produce happineſs. The excellencies of our ſpecies, he obſerves, all refer either to the underſtanding or the will; the firſt poſſeſſes reaſon eſſentially in itſelf, the ſecond is capable of being combined and aſſimilated with this divine principle. From the two powers of the underſtanding and the will, are reſpectively derived two claſſes of virtues, the intellectual and the moral. Sagacity, penetration, intelligence, wiſdom, are virtues of the underſtanding; gentleneſs, temperance, fortitude, juſtice, are virtues of the heart. The former claſs conſiſts in the proper diſpoſition and habit of the intellectual part of the ſoul; the latter in the proper diſpoſition and habit of the deſires and affections, which being formed ſubordinate to reaſon, and capable of liſtening to its dictates, then only perform their duty, when, like obedient ſubjects, they cheerfully obſerve the commands of their ſovereign. The intellectual virtues depend chiefly on education and exerciſe; the moral proceed entirely from habit, from which they derive their name. It is by practiſing juſtice, that we become juſt; by practiſing temperance, that we become temperate; by practiſing courage, that we become courageous. Hence the wonderful power of legiſlation and early inſtitution, by which the Cretans, the Spartans, and ſome other nations were honourably diſtinguiſhed among the reſt of mankind. Virtue is a practical art, and like all practical arts, can be preſerved by practice only. It is neither

ther natural, nor contrary to nature. We are born capable of attaining it, but the invaluable attainment muſt be made and perfected by habit. The virtues depend on the propriety of the affections from which they ariſe; and lye in a mean betwixt the extremes of too much and too little. Thus, to fear every thing is cowardly; to fear nothing is audacious; courage requires that we ſhould fear only ſuch objects as are truly formidable, and only in that degree in which they ought to be feared. In the ſame manner, he who is too much affected by objects of pleaſure, and ſeizes every opportunity to enjoy them, is called intemperate; he who is too little affected by ſuch objects, and refuſes every opportunity to enjoy them, may be called inſenſible. Temperance teaches us to purſue only ſuch pleaſures as we ought, at proper times, in proper places, and on proper occaſions. According to the ſame view of things, generoſity lies in the middle between avarice and profuſion; modeſty, between pride and diffidence; mildneſs, between iraſcibility and ſoftneſs; magnificence, between oſtentation and parſimony; popularity, between forbidding diſdain and officious adulation; in a word, every virtue conſiſts in a mean equally remote from two vicious extremes. Conſidered as the quality of an action, virtue conſiſts in the propriety of that affection from which the action proceeds, when the affection is neither too ſtrong, nor too weak, but has preciſely that degree of ſtrength which right reaſon teaches us to approve. As the quality of an action, virtue conſiſts therefore in mediocrity; but as the quality of a perſon, it conſiſts in the habit of this mediocrity, ſince in judging perſons and characters, we regard not particular acts and feelings, but ſuch acts and feelings as are frequent and habitual. There are many, and thoſe the moſt important virtues, the exerciſe of which is not in the firſt inſtance attended with pleaſure. To ſupport labour, to endure pain, to encounter difficulties and dangers, which wiſdom and fortitude on many occaſions require, are not obviouſly recommended by any natural deſire; nor is the practice of ſuch duties immediately agreeable. It is ſtill leſs agreeable, at firſt, to curb and reſtrain our natural appetites for pleaſure, which is the proper office of temperance; nor can that vigilant circumſpection, and ever-watchful attention to the moſt remote conſequences of our actions, which is eſſential to the virtue of prudence, be acquired without trouble and care, without many painful efforts and difficult ſtruggles. Yet it is the nature of all thoſe virtues, as well as of the hardeſt leſſons of juſtice, patriotiſm, and friendſhip, to become through habit agreeable; and the only ſure teſt that we have acquired them is, that they are practiſed with pleaſure. The moral virtues cannot, according to Ariſtotle, ſubſiſt without ſome mixture of the intellectual; but the latter may ſubſiſt alone and independent; and according to both Ariſtotle and Plato, the pureſt and moſt permanent felicity of which man is ſuſceptible, reſults from the exerciſe of his rational powers upon ſubjects of abſtract ſpeculation. The labours of the ſtateſman or general, the exertions of the legiſlator or patriot, all refer to ſome end or purpoſe, the attainment of which may be prevented by fortune, or fruſtrated by the weakneſs or wickedneſs of man. The practice of juſtice, generoſity, temperance, and fortitude requires many conditions, and ſuppoſes a variety of ſituations, which it is not always in our power to command. The juſt or generous man muſt have objects to whom he may diſtribute his juſtice or generoſity; he muſt poſſeſs the means by which to exerciſe thoſe virtues which all participate of frail mortality; ſince, though directed by prudence, they are impelled by paſſion, and reſult from the exigencies of our preſent corporeal ſtate. But the energies of contemplative wiſdom are pure and ſimple, like the intellectual ſource from which they ſpring. Not ſubſervient to remote purpoſes or contingent ends, they are immediately agreeable on their own account, and on every ſide round and complete in themſelves. Such are the principal doctrines to be found in Ariſtotle's "*Ethics.*"

His treatiſe on "*Politics,*" comprehending eight books, in the very firſt paragraph, in a few plain words, ſtates the only legitimate purpoſe of political eſtabliſhments. "Every political ſociety forms, it is plain, a ſort of community or partnerſhip inſtituted for the benefit of the partners. Utility is the end and aim of every ſuch inſtitution; and the greateſt and moſt extenſive utility is the aim of that great aſſociation comprehending all the reſt, and known by the name of the commonwealth."

Having ſtated and explained the grand purpoſes of ſociety, he conſiders the beſt ſyſtems of means for attaining thoſe purpoſes, and traces the diſtinction of ranks which ariſes from the inequalities of individual talents, virtue, and fortune. Political inſtitutions are beſt fitted for promoting human happineſs, when they are moſt ſuitable to the opinions and ſentiments of the people, and the circumſtances of the times and country. No one political ſyſtem will equally ſuit all ſituations, and ſcarcely any two. Government being an arrangement, the beſt government muſt be the beſt arrangement, and the beſt arrangement is that in which the materials to be arranged are the beſt fitted both to receive and to preſerve. The materials of the ſtateſman or legiſlator are the number and character of his people, and the extent and quality of his country. The excellence of a commonwealth, however, is not to be eſtimated by its populouſneſs or extent, but by its fitneſs for performing its proper functions; the ſame energies and habits conſtitute the happineſs both of individuals and of nations. Men make governments, not governments them; nor by any ſyſtem of political arrangements can a happy commonwealth be conſtituted from fools or cowards, profligates or knaves. The bricks muſt be firſt prepared, before the edifice can be reared. The human character is a compound of good and evil; the former ariſes from the balance of the affections, under the controul and guidance of reaſon, the latter reſults from paſſion operating without reſtraint. That government is the beſt, which moſt powerfully ſtimulates the energies of the people to beneficial purpoſes, and reſtrains them from hurtful purſuits. That muſt be a ſyſtem of freedom in the firſt place tempered by order, and moderation in the ſecond. Mixed governments, wiſely formed and balanced, beſt correſpond to the ſtate of mankind. Democracy, though apparently moſt agreeable to the rights of man, is not the beſt adapted to his wants; the general will unreſtrained is apt to run into exceſs, and precipitate in deliberation, to be tardy in execution. While ſimple democracy is inexpedient for the people themſelves, ſimple ariſtocracy and ſimple monarchy are equally inexpedient; and being the ſubjection of the many to a few or to one, are moreover unjuſt. For theſe reaſons Ariſtotle recommends a conſtitution that combines and balances the three orders as the moſt generally likely to promote the good of ſociety. To his treatiſe on politics, Ariſtotle has added two books on "*Oeconomics,*" in which he has treated in a ſimilar way, on the management of domeſtic concerns.

In "*Logic,*" or the art of reaſoning, in which Ariſtotle has the merit of being an inventor, his writings are, "The Categories," or ten general heads of arrangement; "of Interpretation," explaining the philoſophical principles of Grammar; "Analytics," including the whole doctrine of ſyllogiſms and demonſtration; "Topics," or common-places of arguments; and "Sophiſtic Refutations,"

tions," teaching the art of replying to an opponent. Theſe pieces collected in one volume, are called the "Organon of Ariſtotle." The arrangement of the ten CATEGORIES (which ſee) was borrowed from the Pythagorean ſchool, and is ſaid to have been firſt invented by ARCHYTAS of Tarentum, and communicated to Ariſtotle by Plato, who converſed with this Pythagorean in Italy. The art of ſyllogiſtical reaſoning (ſee SYLLOGISM), was perhaps altogether the invention of Ariſtotle; and, whatever may be thought of its utility, it muſt be allowed to have been a wonderful effort and diſplay of ingenuity. On the invention and application of ſyllogiſms, Ariſtotle treats with a degree of minuteneſs and ſubtilety, which produces obſcurity. His logical diſſertations would have been clearer, as well as more conciſe, if he had carefully diſtinguiſhed between words and ideas, and confined his attention chiefly to the latter. The reader will find a diſtinct account of the logic of Ariſtotle, by Dr. Reid, in the ſecond volume of lord Kaimes's Sketches of the Hiſtory of Man. Edinb. 4to. 1774. p. 165. See alſo the articles DEMONSTRATION, DIALECTICS, LOGIC, PROPOSITION, SYLLOGISM, &c. in this work.

The "*Rhetoric*" of Ariſtotle is compriſed in three books, in which the principles of eloquence are inveſtigated, and the whole art of oratory taught with ſo much depth of inveſtigation, and accuracy of arrangement, that the work has been the baſis of all that has been ſince delivered upon the ſubject by Cicero, Quinctilian, and later writers. See ORATORY. Another treatiſe, addreſſed to Alexander, is added, in which are diſtinctly conſidered the ſeveral ſpecies of diſcourſe belonging to the general heads of deliberative, demonſtrative, and judicial pleading.

On the ſubject of "*Poetry*," the "Poetic" of Ariſtotle affords a correct analyſis of the conſtituent parts of the drama and the epic; and contains general principles and particular obſervations, which could only have been written by a maſter in criticiſm.

The pieces on "*Mathematics*" which Ariſtotle has left, are, an obſcure, and probably imperfect treatiſe on "Incommenſurable Lines," and a book of "Queſtions in Mechanics."

Although among the works of Ariſtotle, nothing written expreſsly on Muſic has come down to us, if we except his tract περὶ ἀκουστῶν, and the nineteenth ſection of his Problems; yet we find from theſe, and from his works in general, that he had thought much and deeply on the ſubject. Indeed among the titles of two hundred and fifty of his loſt books, which have been collected by Fabricius, a work on Muſic appears, Περὶ Μουσικῆς, written expreſsly on the ſubject. We ſhall therefore do the art and ſcience of Muſic the honour to rank this great, this firſt of men, among its benefactors.

For a further account of the reception, progreſs, and decline of the Ariſtotelian philoſophy in the middle and in later ages; ſee PERIPATETICS. See alſo LOGIC, METAPHYSICS, PHILOSOPHY, PHYSICS, &c.

Having given a copious account of the life and writings of Ariſtotle, to which his diſtinguiſhed talents, his rank as an author, his perſonal merit, and his reputation, and influence in the various departments and ſeminaries of literature for many ages, gave him a juſt claim, and without which a work of this nature muſt have been eſſentially imperfect; it may not be improper to collect a few particulars that may ſerve to aid us in appreciating his literary character as well as the importance and utility of his writings. Whilſt we diſregard the fictions of calumny and panegyric, we ſhall not unduly extol his talents and virtues, nor degrade them below their juſt ſtandard. On the one hand, no credit can be attached to the abuſe of Timæus the Tauromenite, who repreſents him as a pretender to learning, a vile paraſite, and an habitual glutton and drunkard; nor to the cavils that were raiſed againſt his reputation, in conſequence of the honour he paid to the memory of his friend Hippias, and that of his wife Pythias: and, on the other hand, there is no foundation for aſcribing his extraordinary wiſdom to divine revelation; nor are we ſufficiently authoriſed to ſay with the Jews, that he gained his philoſophy in Judæa, and borrowed his moral doctrine from Solomon; much leſs that he was of the ſeed of Iſrael and the tribe of Benjamin; or with the Chriſtians, that he was a ſpecial meſſenger, ſupernaturally ordained to prepare the way for divine revelation, and that we are indebted to the aid of his philoſophy for the extent and accuracy of our acquaintance with the ſublime myſteries of religion. Although we cannot believe that juſt before his death, he diſcourſed to his friends concerning "the contempt of death, and the immortality of the ſoul;" that in his laſt moments he dictated a book in order to ſhew, that wiſe men need not lament their exit from their tenement of clay, of which book, an Hebrew verſion of the Arabic tranſlation from the ſuppoſed original was rendered into Latin, about the year 1200, by Manfred, ſon of the emperor Frederic I.; yet we cannot allow that either his doctrine or his life warranted his being condemned as an advocate for immorality or impiety, much leſs that he was the moſt infamous of human beings. On a fair and impartial eſtimate, it will perhaps be found, that neither were his virtues of that exalted kind which command admiration, nor his faults ſo criminal as not to admit of ſome apology. He may, perhaps, be juſtly cenſured for having taught his pupil Alexander principles of morals and policy, which were accommodated to the manners of a court, and which might be eaſily rendered ſubſervient to his ambitious views. And it cannot be doubted, that his philoſophical doctrines concerning nature were not favourable to the public forms of religion. Few will now be found ſuch extravagant admirers of Ariſtotle as to join with Suidas in extolling him as "the ſecretary of nature," and as "having dipped his pen in intellect;" and yet all muſt admit, that he poſſeſſed a profound and penetrating genius, and a wonderful talent for claſſing ideas, defining terms, and analyzing the faculties and operations of the human mind. He had alſo, without doubt, an extenſive acquaintance with natural objects, and he was a diligent obſerver of phyſical and moral phenomena. If he had beſtowed that attention on the diſcrimination and arrangement of natural bodies which he devoted to words, he might have been a Linnæus; or if he had, according to the modern mode of philoſophiſing, deduced general principles from facts and experiments, he might have been a Bacon, a Boyle, or a Newton. Inſtead of doing this, his ambition to ſtand diſtinguiſhed among philoſophers as the founder of a new ſect induced him to try his ſtrength in abſtruſe diſquiſitions, and to indulge a too daring ſpirit of contradiction and innovation. His object was to erect his own edifice upon the ruin of every other ſtructure. As lord Bacon has finely remarked (De Augm. Scient. l. iii. c. 4.), "like a Turkiſh deſpot, he thought he could not reign ſecure, unleſs all his brethren were ſlain. Innovating rather in words than in reality, and determining to oppoſe his new philoſophy to ancient tenets, of which many were founded on truth and experience, he ſometimes miſrepreſents the opinions of former philoſophers; ſometimes ſelects thoſe which were moſt trifling, or moſt eaſily refuted; and ſometimes has recourſe to uncertain principles and vague terms, in hopes that obſcurity might be miſtaken for novelty. Having acquired the habits and manners of high life at the court of Amyntas to which his father introduced him, and having occaſion, as preceptor to Alexander, to accommodate his

his philoſophy to the ambition of the young prince with whoſe education he was entruſted, he deſerted the fanciful republic of Plato, and finding the morals of Socrates too confined for his purpoſe, framed a ſyſtem of ethics for himſelf, which would allow full ſcope for the aſpiring views of Alexander and his friends. Even the Syllogiſtic art, which was peculiarly his own, is very materially defective, tends to miſlead by multiplying hypothetical propoſitions, or by teaching the practice or detection of ſophiſtry, and affords little or no aſſiſtance in the inveſtigation and diſcovery of truth. The concluſion in every ſyllogiſm is, in fact, contained in the premiſes; if the premiſes have not been previouſly proved by other means than ſyllogiſtic reaſoning, the concluſion is not eſtabliſhed; if they have, the ſyllogiſm is unneceſſary; ſo that, as Dr. Reid obſerves in his account of Ariſtotle's logic (ubi ſupra), other kind of reaſoning, independently of obſervation and experiment, only carries a man round, like a horſe in a mill, without any real progreſs. Upon the whole, it has been obſerved by competent and candid judges, that the philoſophy of Ariſtotle is rather the philoſophy of words than of things, and that the ſtudy of his writings tends more to perplex the underſtanding with ſubtile diſtinctions than to enlighten it with real knowledge. The veneration that was paid to him in the Arabian, Jewiſh, and Chriſtian ſchools, was rather the means of obſtructing than of aiding and promoting the progreſs of uſeful ſcience. It was not, as an excellent biographer remarks, till mankind were emancipated from their vaſſalage to Ariſtotle, that the human mind aſſerted its native freedom and dignity, and that genuine ſcience began to enlighten the world. The principal writings of Ariſtotle have been often ſeparately printed; and of his entire works, the chief editions are, Gr 6 vols. fol. ap. Ald. Venet. 1498. 6 vols. 12mo. Ald. 1552. 10 vols. 4to. Sylburgii, Franc. 1587. Gr. and Lat. fol. Caſauboni, Lugd. 1590. 1646, fol. Genev. 1605. 8vo. Lugd. 1597. 2 vols. fol. Du Val, Paris, 1629, 1654. Vid. Diog. Laert. t. i. p. 268. Dion. Halicarn. t. ii. p. 193. Suidas. Fabr. Bibl. Græc. l. iii. c. 6. t. ii. p. 107, &c. Brucker's Hiſt. Phil. by Enf. vol. i. p. 255—288. Gen. Dict

ARISTOTUS, in *Ichthyology*, a name given by Albertus and ſome other old writers to the fiſh which we call the *ſhad*; Clupea *Alloſa*. Linn.

ARISTOXENUS, in *Biography*, is the moſt ancient Greek writer on the ſubject of muſic that has come down to us. He was the ſon of a muſician, whom ſome call Mneſias, others Spintharus. He had his firſt education at Mantinæa, a city of Arcadia, under his father, and Lampus of Erythræ; he next ſtudied under Xenophilus, the Pythagorean, and laſtly under Ariſtotle, in company with Theophraſtus. Suidas, from whom theſe particulars are tranſcribed, adds, that Ariſtoxenus, enraged at Ariſtotle having bequeathed his ſchool to Theophraſtus, traduced him ever after. But Ariſtocles the Peripatetic, in Euſebius, exculpates Ariſtoxenus in this particular, and aſſures us that he always ſpoke with great reſpect of his maſter Ariſtotle.

From the preceding account it appears that Ariſtoxenus lived under Alexander the Great, and his firſt ſucceſſors.

His *Harmonics* in three books, all that are come down to us, together with Ptolemy's Harmonics, were firſt publiſhed by Gogavinus, but not very correctly, at Venice, 1562, in 4to. with a Latin verſion. John Meurſius next tranſlated the three books of Ariſtoxenus into Latin, from the MS. of Joſeph Scaliger, but, according to Meibomius, very negligently. With theſe he printed at Leyden, 1616, 4to. Nicomachus and Alypius, two other Greek writers on muſic. After this Meibomius collected theſe muſical writers together, to which he added Euclid, Bacchius ſenior, Ariſtides Quintilianus; and publiſhed the whole with a Latin verſion and notes, from the elegant preſs of Elzevir, Amſt. 1652. The learned editor dedicates theſe ancient muſical treatiſes to Chriſtina, queen of Sweden.

Ariſtoxenus is ſaid by Suidas to have written four hundred and fifty-two different works, among which thoſe on muſic were the moſt eſteemed; yet his writings upon other ſubjects are very frequently quoted by ancient authors, notwithſtanding Cicero, and ſome others, ſay that he was a bad philoſopher, and had nothing in his head but muſic. The titles of ſeveral of the loſt works of Ariſtoxenus, quoted by Athenæus and others, have been collected by Meurſius in his notes upon this author; by Tenſius and Menage; all which Fabricius has digeſted in alphabetical order. We ſhall here only mention ſuch as concern muſic, which are upon ſubjects ſo intereſting to inquirers into the merits of ancient muſic, that their loſs is much to be lamented. 1. "Of Performers on the Flute, and concerning Flutes and other muſical inſtruments." 2. "Of the Manner of boring or piercing Flutes." 3. "Of Muſic in general." In this work, which was different from his *Harmonics*, he treated not only of the rhythmical, metrical, organical, poetical, and hypercritical parts of muſic, but of the hiſtory of muſic and muſicians. 4. "Of the Tragic Dance." With reſpect to the tracts of Ariſtoxenus that are come down to us, they are cited by Euclid, Cicero, Vitruvius, Plutarch, Diogenes Laertius, Athenæus, Ariſt. Quintilianus, Ptolemy, and Boethius. And as a muſical writer, he is ſo much celebrated by the ancients, and ſo frequently mentioned by the moderns, that his treatiſes which are extant, ſeem to deſerve a particular attention. They are given by all his editors as diviſions of one and the ſame work; but the two firſt books are evidently independent fragments. The ſecond book is not a ſecond, but another firſt part. It is ſurpriſing that Meibomius ſhould regard it as a continuation, and wonder in his notes, that Porphyry ſhould quote the ſecond book as the firſt. The ſecond book is plainly the opening of another work, as appears by its beginning with an explanation of the ſubject, and a ſketch of the order in which the author propoſed to treat it, all which is done in the firſt book. It is likewiſe full of repetitions. There appears, however, through the cloud of bad readings, and all kinds of corruptions in the text, to be an accuracy, and an Ariſtotelian preciſion in theſe old books, which are not to be found in later writers, who ſeem to have all the negligence and inaccuracy of compilers.

As Pythagoras and Ariſtoxenus were heads of the two moſt numerous and celebrated muſical ſects in antiquity, we ſhall endeavour to make ſuch of our readers as are curious in theſe matters, acquainted with their different tenets.

The Pythagoreans, by their rigid adherence to calculation, and the accurate diviſions of the monochord, may be ſaid to have truſted more to the judgment of the eye, concerning the perfection of conſonance, than to that of the ear. Intervals, according to them, were conſonant or diſſonant, in proportion as the ratios of the vibrations were ſimple or complex. Thus the octave was more perfect than the 5th, becauſe the ratio of 1 to 2 is more ſimple, and more eaſily perceived, than that of 2 to 3: and the 5th, for the ſame reaſon, was more perfect than the 4th, $\frac{3}{4}$. It was upon this principle that they allowed of no deviation from the ſtrict ratios of ſounds. They left nothing to the uncertain judgment of the ear, which they thought no more able to determine a perfect conſonance without a

monochord, than the eye to form a perfect circle without compaſſes.

Ariſtoxenus, on the contrary, referred every thing to the ear. He thought the ſenſes ſufficiently accurate for muſical, though not for mathematical purpoſes; and that it was abſurd to aim at an artificial accuracy in gratifying the ear, beyond its own power of diſtinction. The philoſophy of the Pythagoreans, their velocities, vibrations, and proportions, he rejected with contempt, as being foreign to the ſubject; ſubſtituting abſtract cauſes in the room of experience, and making muſic leſs the object of ſenſe than of intellect.

According to theſe principles, his doctrine maintained, that concords were to be taken by the judgment of the ear only, and other intervals on which the ear was leſs able to determine the perfection, by the difference, or ſum of concords. Thus the tone was the difference between the 4ths and 5ths: the ditone was taken by alternate 4ths and 5ths: as Ea, aD, DG, GC. Had he ſtopped here, nothing could reaſonably have been alleged againſt him. But, taking the tone as a well-known interval, of which the ear, from the compariſon of 4th and 5th, could judge with ſufficient exactneſs, he made it the meaſure of all other intervals; of the greater by addition, and of the leſs by diviſion. Thus the 4th contained, according to him, two tones and a half; the 5th, 3 and $\frac{1}{2}$; the octave, conſequently, 5 tones and 2 ſemi-tones, or 6 tones. And, further, the tone he divided into 2, 3, and 4 equal parts. By this proceſs, as it is juſtly objected to him by Ptolemy, he acted inconſiſtently with his own principles, pretending to truſt ſolely to the ear, and to exclude reaſon and calculation, at the ſame time that he was making a parade of both, in a way either totally uſeleſs and nugatory, or more complicated and difficult than that which he had rejected. If the ear is unable to determine the exact ratio of a concord, ſtill leſs is it able accurately to biſect a tone; and that a tone cannot be numerically divided into two, or more equal parts, has long been demonſtrated. It can only be done by geometrical and lineal methods, more operoſe than the calculations of Pythagoras, and which, if accompliſhed, would give only falſe, incommenſurable, and tempered intervals. Ariſtoxenus ſeems to have been led into this inconſiſtence by his deſire of diſtinguiſhing himſelf from the mere practical muſicians of his time, of whoſe inaccuracy and want of ſcience he frequently ſpeaks with great contempt.

The Pythagoreans, on the other ſide, were not without their errors. The principles were right, but they carried them too far, and forgot that they could not otherwiſe be known to be right, than as they were confirmed by the pleaſure of the ear. How, for inſtance, did they know that the ratio from 2 to 3 was that of a perfect fifth but by the ear, which, upon repeated trial, found that interval moſt harmonious when produced by ſtrings in that proportion? But it was the peculiar character of the Pythagorean philoſophy, to erect abſtract numbers and proportions into phyſical cauſes. Not content with purſuing their principle of the ſimplicity of ratios, as far as experience warranted, and the ear approved, they ſet it up as an *à priori* principle, and rejected intervals which the ear pronounces to be concords, merely becauſe they did not fall within the proportions which they choſe to admit. The compound interval, for inſtance, of the 8th and 4th, though undoubtedly concord, they would not admit as ſuch, becauſe its ratio, 3 : 8, is neither multiple nor ſuperparticular, the only proportions they admitted as conſonant, on account of their ſimplicity.

They are, beſides, charged both by Ptolemy and Ariſtoxenus, with ſometimes aſſigning ſuch ratios to intervals as the ear did not approve; but no inſtance is given. It would be injuſtice, however, to quit theſe famous muſical theoriſts, without acknowledging that their phyſical doctrines concerning the production of ſound, and the cauſes of gravity and acuteneſs, have been confirmed by modern philoſophy, and their metaphyſical ſpeculations concerning the cauſes of conſonance, adopted by modern writers of no inconſiderable reputation. Gen. Hiſt. Muſ.

ARITHMANCY. See ARITHMOMANCY.

ARITHMETIC, formed from ἀριθμος, *number*, the art of numbering; or, that part of mathematics, which conſiders the powers and properties of numbers, and teaches how to compute or calculate truly, and with expedition and caſe. By ſome authors it is alſo defined to be the ſcience of diſcrete quantity. It conſiſts chiefly in the four great rules or operations of addition, ſubtraction, multiplication, and diviſion: to which may alſo be added involution and evolution.

Beſides theſe, for the purpoſe of facilitating and expediting computations, mercantile, aſtronomical, &c. ſeveral other uſeful rules have been contrived; as, the rules of proportion, progreſſion, alligation, falſe poſition, fellowſhip, intereſt, barter, rebate, equation of payments, reduction, tare and tret, &c.—But theſe are only applications of the firſt four rules. See theſe rules under their ſeveral heads, ADDITION, &c.

Concerning the origin and invention of arithmetic, we have very little information; hiſtory fixes neither the author nor the time. Some knowledge, however, of numbers muſt have exiſted in the earlieſt ages of mankind. This knowledge would be ſuggeſted to them, whenever they opened their eyes, by their own fingers, and by their flocks and herds, and by the variety of objects that ſurrounded them. At firſt, indeed, their powers of numeration would be of very limited extent; and before the art of writing was invented, it muſt have depended on memory, or on ſuch artificial helps, as might moſt eaſily be obtained. To their ten fingers they would, without doubt, have recourſe in the firſt inſtance; and hence they would be naturally led to diſtribute numbers into periods, each of which conſiſted of ten units. This practice was common among all nations, the ancient Chineſe, and an obſcure people mentioned by Ariſtotle, excepted. But though ſome kind of computation muſt have commenced at a very early period, the introduction of arithmetic as a ſcience, and the improvements it underwent, muſt, in a great degree, have depended upon the introduction and eſtabliſhment of commerce: and as commerce was gradually extended and improved, and other ſciences were diſcovered and cultivated, arithmetic would be improved likewiſe. It is therefore probable, that if it was not of Tyrian invention, it muſt have been much indebted to the Phœnicians or Tyrians. Proclus, indeed, in his Commentary on the firſt book of Euclid, ſays, that the Phœnicians, by reaſon of their traffic and commerce, were the firſt inventors of arithmetic; and Strabo alſo informs us, that in his time it was attributed to the Phœnicians. Others, however, have traced the origin of this art to Egypt; and it has been a general opinion, ſanctioned by the authorities of Socrates and Plato, that Theut or Thot was the inventor of numbers; that from hence the Greeks adopted the idea of aſcribing to their Mercury, correſponding to the Egyptian Theut or Hermes, the ſuperintendance of commerce and arithmetic. With the Egyptians we ought alſo to aſſociate the Chaldæans, whoſe aſtronomical diſquiſitions and diſcoveries,

veries, in which they took the lead, required a conſiderable acquaintance with arithmetic.

From Aſia it paſſed into Egypt, as Joſephus ſays, by means of Abraham. Here it was greatly cultivated and improved; inſomuch that a large part of the Egyptian philoſophy and theology ſeems to have turned altogether upon numbers. Hence thoſe wonders related by them about unity, trinity; the numbers ſeven, ten, four, &c. In effect, Kircher (in his Oedip. Ægypt. tom. ii. p. 2.) ſhews, that the Egyptians explained every thing by numbers; Pythagoras himſelf affirming, that the nature of numbers pervades the whole univerſe, and that the knowledge of numbers is the knowledge of the Deity. From Egypt arithmetic was tranſmitted to the Greeks by Pythagoras and his followers; and among them it was the ſubject of particular attention, as we perceive in the writings of Euclid, Archimedes, and others; with the improvements derived from them, it paſſed to the Romans, and from them it came to us.

The ancient arithmetic was very different from that of the moderns in various reſpects, and particularly in the method of notation. M. Goguet (Origin of laws, arts, &c. vol. i. p. 218.) ſuggeſts, that the ancient Greeks firſt uſed pebbles in their calculations; and in proof of this he adduces the word ψηφίζω, (derived from ψῆφος, a *little ſtone* or *pebble*,) which ſignifies to calculate: and he alſo ſuppoſes that the word calculation is derived from the term *calculi*, *little ſtones*, uſed by the Romans in their firſt arithmetical computations. To this purpoſe it has been alſo alleged, that the Indians are at this time very expert in computing by means of their fingers, without the uſe of pen and ink; and that the natives of Peru, by the different arrangements of their grains of maize, ſurpaſs the European, aided by all his rules, with regard both to accuracy and diſpatch. The Hebrews and Greeks, however, at a very early period, and after them alſo the Romans, had recourſe to the letters of their alphabet for the repreſentation of numbers. The Greeks in particular had two different methods: the firſt reſembled that of the Romans, which is ſufficiently known, as it is ſtill uſed for diſtinguiſhing the chapters and ſections of books, dates, &c. See CHARACTERS. They afterwards had a better method, in which the firſt nine letters of the alphabet repreſented the firſt numbers from 1 to 9, and the next nine letters repreſented any number of tens, from 1 to 9, that is, 10, 20, &c. to 90. Any number of hundreds they expreſſed by other letters, ſupplying what they wanted by ſome other marks or characters: and in this order they proceeded, uſing the ſame letters again, with different marks to expreſs thouſands, tens of thouſands, hundreds of thouſands, &c.; thus approaching very near to the more perfect decuple ſcale of progreſſion uſed by the Arabians, who acknowledge, as ſome have ſaid, that they received it from the Indians. Archimedes alſo in his "Arenarius," uſed a particular ſcale and notation of his own. In the ſecond century of the Chriſtian Æra, Ptolemy is ſuppoſed to have invented the ſexageſimal numeration and notation, and this method is ſtill uſed by aſtronomers and others for the ſubdiviſion of the degrees of circles. Theſe ſeveral modes of notation above recited, were ſo operoſe and inconvenient, that they ſo limited the extent, and reſtrained the progreſs, of arithmetic, that it was applicable with great difficulty and embarraſſment to the other ſciences, which required its aſſiſtance. The Greeks (if we except Euclid, who in his Elements furniſhed many plain and uſeful properties of numbers, and Archimedes in his Arenarius) contributed little to the advancement of this ſcience towards perfection; its practical operations derived little benefit from their theory, abſtract properties, and tedious diſtinctions and diviſions of numbers; and the imperfection of the art ſufficiently appears from a treatiſe of Nichomachus, ſuppoſed to be written in the third century of Rome, and publiſhed at Paris in 1538; from the two firſt books of the Mathematical Collections of Pappus, of which only a ſmall fragment remains; and alſo from that of Boethius, written at Rome in the ſixth century after Chriſt, and ſtill extant. From Boethius we learn, that ſome Pythagoreans had invented and employed, in their calculations, nine particular characters, whilſt others uſed the ordinary ſigns, namely, the letters of the alphabet. Theſe characters he calls *apices*; and they are ſaid greatly to reſemble the ancient Arabic characters, which circumſtance ſuggeſts a ſuſpicion of their authenticity. Indeed, the MSS. of Boethius, in which theſe characters, reſembling thoſe of the Arabian arithmetic, are found, not being more ancient than three or four centuries, confirm the opinion that they are the works of a copyiſt. Upon the whole, this treatiſe of Boethius does not warrant our rejecting the commonly received ſyſtem with regard to the origin of our arithmetic; but if we ſuppoſe that the Arabians derived their knowledge of it from the Indians, it is more probable that it was one of the inventions which Pythagoras ſpread among the Indians, than that thoſe perſons ſhould have obtained it from the Greeks. See FIGURES.

A compendium of the ancient arithmetic, written in Greek, by Pſellus, in the ninth century, was publiſhed in Latin by Xylander, in the year 1556; a ſimilar treatiſe was written ſoon after in Greek, by Jordocus Willichius; and a more ample work of the ſame kind was written by Jordanus in the year 1200, and publiſhed with a comment, by Faber Stapulenſis, in 1480. The ſame author alſo wrote upon the new art of computation by the Arabic figures, and called this book "Algoriſmus demonſtratus." This book in MS. is ſtill extant, according to Dr. Wallis, in the Savilian library at Oxford, but has never yet been printed. A treatiſe on arithmetic was alſo written by Johannes de Sacro Boſco, who died about the year 1256. The introduction of the Arabian or Indian notation into Europe, about the tenth century, made a material alteration in the ſtate of arithmetic; and this, indeed, was one of the greateſt improvements which this ſcience had received ſince the firſt diſcovery of it. This method of notation, now univerſally uſed, was probably derived originally from the Indians by the Arabians, and not, as ſome have ſuppoſed, from the Greeks; and it was brought from the Arabians into Spain, by the Moors or Saracens, in the tenth century. Gerbert, who was afterwards pope under the name of Silveſter II. and who died in the year 1003, brought this notation from the Moors of Spain into France, long before the time of his death, or, as ſome think, about the year 960; and it was known among us in Britain, as Dr. Wallis has ſhewn, in the beginning of the eleventh century, if not ſomewhat ſooner. See FIGURES. As literature and ſcience advanced in Europe, the knowledge of numbers was alſo extended, and the writers in this art were very much multiplied. The next conſiderable improvement in this branch of ſcience, after the introduction of the numeral figures of the Arabians or Indians, was that of decimal parts, for which we are indebted to Regiomontanus; who about the year 1464, in his book of "Triangular Canons," ſet aſide the ſexageſimal ſubdiviſions, and divided the radius into 60,000 000 parts; but afterwards he altogether waved the ancient diviſion into 60, and divided the radius into 10,000,000 parts; ſo that if the radius be denoted by 1, the ſines will be expreſſed by ſo many places of decimal fractions as the cyphers following 1. This ſeems to have been the firſt introduction of

decimal parts. But this method was more expreſsly delivered in the extraction of the ſquare and cube roots, by Peter Ramus in his Arithmetic, written about the year 1562, and publiſhed with other treatiſes, by Lazarus Schonerus, in 1586. Dr. Wallis has ſhewn (Algebr. p. 32.) that our countrymen William Buckley and Robert Record had uſed a ſimilar method for extracting the ſquare root in fractions, about the year 1550: but the firſt perſon who profeſſedly treated on this ſubject, and introduced the name of "diſme" or "decimals," was Simon Stevinus, in a treatiſe entitled "Diſme," ſubjoined to his arithmetic, publiſhed in French, and printed at Leyden in 1585; ſince which the method of decimals has been practiſed by many others, and is now become univerſal. See DECIMAL.

To Dr. Wallis we are principally indebted for our knowledge of circulating decimals, and alſo for the arithmetic of infinites. The laſt, and perhaps with regard to its extenſive application and uſe the greateſt, improvement which the art of computation ever received, was that of logarithms, which we owe to baron Neper or Napier, and Mr. Henry Briggs. See LOGARITHMS. See alſo the ſubſequent articles.

Arithmetic, in its preſent ſtate, is variouſly divided into different kinds; *theoretical, practical, inſtrumental, logarithmical, numerous, ſpecious, decimal, dyadical, tetractical, duodecimal, ſexageſimal*, &c.

ARITHMETIC, *theoretical*, is the ſcience of the properties, relations, &c. of numbers, conſidered abſtractedly; with the reaſons and demonſtrations of the ſeveral rules. Euclid furniſhes a theoretical arithmetic, in the ſeventh, eighth, and ninth books of his Elements.—Barlaamus Monachus has alſo given a theory for demonſtrating the common operations, both in integers and broken numbers, in his Logiſtica, publiſhed in Latin by J. Chambers, an Engliſhman, in 1600.—To which may be added, Lucas de Burgo, who, in an Italian treatiſe intitled "Summa Arithmetica & Geometrica," publiſhed in 1494 at Venice, gives the ſeveral diviſions of numbers from Nicomachus, and their properties from Euclid; with the algoritum, in integers, fractions, extractions of roots, &c. Malcolm has alſo treated the ſubject very fully, in all its branches, in his "New Syſtem of Arithmetic, theoretical and practical," printed at London in 1730.

ARITHMETIC, *practical*, is the art of numbering or computing; that is, from certain numbers given, of finding certain others, whoſe relation to the former is known. As if two numbers, 6 and 8, are given, and we are to find their ſum, which is 14, their difference 2, their product 48, their quotient $1\frac{1}{3}$, or a third proportional $\frac{6^2}{8} = \frac{3^2}{2} = 10\frac{2}{3}$. Lucas de Burgo has given the practice of Arithmetic as it ſubſiſted in his time, as well as the theory. Tonſtall's practical treatiſe of Arithmetic was publiſhed in 1526; and Stifelius in 1544 wrote on the practical and other parts of arithmetic. An entire body of practical arithmetic was given by Nic. Tartaglia, a Venetian, in 1556, conſiſting of two books; the former, the application of arithmetic to civil uſes; the latter, the grounds of algebra. The principal writers on this art, theoretical and practical, have been Barlaam, Lucas de Burgo, Tonſtall, Aventinus, Purbach, Cardan, Scheubelius, Tartaglia, Faber, Stifelius, Record, Ramus, Maurolycus, Hemiſchius, Peletarius, Stevinus, Xylander, Kerſey, Snellius, Tacquet, Clavius, Metius, Gemma Friſius, Buteo, Urſinus, Romanus, Napier, Ceulen, Wingate, Kepler, Briggs, Ulacq, Oughtred, Cruger, Van Schooten, Wallis, Dee, Newton, Morland, Moore, Jeake, Ward, Leybourn, Hatton, Malcolm, &c. &c., whoſe diſcoveries and inventions, as far as they have made any, will be noticed in their proper places.

ARITHMETIC, *binary*, or *dyadic*. See BINARY *Arithmetic*.

ARITHMETIC, *common* or *vulgar*, is that which relates to integers and vulgar fractions.

ARITHMETIC, *decimal*, or *decadal*, is that which is performed by a ſeries of ten characters or figures, in a ten-fold progreſſion, as from 1 to 10, from 10 to 100, &c. including both integers and decimal fractions in the common ſcale of numbers. See DECIMAL.

The characters now uſed are the ten Arabic or Indian figures, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9; for the hiſtory of which ſee FIGURES, and ARITHMETIC, *ſupra*.

ARITHMETIC, *duodecimal*, is that which proceeds from 12 to 12, or by a continual ſubdiviſion according to 12, and is much uſed by moſt artificers in calculating the value of their work; as bricklayers, carpenters, painters, tylers, &c.

ARITHMETIC, *fractional*, or of *fractions*, is that which treats of fractions both vulgar and decimal. See FRACTION.

ARITHMETIC, *harmonical*, is that part of the doctrine of numbers, which relates to the compariſon, reduction, &c. of muſical intervals.

ARITHMETIC of *infinites*, is a method of ſumming up a ſeries of quantities, conſiſting of an infinite number of terms, or of finding their ratios. This method was firſt invented by Dr. Wallis, as appears from his treatiſe on the ſubject in the "Opera Mathematica," vol. i. p. 365, &c., where he ſhews its uſe in geometry, in finding the areas of ſuperficies, and the contents of ſolids, and their proportions. This is alſo called the method of "Indiviſibles," becauſe magnitudes are here ſuppoſed to be reſolved into their indiviſible parts, or at leaſt as far as there is any occaſion to conſider them as ſuch. See INDIVISIBLES. But the method of FLUXIONS, which is an univerſal arithmetic of infinites, performs all this much more eaſily, and many other things, which the former will not reach.

ARITHMETIC, *inſtrumental*, is that in which the common rules are performed by means of inſtruments contrived for eaſe and diſpatch; ſuch are ſeveral ſorts of ſcales, and ſliding-rules; Napier's bones or rods, deſcribed under their proper article; the arithmetical machine of Paſcal and others; ſir Sam. Morland's inſtrument, the deſcription whereof was publiſhed by himſelf, in 1672: that of M. Leibnitz, deſcribed in the Miſcellan. Berolin.; that of Polenus, publiſhed in the Venetian Miſcellany, 1709: and that of Dr. Saunderſon, deſcribed in the introduction to his algebra. Such is alſo the ABACUS, or SHWAN-PAN of the Chineſe.

ARITHMETIC, *integral*, or of *integers*, is that which relates to integers, or whole numbers.

ARITHMETIC, *literal*, or *algebraic*, is that which is performed by letters, that repreſent any numbers indefinitely. See ALGEBRA.

ARITHMETIC, *logarithmical*, is that which concerns logarithms, and is performed by tables of LOGARITHMS; which ſee.

ARITHMETIC, *logiſtical*. See LOGISTICAL.

ARITHMETIC, *mechanical*, is that which is performed by means of a lever or balance. See BALANCE.

ARITHMETIC, *numerous*, or *numeral*, is that which gives the calculus of numbers, or indeterminate quantities; and is performed by the common numeral or Arabic characters.

ARITHMETIC, *palpable*, is that which is performed by the ſenſe of feeling, and practiſed by blind perſons. Dr. Saunderſon, Lucaſian profeſſor of mathematics in the univerſity of Cambridge, had contrived, for his own uſe, a commodious notation for any large numbers, which he could expreſs

expreſs on his abacus, or calculating table, and with which he could very readily perform any arithmetical operations. His calculating table was a ſmooth thin board, ſomewhat larger than a foot ſquare, raiſed upon a ſmall frame, ſo as to lie hollow; and this board was divided by a great number of equidiſtant parallel lines, and by others as many at right angles to the former. The edges of the table were diſtinguiſhed by notches, at the diſtance of about half an inch from one another, and to each notch belonged five of the afore-mentioned parallels; ſo that every ſquare inch was divided into an hundred little ſquares. At every point of interſection the board was perforated by ſmall holes, capable of receiving a pin; for it was by the help of pins, ſtuck up to the head through theſe holes, that he expreſſed his numbers. Of theſe pins he uſed two ſorts, ſome larger, and others ſmaller; or, at leaſt their heads were different, ſo that they might be eaſily diſtinguiſhed by the the touch. A large quantity of theſe pins, with the points cut off, was kept in two boxes, which were always near him when he calculated. In order to underſtand his mode of calculation, it is neceſſary to premiſe, that to every numeral figure a little ſquare was appropriated on the table, conſiſting of four of the little ſquares above deſcribed, and allowing a ſmall interval between one figure and another; and this numeral figure was different according to the different magnitude or ſituation of the one or two pins which always compoſed it; for which purpoſe the ingenious profeſſor had ſettled in his mind and ſtrictly obſerved the following analogy or notation. A great pin in the centre of the ſquare, its appropriate and invariable place, was a cypher, or 0, by which name we ſhall call it. Its chief office was to preſerve order and diſtance among the figures and lines. This cypher was always preſent, except in the caſe of an unit, for expreſſing which, the great pin in the center was changed into a little one. When 2 was to be expreſſed, the cypher was reſtored to its place, and the little pin was put juſt over it. To expreſs 3, the cypher remained in its place, and the little pin was advanced into the upper angle, on the right hand. To expreſs 4, the little pin deſcended, and immediately followed the cypher. The expreſs 5, the little pin deſcended to the lower angle, on the right hand. For 6, the little pin retreated, till it was juſt under the cypher. For 7, this pin retreated into the lower angle, on the left hand. For 8, it aſcended, till it was juſt before the cypher. For 9, the little pin aſcended into the upper angle, on the left hand. In this manner all the digits were expreſſed by an eaſy and uniform notation, which might readily enough be apprehended and diſtinguiſhed by the feeling. Theſe digits or figures are repreſented in *Plate* I. *Algebra, fig.* 1. Dr. Saunderſon was able, by this contrivance, to mark, or write down, as we may ſay, any propoſed number upon his table, and by lightly running his fingers over it, he could at any time eaſily read it, and know what it ſignified. The great pins or cyphers which were always placed at the center of the little ſquares, and moſt frequently at equal diſtances from one another, were a ſure guide to direct him in keeping the line, in aſcertaining the limits of every figure, and in preventing any ambiguity that might otherwiſe occur. As three of the erect parallels were ſufficient for a ſingle figure, ſo three of the tranſverſe parallels would ſuffice for a line of figures, and the next three for another line, and ſo on, without any danger of interfering. Thus we may conceive, without much difficulty, how he might have any number of lines of figures upon his table at the ſame time, in a deſcending order, or how he might deduce one number from another, or how he might make any computation required. It is ſaid that he could place and diſplace his pins with incredible quickneſs and facility, to the ſurpriſe and amuſement of ſpectators. He cold even break off in the middle of a calculation, reſume it when he pleaſed, and inſtantly know the ſtate of it, by only drawing his fingers gently over the table. The table might alſo be previouſly prepared by himſelf or ſome other perſon, by filling every third hole of every third parallel line with large pins or cyphers; and then, when he intended to calculate, he would only need to complete every figure by adding a ſmall pin in its proper place, except when he wiſhed to expreſs an unit, in which caſe he muſt have changed the large pin into a ſmall one. He had computed and preſerved for his own uſe certain arithmetical tables, which ſeemed to have ſome relation to the tables of natural ſines, tangents, and ſecants. Theſe were four pieces of ſolid wood, in the form of rectangular parallelipeds, each about 11 inches long, $5\frac{1}{2}$ broad, and ſomewhat above half an inch thick. The two oppoſite faces of every one were divided into little ſquares after the manner of the abacus above deſcribed; but they were perforated only in the neceſſary places, where the pins were ſtuck faſt up to the head. Each face exhibited nine ſmall arithmetical tables, of ten numbers each; and every number, generally ſpeaking, conſiſted of five places or figures. One of theſe tables is repreſented in *Plate* I. *Algebra, fig.* 2.

Beſides this arithmetical uſe of his table, for which it was primarily and chiefly deſigned, he could deſcribe upon it very neat and perfect geometrical figures, conſiſting of right lines, interſecting one another in a variety of ways. This he did by two methods; either by pins ſet in rows, which exhibited the appearance of pricked lines, or by pins placed only at the interſections. Then by winding a piece of fine thread or ſilk about their heads, he could very well exhibit any continued ſtrait lines at pleaſure, or any ſyſtem of ſuch lines. Whether he had palpable letters alſo, ſomewhat like printing types, to diſtinguiſh the ſeveral angular points, and to aſſiſt in demonſtrating the properties of theſe figures, does not now appear. It is not very difficult to conceive, how the ſame table might poſſibly be applied to the repreſentation of all kinds of algebrical equations, and to the ſeveral reductions of ſuch equations, eſpecially by the uſe of the forementioned types, or ſome ſimiliar contrivance. Dr. Saunderſon alſo might have had types, in the form of pins, for the common algebraic ſigns, and to ſerve the purpoſe of various operations; and thus his table would have had a near reſemblance to a printer's form, which he might have read by the touch, if he had thought proper to uſe it. It is ſaid that he could ſpell very well, that he knew the ſhapes of the letters, both ſmall and capital, and would ſometimes amuſe himſelf, when opportunity offered, by reading the inſcriptions upon tomb-ſtones with his fingers; and he is known to have often regretted, that he did not apply himſelf to learn to write in his younger years, which he thought he could eaſily have accompliſhed. Saunderſon's Alg. vol. i. Introd.

The deſcription of an apparatus for the improvement of this numerical board of Dr. Saunderſon, was preſented to the Society of Arts, &c. in 1786, by a blind perſon of the name of Thomas Grenville. The board is perforated with holes, in exact lines, horizontally and perpendicularly. The horizontal lines denote units, tens, hundreds, thouſands, &c. reckoning from right to left, as uſual; and the perpendicular lines allow the figures to be placed below each other, as is uſual in every account. Theſe holes are fitted with pegs, on the heads of which are painted the figures (or numbers) they reſpectively repreſent; which figures are diſtinguiſhed by the blind perſon by means of certain pins placed in the heads of theſe pegs. Between the rows of holes for theſe

thefe pegs are rows of fmaller holes, adapted to receive the blunt ends of fmall wires, which perform the part of lines, placed either horizontally or perpendicularly, as is neceffary for any arithmetical operation. The box is formed into proper divifions for holding the pegs and wires; and it is, without doubt, a very ufeful apparatus for blind perfons, who, with a little attention, may perform by means of it every arithmetical operation which they could perform if they had the ufe of fight.

Arithmetic, *political*, is the application of arithmetic to political fubjects, fuch as the ftrength and revenues of kingdoms, the number of inhabitants, births, burials, &c. See Political *Arithmetic*. To this head may be alfo referred the doctrine of Chances, Gaming, &c.

Arithmetic of *Ratios*. See Ratio.

Arithmetic, *fexagefimal*, or *fexagenary*, is that which proceeds by fixties; or the doctrine of fexagefimal fractions; fuppofed to have been invented by Ptolemy, in the fecond century. In this notation the integral numbers from 1 to 59 were expreffed in the common way; then fixty was called a *fexagena prima*, and marked I′; twice fixty, or 120, II′; and fo on to 59 times 60, or 3540, which is LIX′. Sixty times fixty, or 3600, was called *fexagena fecunda*, and marked with two dafhes, I″; twice 3600, II″; and ten times 3600, X″, &c. And in this way the notation was continued. But if a number lefs than fixty was joined with any of the fexagefimal integers, their proper expreffion was annexed without the dafh; e. gr. four times 60 and 25 is IV′XXV; the fum of twice 60, ten times 3600, and 15, is XII′XV, &c. So nearly did the inventor of this method approach to the Arabic notation: inftead of *fexagefimal* progreffion, he had only to fubftitute *decimal*; to make the figns of numbers from 1 to 9 fimple characters, and to introduce a character which fignifies nothing by itfelf ferving only to fill up places. The *fexagenæ integrorum* were foon laid afide, after the introduction of the Arabic notation; but the *fexagefimal* fractions continued till the invention of *decimals*; and are ftill ufed in the fubdivifions of circular arcs and angles.

Sam. Reyher has invented a kind of fexagenal rods, in imitation of Napier's bones, by means whereof the fexagenary arithmetic is eafily performed.

Arithmetic, *fpecious*, is that which gives the calculus of quantities; ufing letters of the alphabet inftead of figures, to denote the quantities; and coincides with what we ufually call *algebra*, or *literal arithmetic*.

Dr. Wallis has joined the numeral with the literal calculus; and by means of it demonftrated the rules for fractions, proportions, extraction of roots, &c. a compendium of which is given by Dr. Wells, under the title of Elementa Arithmeticæ, an. 1698.

Arithmetic, *tabular*, is that in which the operations of multiplication, divifion, &c. are performed by tables calculated for that purpofe; fuch as thofe of Herwart ab Hohenburg, called "the univerfal table of proftaphæreſes," publifhed in 1610; and Hutton's tables of powers and products, publifhed by order of the commiffioners of longitude, in 1781.

Arithmetic, *tractic*, is that in which only the figures 1, 2, 3, and 0, are ufed. We have a treatife of this arithmetic, by Erhard Weigel; but both this and binary arithmetic, are little better than curiofities, efpecially with regard to practice; inafmuch as the numbers may be much more compendioufly expreffed by decadal arithmetic, or the common decuple fcale, than by either of them.

Arithmetic, *vulgar*, is that converfant about integers and vulgar fractions.

Arithmetic, *univerfal*, the name given by fir Ifaac Newton to the fcience of algebra. See Algebra.

Arithmetical, denotes fomething relating to, or performed after the manner of, arithmetic.

Arithmetical *complement* of a logarithm, is what the logarithm wants of 10.0000000. Thus the arithmetical complement of 7.1079054, is 2.8920946, and it is found by fubtracting each figure but the laft from 9, and that from 10.

It is often ufed in trigonometrical calculations, when radius or 10.0000000 is the firft term, to fave the labour of fubtraction. It is diftinguifhed by placing a point before, and another after the index; thus, .2.8920946.

Arithmetical *divifion of the octave*, in *Mufic*, is that which

a
D

divides it into two portions: as A, when the middle term is a fourth to the bafe or loweft found, and which in the eccleſiaſtical modes conſtitutes thoſe that are termed *plagal*. The

d
A

harmonic diviſion conſtitutes the *authentic modes*, as D; when the middle term is a fifth to the loweſt. From theſe two diviſions of the octave all tones or modes of the church were regulated in the following manner:

Harmonic Diviſion.	Arithmetical Diviſion.
d e f g a c	a b c d e
A B C D E G	D E F G A
D E F G A C	A B C D E
Authentic modes.	Plagal modes.

The firſt of theſe diviſions conſiſts of fifths and fourths; the ſecond of fourths and fifths.

Theſe diviſions ſtill exiſt in *Canto fermo*, or plain chant; though they have been long abandoned in ſecular muſic. It is neceſſary, however, to know them, as they ſtill ſerve to regulate the anſwer to figures. See Division in *Muſic*, Figure, and Mode.

Arithmetical *inſtruments*, or *machines*. See Instrumental Arithmetic.

Arithmetical *medium* or *mean*. See Medium.

Arithmetical *progreſſion*. See Progression.

Arithmetical *proportion*. See Proportion.

Arithmetical *ratio*. See Ratio.

Arithmetical *ſcales*, a name given by M. Buffon, in the Mem. d'Acad. of 1741, to different progreſſions of numbers adapted to arithmetical computations. Beſides the common decuple ſcale, conſiſting of ten numbers, others have been deviſed, ſuch as the binary, tractic, &c. conſiſting of a different number of characters. M. Buffon lays down a conciſe and ſimple method, which ſerves to ſhew at once how to write down any given number in any ſcale whatever; and he alſo makes ſeveral obſervations on the different ſcales that have been propoſed. It is evident that any ſcale of numbers, containing fewer or more than ten, would have both its advantages and inconveniences. In a ſcale of fewer and lower numbers, a given number would require more places of figures for denoting or expreſſing it; but multiplication and diviſion would be more eaſily performed, as it is more eaſy to uſe the ſmaller numbers 2, 3, 4, than the larger ones 7, 8, 9: but in a ſcale aſcending beyond 10, or containing more than 10 characters, any given number might be expreſſed by fewer of them, and yet the arithmetical calculations would be more difficult, on account of the larger numbers 11, 12, 13, &c. Hence it may be concluded, upon the whole, that the decuple ſcale is a convenient medium between the two extremes, as the numbers which it comprehends, are neither too ſmall nor too large. The duodecimal ſcale, comprehending 12 characters, would expreſs all numbers in a more compendious manner than

the decimal ſcale; and yet no ſingle character would repreſent a number too large for ordinary computations. Accordingly the multiplication table is now made to extend to 12 numbers inſtead of 10, and the mode of multiplying and dividing by 11 and 12, is as eaſily acquired as that by 8, 9, or 10. Beſides, the number 12 has this advantage, that it admits of more ſubmultiples than 10, and therefore there would be fewer expreſſions of interminate fractions in this ſcale than in the decimal one; and hence it has been ſuggeſted that the duodecimal ſcale would be preferable to any other.

ARITHMETICAL *Triangle*. See TRIANGLE.

ARITHMOMANCY, compounded of *αριθμος*, *number*, and *μαντια*, *divination*, a kind of divinaton, or method of foretelling future events by means of numbers. Delrio diſtinguiſhes two ſorts of it; one uſed by the Greeks, who from the number and value of the letters contained in the names, e. g. of two combatants, inferred, that the perſon whoſe name conſiſted of thoſe that were moſt numerous and of greateſt value, would be victorious; and thus they concluded, it is ſaid, that Hector ſhould have been vanquiſhed by Achilles; the other was that of the Chaldæans, who divided their alphabet into three decades, and changing into numeral letters the letters of the names of thoſe who conſulted them, they referred each number to ſome planet, and in this manner formed their preſages. The Platoniſts and Pythagoreans were addicted the Arithmomancy. The gematria, which makes the firſt ſpecies of the Jewiſh Cabbala, is a ſort of Arithmomancy. See GEMATRIA, and CABBALA.

ARITIUM, in *Ancient Geography*, a town of Spain, in Luſitania, ſituate upon the Tagus, north-eaſt of Olriſipo.

ARITZAR, in *Geography*, a town of European Turkey, in the province of Bulgaria, ten miles ſouth of Viddin.

ARIVATES, in *Ancient Geography*, a people placed by Pliny in Pannonia.

ARIUS, in *Biography*, founder of the ſect called Arians, in the beginning of the fourth century, was, according to Epiphanius, a native of Lybia; but, according to Photius, of Alexandria. In early life he was probably of the ſchool of Lucian, biſhop of Antioch, who favoured the opinions of Paul of Samoſata; for Arius, in a letter to Euſebius of Nicomedia, calls him a Collucianiſt; whence Cave and others have inferred that they were fellow-diſciples of Lucian. He was appointed deacon by Peter, biſhop of Alexandria, and afterwards excommunicated, becauſe he diſapproved of the biſhop's treatment of Meletius and his adherents. After the martyrdom of Peter, he was re-admitted by Achillas, the next biſhop, to the office of deacon, and alſo ordained preſbyter. At this time he was much approved by Alexander, the ſucceſſor of Achillas, and he was not only preſbyter, but officiated in one of the churches of Alexandria. About the year 315, the conteſt commenced between Arius and Alexander, of which as to its riſe, progreſs, and conſequences, an account is given under the article ARIANS. In the year 320, he was excommunicated from the church, and expelled the city by a council convened by Alexader, upon which he withdrew into Paleſtine, where he formed a ſtrong party of perſons who favoured him and his cauſe. Whilſt he complained in a letter to Euſebius of Nicomedia, of the perſecution he ſuffered for the ſake of the truth, he derived encouragement from the number and rank of thoſe who were attached to his opinions and intereſts; among whom were ſeveral preſbyters and biſhops. The breach between him and Alexander was thus gradually widened, and parties were formed, who became inveterate and invincible in their oppoſition to each other. This mutual altercation proceeded to ſuch an extreme, that it furniſhed a ſubject of ſatirical exhibition in the public theatres. The emperor Conſtantine, in this ſtage of the diſpute, interpoſed with the beſt intention to produce mutual reconciliation. But his efforts, as a mediator, were altogether ineffectual; and he himſelf was at length induced, by the interference of ardent and bigotted eccleſiaſtics, probably againſt his judgment and diſpoſition, to take an authoritative and active part, with a view of terminating a controverſy which had diſcarded the milder methods of perſuaſion and remonſtrance. For this purpoſe, he imprudently convened the council of Nice, in order to decide whether the Logos, or only begotten Son, was of the ſame ſubſtance with the Father; and thus, inſtead of terminating, he perpetuated the diſſenſions of the church, and divided the whole Chriſtian world into "Homouſians" and "Homoiouſians." This council having decided that Chriſt is conſubſtantial with the Father, the doctrine of Arius was of courſe condemned, and the preſbyter himſelf, who was then at Nice waiting its determination, was baniſhed by Conſtantine into a remote province of Illyricum. By an edict of the ſame emperor, he and his adherents were ſtigmatized with the opprobrious name of Porphyrians, his books were ordered to be burnt, and thoſe who concealed any of them were to be put to death. In a little while, the emperor, who ſeems to have naturally poſſeſſed a candid and benevolent mind, relented, and his conduct towards Arius underwent a total change. Euſebius of Nicomedia, it is ſaid, by means of a preſbyter who enjoyed the confidence of Conſtantia, the emperor's ſiſter, gained over that lady to the intereſt of Arius. In her laſt ſickneſs, ſhe recommended to the favour of the emperor this preſbyter, by whom he was perſuaded to believe, that the faith and conduct of Arius had been miſrepreſented by his enemies. Upon this Conſtantine recalled him from baniſhment; and having received a ſatisfactory confeſſion of faith, in which he profeſſed his belief, that "the Son was beggotten of the Father before all ages," but without any acknowledgment of conſubſtantiality, recommended to the biſhops aſſembled in council at Jeruſalem, A. D. 355, to re-admit him into the communion of the church. The biſhops, who are ſuppoſed to have been concealed Arians, readily complied, and recommended Arius to a cordial reception among other churches. Attempts were made for reſtoring him to the church of Alexandria, but they were ineffectual, on account of the reſiſtance of Athanaſius, who had ſucceeded Alexander in that ſee. A day was appointed, by the expreſs command of the emperor, for his re-admiſſion into the church, at Conſtantinople; but on that very day, A. D. 336, as it is ſaid, Arius walking in the city, and retiring to obey a ſudden call of nature, he diſcharged his entrails and died on the ſpot. The ſtory of his death is related both by the hiſtorian Socrates (l. i. c. 25. ii. 38. Ep. ad Serap.) and Athanaſius, but with circumſtances which very much invalidate its credibility. The learned editor of Moſheim admits the teſtimonies of Socrates, Sozomen, Athanaſius, and others, with reſpect to the manner of his death, as unexceptionable. The cauſes of it, however, have furniſhed much matter of diſpute. The ancient writers, who conſidered this event as a judgment of heaven, miraculouſly procured by the prayers of the juſt, to puniſh the impiety of Arius, will find little credit in our times, among ſuch as have ſtudied with attention and impartiality the hiſtory of Arianiſm. "After having conſidered this matter with the utmoſt care," ſays the writer above mentioned, "it appears to be extremely probable, that this unhappy man was a victim to the reſentment of his enemies, and was deſtroyed by poiſon, or ſome ſuch violent method." He adds; "a blind and fanatical zeal for certain ſyſtems of faith has, in all ages, produced ſuch horrible acts of cruelty and injuſtice."

The

The talents and learning of Arius have been generally allowed; but his difpofition and character have been more variously reprefented by writers of different parties. To this purpofe we fhall tranfcribe an extract from the account given of him by the candid and impartial Lardner. "Arius was very tall, grave and ferious, yet affable and courteous. With good natural parts, and no inconfiderable fhare of fecular learning of all forts, he was particularly diftinguifhed by his fkill in logic, or the art of difputing. He had at leaft the outward appearance of piety. In fhort, he is reprefented as a man exceedingly well qualified to form a party, and carry on any enterprize he fhould engage in. So far as I recollect, his conduct was unblameable, excepting what relates to his zeal for maintaining his fuppofed errors: and that he is charged with difguifing his real fentiments upon fome occafions, in thofe difficult circumftances to which he was reduced by the prevailing power of his adverfaries." "I may add here," continues the fame author, "that he writes with much fpirit, and a full aflurance of the truth of his opinions; particularly in his letter to Eufebius of Nicomedia, whom he ftiles orthodox; and he tells that bifhop, that he and his friends were unjuftly perfecuted by Alexander for the truth's fake, which conquers all things; that all the bifhops of the Eaft in general had been anathematized by Alexander, except Paulogonius, Hellanicus, and Macarius, whom he calls ignorant heretics. As for himfelf, he was not able to endure their impious doctrine; nor would he ever receive it, though he were to fuffer a thoufand deaths from thofe heretics." One of his biographers fays (Gen. Biog.), that "for aught that appears upon the face of his ftory, it may be confidently aflerted, that his morals were untainted, and his piety fincere. The incidents of his life afford a ftrong prefumption, that he poffeffed a genuine love of truth, and adhered to what he judged to be its caufe with firm integrity. Had his party prevailed during his life, there can be no doubt, that after his death his name would have been recorded among the faints; having had the misfortune to be regiftered by the church which called itfelf orthodox, among heretics, he can only be found by pofterity in the humbler lift of honeft men."

The works of Arius do not appear to have been voluminous; though it is probable, that he wrote many letters. We have ftill extant his epiftle to Eufebius of Nicomedia, (Ap. Epiph. Hær. 69.); and another to Alexander, bifhop of Alexandria (Theod. l. i. c. 5, 7, 8.). He alfo wrote feveral little poems, fitted for the ufe of common people, with a view of promoting his peculiar opinions. A book called "Thalia," but whether it was written in profe or verfe, or partly in the one form and partly in the other, is not certain, is mentioned by Socrates (H. E. l. i. c. 9.) and Sozomen (H. E. l. i. c. 21.), and cenfured as wanton and diffolute. It was condemned, as they fay, by the council of Nice. Athanafius (De Sent. Dion. n. vi. p. 247.) quotes its feveral times, and is fuppofed to have read it; he fpeaks of its effeminacy and buffoonery. It muft be owned, however, that this is the teftimony of enemies, and that other writers probably took their character of it from Athanafius. Tillemont alfo imagines, that Arius alfo publifhed fome work againft the heathen, in defence of the Chriftian religion. Socr. Hift. l. i. Sozom. l. i. Cave, Hift. Lit. vol. i. p. 174. Lardner's Works, vol. iv. p. 106—110. Mofheim's Eccl. Hift. vol. i. p. 412—418 Gen. Dict. Gibbon's Hift. vol. iii. p. 328—328.

ARJUZANX, in *Geography*, a town of France, in the department of Landes, and chief place of a canton in the diftrict of Mont-de-Marfan, eleven miles north of Tartas. The place contains 559, and the canton 5235 inhabitants: the territory includes 462½ kilometres and 12 communes.

ARIZA, a town of Spain, in Arragon, feated on the Xalon, eight leagues above Calatafud.

ARK, or Arc, *arcus* in *Geometry*, *Aftronomy*, &c. See Arch.

Ark, *Arca*, in the *Scripture Language*, denotes a kind of floating veffel built by Noah, for the prefervation of feveral fpecies of animals from the deluge.

The Hebrew word, by which the ark is expreffed, is תֵּבָה, or תִּיבַת *thebath*, or *thibath*, the conftructive form of תֵּבָה, which is evidently the Greek θήκη; and fo the LXX render the word in Exod. ii. 3. where only it occurs. There they render it κιβωτὸν. Jofephus κιβωτὸς, and the Vulgate *arcam*, fignifying an ark, coffer, or chefl. Although the ark of Noah anfwered, in fome refpects, the purpofe of a fhip, it is not fo certain that it was of the fame form and fhape. It has been inconclufively argued by Michaelis and fome others, that if its form had not been like that of a fhip, it could not have refifted the force of the waves; becaufe it was not intended to be conducted, like a fhip, from one place to another, but merely "to float on the furface of the waters." Gen. vii. 17. It appears to have had neither helm, nor maft, nor oars: but was merely a bulky capacious veffel, light enough to be raifed aloft with all its contents, by the gradual rife of the deluge. Its fhape therefore, was of little importance; more efpecially as it feems to have been the purpofe of providence, in this whole tranfaction, to fignify to thofe who were faved, as well as to their lateft pofterity, that their prefervation was not in any degree effected by human means. The ark in which Mofes was expofed, was a veffel of the fame nature, and bears the fame name; and fome have thought that both were of the fame materials. With refpect to the etymology of the Hebrew word, the moft rational feems to be that of Cocdius, who derives it from the Arabic word תאב, *collegit*, from which is formed תבה, or חיבה, denoting a place in which things are collected. Forfter (De Byffo Antiquorum) deduces it from two Egyptian words, *thoi*, *a fhip*, and *bai*, a palm-tree branch; and fuch fhips are ftill to be feen not only in Egypt, but in India and other countries; particularly in fome ifles of the Pacific ocean.

The ark has afforded to the critics and naturalifts feveral points of curious inquiry relating to its form, capacity, materials, time of building, place of refting after the flood, &c.

Noah is computed to have been one hundred years in building the ark, viz. from the year of the world 1555, to the flood, which happened in the year 1656; at leaft this is the common opinion of the fathers, oriental authors, and other learned perfons; and to this purpofe they allege, that Noah is faid to be five hundred years old before any mention is made of the ark. Origen, lib. iv. contra Celf. St. Auftin, de Civit. Dei, lib. xv. c. 27. and contra Fauftum, lib. xi. c. 18. and in his Quæft. 5. and 23. on Gen. Rupert, lib. iv. in Gen. xx. affert as much; and are followed by Salian, Torniel, Spondeus, Pelletier, &c.

Yet Berofus affirms, that Noah only began to build the ark feventy-eight years before the flood: Solomon Jarchi, on the other hand, will have it to have been an hundred and twenty years in building, Tanchuma fifty-two, and the Mahometans only two years. See the texts, Gen. vi. &c.

Several interpreters of the facred writings infer from the words of St Peter (1 Ep. iii. 20.), "the long-fuffering of God waited in the days of Noah, while the ark was preparing," that Noah was employed in building the ark during the whole time of forbearance, which was 120 years: but others think the time much fhorter, becaufe Noah's three fons, the eldeft of whom was born in his 500th year, are not only mentioned before the directions given for the ark, but they and their wives are ordered, in thofe directions to be taken into the ark; a circumftance

which

which ſeems to imply that they were then married. Some, in order to evade this difficulty, have ſaid that when Noah is declared (Gen. v. 32.) to have begotten Shem, Ham, and Japheth, at the age of 500 years, it ſhould be tranſlated, "he had begotten," inſtead of "he begat." F. Fournier, in his Hydrography, adopts the opinion of the fathers; noting that the hands employed in it were only Noah and his three ſons. To this purpoſe he alleges the inſtance of Archias of Corinth, who, with the help of three hundred workmen, built Hiero's great ſhip in one year. Add, that Noah's eldeſt ſon was not born till about the time when the ark was begun, and the younger after: ſo that it was a long time before they could do their father any ſervice. Upon the whole it may be obſerved that there is no ſuch connection or exact order of time in the whole narration as to eſtabliſh any of theſe conjectures. But it is certain, that ſo large a building, and the previous preparations, could not have been the work of a few years.

The wood whereof the ark was built, is called in ſcripture עֲצֵי גֹפֶר, *eſe gopher, gopher wood:* and in the LXX. ξυλα τετραγωνα, *ſquare timbers*. Onkelos and Jonathan render gopher by קַדְרוֹם, *kedros, cedar:* St Jerom, in the Vulgate, by *ligna lævigata*, planed wood; and elſewhere, *ligna bituminata*, q. d. pitched wood, which is adopted by Delgado, a learned London Jew. Kimchi tranſlates it "wood moſt proper to float;" Vatable, "light wood," which ſwims in the water without corrupting; Junius Tremellius, and Buxtorf, a kind of "cedar," by the Greeks called κεδρελαΐη; Avenarius and Munſter, "pine;" Fuller and Bochart, "cypreſs," and the "ebony-tree;" others, "fir;" Caſtalio, "turpentine," &c. Pelletier prefers the opinion of thoſe who hold the ark made of cedar: his reaſons are, the incorruptibility of that wood; the great plenty thereof in Aſia, whence Herodotus and Theophraſtus relate, that the kings of Egypt and Syria built whole fleets of it in lieu of deal; and the common tradition throughout the Eaſt imports, that the ark is preſerved entire to this day on mount Ararat. The Mahometans explain it by the word "Sag," or the Indian plane-tree. To theſe various conjectures may be added that of Dr. Geddes (Crit. Rem. vol. i. p. 67.), who apprehends, that the Syriac tranſlator has given the true meaning in the word ערקא, rendered in the polyglot by the Latin word *vimen*, ſignifying in general a twig, rod, or wicker of any kind. In Arabic the ſame word ſignifies a cheſt, coffer, or baſket made of twigs, particularly of palm-tree leaves. And, indeed, all the firſt veſſels of capacity, whether coffer, ark, or ſhip, ſeem to have been compoſed of the ſame materials. The ſhip or ark of Noah, ſays this writer, was a large coffer formed of twigs, like baſket work, and covered over with bitumen, both within and without, to keep out the water. Whether thoſe twigs were of oſier, or palm-tree, or hazel, or poplar, or birch, or juniper, or any other kind of vimineous wood, he does not preſume abſolutely to determine; but he thinks it muſt have been the oſier, which, as we learn from Columella, was conſidered as the principal of the wicker kind. It is certain, that boats, baſkets, and ſhips, were originally made of ſuch twigs, and particularly of oſier; and even thoſe, which were externally covered with ſkins, had other ribs at leaſt of that wood, on account of its pliability. See Herodotus (Clio); or Niebuhr's Arabia, vol. ii. p. 175.

The figure of the ark was that of an oblong ſquare or parallelepiped, with a flat bottom, and it was gradually contracted at the top, in the form of a ſloping roof; and this roof roſe in the middle a whole cubit higher than its extremities. This ſlope was ſufficient, when covered with bitumen, to let the water paſs eaſily off the deck. This veſſel was, without doubt, ſo contrived as to admit air and light, though the particular conſtruction of the air-vents or windows be not mentioned. Bryant (Anal. Anc. Myth. vol. ii. p. 195.) ſuggeſts, that it was ſo cloſed up and faſtened, that the perſons within it were configned to darkneſs; having no light but what they received from lamps and torches. They could not therefore have been witneſſes to the general calamity of mankind; nor ſee the mighty eruption of the waters, nor the turbulence of the ſeas. Some, with this writer, have ſuppoſed that they had one window above a cubit in diameter; but others have thought that the term צֹהַר refers to the ſloping roof, and that the windows are not particularly mentioned.

The ark, whatever were the materials of which it conſiſted, was pitched over, or coated with bitumen, ſuch as ſome have ſuppoſed to be uſed in building the tower of Babel; and it has been obſerved, that the bitumen judaicum, or aſphaltus, was the moſt proper of all ſubſtances for this purpoſe. At firſt, it was ſoft, viſcous, and pliable, and might be thruſt into every chaſm and crevice with the greateſt eaſe; but it would ſoon acquire a tenacity and hardneſs ſuperior to thoſe of our pitch. A coat of it ſpread over both the inſide and outſide of an ark, even of wicker work, would render it perfectly water-proof and impenetrable; and the longer it was kept in the water, the harder and ſtronger it would grow. The Arabs ſtill uſe it in covering their veſſels; and mixed with a tenth part of common pitch, it is called "piſſaſphaltus," and has been employed to the ſame purpoſe in our days by M. de la Sabloniere at L'Orient. Beroſus ſays, that the people of Armenia, where it was ſuppoſed that the ark reſted, ſcraped off the aſphaltus, and uſed it as a charm; and Abydenus informs us, that ſmall pieces of the wood were carried about by way of amulet.

As to the place where the ark was built, there have been different opinions: ſome have ſuppoſed that it was built in Paleſtine, and that Noah planted the cedars, of which it is ſaid to be made, on the plains of Sodom; others imagine that it was built on mount Caucaſus, on the confines of India; and others refer it to China, where Noah was ſuppoſed to have lived before the flood; but it was probably conſtructed not far from mount Ararat, where it reſted, as it was not of a form which would allow of its being driven to a great diſtance. It is therefore moſt reaſonable to imagine, that it was built in Chaldæa, in the territories of Babylon, where, it is ſaid, there was ſo great a quantity of cypreſs in the groves and gardens in the time of Alexander, that he conſtructed a whole fleet of it for want of other timber; and this conjecture is confirmed by the Chaldæan tradition which makes Xiſuthrus, the Noah of Beroſus, ſail from that country.

The dimenſions of the ark, as delivered by Moſes, are three hundred cubits in length, fifty in breadth, and thirty in height; which, compared with the great number of things it was to contain, ſeem to many to have been too ſcanty: and hence an argument has been drawn againſt the authority of the relation. Apelles, one of Marcion's diſciples, objected to it, and Celſus ridiculed it, calling it κιβωτον αλλοκοτον, *the abſurd ark*. To ſolve this difficulty, many, both of the ancient fathers and later critics, have been very much perplexed. Origen, St. Auguſtine, and others maintain, that by the cubit here ſpoken of, we are to underſtand the Egyptian geometrical cubit, equal, according to them, to ſix vulgar cubits, or nine feet. But the truth is, it does not appear there ever was any ſuch meaſure as a geometrical cubit either among Egyptians or Jews.—Others, as ſir W. Raleigh, account for it by aſſerting the ſtature of

mankind in the firſt ages to have been much greater than in our days; and conſequently the cubit, which is taken for a part of the human body, proportionably larger. But this does not avail, ſince the ſame reaſon will infer an equal augmentation of the ſize of other animals. Others ſuppoſe the ſacred cubit to be that here ſpoken of, which was a hand's breadth longer than the civil one: but this only affords a ſmall ſupply; beſide, the ſacred cubit does not appear to have been ever uſed, except in ſacred edifices, as the temple and tabernacle.

This difficulty is much better ſolved by Buteo and Kircher, who, ſuppoſing the common cubit a foot and a half, prove geometrically that the ark was abundantly ſufficient for all the animals ſuppoſed to be lodged therein. The capacity of the ark will be doubled, if we admit with Cumberland, &c. that the Jewiſh cubit was 21.888 inches. According to this meaſure, it muſt have been 54.72 Engliſh feet long, 91.2 broad, and 54.72 high; and its ſolid contents 2,730,781.9008 feet. Snellius computes the ark to have been about half an acre in area. Cuneus and others have alſo calculated the capacity of the ark.—Dr. Arbuthnot computes it to have been 81,062 tuns.—Father Lamy ſays, that it was an hundred and ten feet longer than the church of St. Mary at Paris, and ſixty-four feet narrower; to which his Engliſh tranſlator adds, that it muſt have been longer than St. Paul's church in London, from weſt to eaſt, broader than that church is high in the inſide, and about fifty-four feet in height, of our meaſure.

The things contained in the ark were, beſide eight perſons of Noah's family, one pair of every ſpecies of unclean animals, and ſeven pair of every ſpecies of clean animals, with proviſions for them all, during the whole year.—The former appears, at firſt view almoſt infinite; but if we come to a calculation, the number of ſpecieſes of animals will be found much ſmaller than is generally imagined; out of which, in this caſe, are to be exempted ſuch animals as can live in the water; and biſhop Wilkins imagines, that only ſeventy-two of the quadruped kind needed a place in the ark. Mr. Kirwan (Iriſh Tranſ. vol. vi. p. 291.) with a view of ſolving the objection ariſing from the difficulty of collecting or finding all the various ſpecies of animals now known, ſome of which can only exiſt in the hotteſt, and others only in the coldeſt climates, apprehends that no others were collected in the ark beſides thoſe that were moſt neceſſary for the uſe of man, and thoſe only of the graminivorous or granivorous claſſes. At this early period, ravenous animals were not only unneceſſary, but would have been even deſtructive to thoſe which had juſt obtained exiſtence, and probably not in great numbers: they only became neceſſary, when the granivorous had multiplied to ſuch a degree that their carcaſes would have ſpread infection. Hence, he ſays, they appear to have been of poſterior creation; and thus he alſo accounts for the exiſtence of thoſe that are peculiar to America and the torrid and frigid zones. Such is the ſingular hypotheſis of this ingenious naturaliſt.

The ark appears to have been divided into three ſtories; and it is agreed on, as moſt probable, that the loweſt ſtory was deſtined for the beaſts, the middle for the food, and the upper for the birds, with Noah and his family; each ſtory being ſubdivided into different apartments, ſtalls, &c. Though Joſephus, Philo, and other commentators add a kind of fourth ſtory under all the reſt; being, as it were, the hold of the veſſel, to contain the ballaſt, and receive the filth and fæces of ſo many animals.

Drexelius makes three hundred apartments; father Fournier, three hundred and thirty-three; the anonymous author of the Queſtions on Geneſis, four hundred; Buteo, Temporarius, Arius Montanus, Wilkins, Lamy, and others, ſuppoſe as many partitions as there were different ſorts of animals.—Pelletier only makes ſeventy-two, viz. thirty-ſix for the birds, and as many for the beaſts: his reaſon is, that if we ſuppoſe a greater number, as three hundred and thirty-three, or four hundred, each of the eight perſons in the ark muſt have had thirty-ſeven, forty-one, or fifty ſtalls to attend and cleanſe daily, which he thinks impoſſible. But there is not much in this; to diminiſh the number of ſtalls, without a dimunition of the animals, is vain; it being perhaps more difficult to take care of three hundred animals in ſeventy-two ſtalls, than in three hundred. Buteo computes, that all the animals contained in the ark could not be equal to five hundred horſes; he even reduces the whole to fifty-ſix pair of oxen. Father Lamy enlarges it to ſixty-four pair, or an hundred and twenty-eight oxen; ſo that ſuppoſing one ox equal to two horſes, if the ark had room for two hundred and fifty-ſix horſes, there muſt have been room for all the animals. And the ſame authors demonſtrate, that one floor of it would ſuffice for five hundred horſes, allowing nine ſquare feet to a horſe.

As to the food on the ſecond ſtory, it is obſerved by Buteo, from Columella, that thirty or forty pounds of hay ordinarily ſuffice an ox for a day; and that a ſolid cubit of hay, as uſually preſſed down in our hay-racks, weighs about forty pounds; ſo that a ſquare cubit of hay is more than enough for one ox one day. Now it appears that the ſecond ſtory contained 150,000 ſolid cubits; which, divided between two hundred and ſix oxen, will afford each more hay by two-thirds than he can eat in a year.

Biſhop Wilkins computes all the carnivorous animals equivalent, as to the bulk of their bodies, and their food, to twenty-ſeven wolves; and all the reſt to two hundred and eighty beeves. For the former he allows the ſuſtenance of 1825 ſheep, and for the latter 109,500 cubits of hay: all which will be eaſily contained in the two firſt ſtories, and much room to ſpare. As to the third ſtory, no body doubts its being ſufficient for the fowls, with Noah and his ſons and daughters.

Upon the whole, the learned biſhop remarks, that of the two, it appears more difficult to aſſign a number and bulk of neceſſary things to anſwer the capacity of the ark, than to find ſufficient room for the ſeveral ſpecies of animals already known to have been there.—This he attributes to the imperfection of our liſts of animals, eſpecially thoſe of the unknown parts of the earth; adding, that the moſt expert mathematician at this day could not aſſign the proportions of a veſſel better accommodated to the purpoſe than is here done; and hence finally concludes, that "the capacity of the ark, which had been made an objection againſt ſcripture, ought to be eſteemed a confirmation of its divine authority; ſince, in thoſe rude ages, men being leſs verſed in arts and philoſophy, were more obnoxious to vulgar prejudices than now; ſo that had it been a human invention, it would have been contrived according to thoſe wild apprehenſions which ariſe from a confuſed and general view of things, as much too big, as it has been repreſented too little." If we ſuppoſe that many animals would probably become torpid during the cold of the deluge, or conſume little food whilſt they were confined in a ſtate of darkneſs, the means of ſuſtenance laid up in ſtore for them would be thus diminiſhed. Beſides, it would be ſufficient to preſerve the eggs of thoſe animals that are oviparous; and many of them would be lodged in the earth with the ſeeds of plants, kernels of fruits, &c.; and thus the labour attending ſuch as were preſerved in the ark would be leſſened; and room would be obtained for diſpoſing a

variety of inſtruments and utenſils which would be wanted immediately or ſoon after the deluge had ſubſided. So that, all circumſtances conſidered, the capacity of the ark might be found fully adequate to all the purpoſes of its conſtruction, and for preſerving an ample ſupply of every thing that would be neceſſary for raiſing a new ſtock of animals and vegetables, after the deluge had ſubſided.

Thoſe who have objected to the Moſaic hiſtory of the deluge, ought candidly to conſider the ſeveral particulars that have been above ſtated; and they ought alſo to recollect, that the ſeveral varieties and ſpecieſes of both plants and brute animals, which differ from each other by ſmall degrees, ſeem to be multiplied every day by the viciſſitudes of climates, culture, food, mixture, &c. On the ſuppoſition of an univerſal deluge, which is confirmed by the general hiſtory of the world, and by a variety of exiſting facts and monuments, ſuch a ſtructure as the ark, for the preſervation and ſuſtenance of various animals, ſeems to have been abſolutely neceſſary; for as we can trace up the firſt imperfect rudiments of the art of ſhipping amongſt the Greeks, there could be no ſhipping before the flood; and, conſequently, no animals could have been ſaved. Nay, it is highly improbable that even men and domeſtic animals could be ſaved, not to mention wild beaſts, ſerpents, &c. though we ſhould ſuppoſe, that the antediluvians had ſhipping, unleſs we ſuppoſe alſo, that they had a divine intimation and directions about it, ſuch as Moſes relates; but this would be to give up the cauſe of infidelity. Hartley's Obſ. on Man, p. 372. Dr. Bryant (Anal. Anc. Myth. vol. ii. p. 213, &c.) has collected a variety of ancient hiſtorical relations, which ſhew that ſome records concerning the ark had been preſerved among moſt nations of the world, and the general ſyſtem of Gentile mythology. Abydenus, with whom all the eaſtern writers concur, informs us that the place of deſcent from the ark was Armenia; and that its remains had been preſerved for a long time. Plutarch (De Solert. Anim. Oper. vol. ii. p. 968.) mentions the Noachic dove, and its being ſent out of the ark. Lucian (De Dea Syria. vol. ii. p. 882.) ſpeaks of Deucalion's going forth from the ark, and raiſing an altar to God. The prieſts of Ammonia had a cuſtom, at particular ſeaſons, of carrying in proceſſion a boat, in which was an oracular ſhrine, held in great veneration: and this cuſtom of carrying the deity in an ark or boat, was in uſe alſo among the Egyptians. Biſhop Pococke has preſerved three ſpecimens of ancient ſculpture, in which this ceremony is diſplayed. They were very ancient, and found by him in Upper Egypt. Vid. Diod. Sicul. l. xvii. p. 528. Pococke's Works, vol. i. p. 252. The ſhip of Iſis referred to the Ark, and its name "Baris," was that of the mountain correſponding to Ararat in Armenia. Bryant finds reference to the ark in the temples of the ſerpent-worſhip, called "Dracontia;" and alſo in that of Seſoſtris, faſhioned after the model of the ark, in commemoration of which it was built, and conſecrated to Oſiris at Theba; and he conjectures, that the city, ſaid to be one of the moſt ancient in Egypt, as well as the province, was denominated from it; Theba being the appellation of the ark. In other countries, as well as in Egypt, an ark, or ſhip, was introduced in their myſteries, and often carried about in the ſeaſons of their feſtivals. He finds alſo in the ſtory of the Argonauts ſeveral particulars, that are thought to refer to the ark of Noah. As many cities, not in Egypt only and Bœotia, but in Cilicia, Ionia, Attica, Phthiotis, Cataonia, Syria, and Italy, were called Theba; ſo likewiſe the city Apamea was denominated Cibotus, from Κιβωτος, in memory of the ark, and of the hiſtory connected with it. The ark, according to the traditions of the Gentile world, was prophetic; and was regarded as a kind of temple, or reſidence of the deity. It comprehended all mankind, within the circle of eight perſons, who were thought to be ſo highly favoured of heaven, that they at laſt were reputed to be deities. Hence in the ancient mythology of Egypt, there were preciſely eight gods (Diod. Sic. l. i. p. 12.), and the ark was eſteemed an emblem of the ſyſtem of the heavens. The conſtellation Aquarius, in particular, and the great effuſion of that element, as it is depicted in the ſphere, undoubtedly related to this hiſtory. The principal terms by which the ancients diſtinguiſhed the ark, were Theba, Baris, Arguz, Aren, Arene, Arni, Laris, Boutas, Bœotus, and Cibotus; and out of theſe they formed different perſonages. As the ſtay in the ark was an intermediate ſtate between a loſt world and a world renewed, this was alluded to in the hieroglyphical repreſentations of the Gentile writers. See Janus, Prometheus, and Saturn. As the ark was repreſented under the figure of a ſhip, ſtyled αμφι-πρυμνὰς, i. e. whoſe extremities were alike, which formed a kind of creſcent, the new moon, appearing in this ſhape, was made a type of the ark. Hence, in the mythology of the ark, and the Jönah or dove, there is continually ſome reference to the moon; and hence the moon was eſteemed by the Egyptians the mother of all beings, for the moon and the ark were ſynonymous terms.

Ark *of the Covenant*, or *of the Teſtimony*, in Scripture, denotes a kind of cheſt made of ſhittim wood, overlaid within and without with pure gold, $2\frac{1}{2}$ cubits long, $1\frac{1}{2}$ broad, and $1\frac{1}{2}$ deep, in which, by God's command, Exod. xxv. 16. were kept the two tables of ſtone, on which God had engraven the ten commandments, given to Moſes on the mount, and held in high veneration among the Hebrews. It contained likewiſe the golden pot that had manna, and Aaron's rod, and the tables of the covenant. Heb. ix. 4. The ark was repoſited in the holieſt place of the tabernacle. —It was taken by the Philiſtines, and detained twenty, ſome ſay forty years, at Kirjath-Jearim; but the people being afflicted with emrods on account of it, returned it with divers preſents. It was afterwards placed in the temple. See *Plate* I. *Miſcellany*.

The lid or covering of the ark was called the *propitiatory*, or mercy-ſeat; over which were two figures placed, called *Cherubim*, with expanded wings of a peculiar form. This covering was made of pure gold, of equal length and breadth with the ark, and kept ſteady by a crown or coronet of gold, which alſo ſerved as an ornament. The covering was called כפרת, a word which may be derived from covering or from expiating ſin, as in the language of ſcripture, when ſins are forgiven, they are ſaid to be covered. The ſeptuagint have joined both ſenſes together in their tranſlation, Ιλαςηριον επιθημα. Over this covering, and between the wings of the cherubim, was the place, where the Schechinah reſted, both in the tabernacle and temple, in a viſible cloud; hence were iſſued the divine oracles by an audible voice; and the high prieſt appeared before this mercy-ſeat once every year on the great day of expiation; and the Jews, wherever they worſhipped, turned their faces towards the place where the ark ſtood. In the ſecond temple there was alſo an ark, made of the ſame ſhape and dimenſions with the firſt, and put in the ſame place, but without any of its contents and peculiar honours. It was uſed as a repreſentative of the former, on the day of expiation, and a repoſitory of the original copy of the holy ſcriptures, collected by Ezra and the men of the great ſynagogue, after the captivity. And in imitation of this, the Jews to this day have a kind of ark in their ſynagogues, wherein their

 ſacred

facred books are repofited: this they call *aron*. Leo of Modena gives a defcription of it, in his account of the cuftoms and ceremonies of thofe of his nation: "The Jews (fays he), in the eaftern fides of their fynagogues, have an ark, or armory, called *aron*; in memory of the ark of the covenant. In this are preferved the five books of Mofes, written on vellum, with ink made on purpofe," &c. Some have fuppofed that the figure of this ark is ftill remaining on the triumphal arch of Titus at Rome; though Villalpandus and others, with greater reafon, are of opinion that it is the table of fhew-bread. Prideaux's Conn. vol. i. p. 209. Lowman's Tracts, p. 133. Tertullian calls this ark, *Armarium Judaicum*; whence the phrafe, *to be in the armory of the fynagogue*, q. d. in the number of canonical writings.

A cheft or coffer, very nearly refembling the Jewifh ark, and called the "houfe of the God," was found in Huaheine, one of the iflands of the fouthern fea. Mr. (fir Jofeph) Banks could obtain no other information concerning it than what the name imports. Hawkefworth's Account, &c. vol. ii. p. 252.

ARK is ufed for a large cheft, in which corn and fruit are depofited.

ARK, or *Arks*, in *Conchology*, the trivial Engliſh name of all fuch fhells as belong to the Linnæan genus ARCA, and correfponding with the French name ARCHE. See ARCA.

ARK *iſland*, in *Geography*, one of the two fmall iflands, which lie between the iflands of Guernfey and Sark; the other is called *Arm*.

ARKA. See ARCA.

ARKADELT, GIACOMO or JACQUES, in *Biography*, was a difciple of Jufquin, and feems to have fpent the chief part of his life in Italy, as the firft editions of his principal works were printed at Venice, between the years 1539 and 1575.

The number of his motets that was publifhed then, in different collections of the times, is very conſiderable; but his madrigals were received with fuch avidity, that five books of them were publifhed at Venice, between the years 1539 and 1541, in one of which is the celebrated madrigal, *Il bianco e dolce cigno cantando muore*, highly favoured all over Europe; and his reputation for this fpecies of compofition was fo great in Italy, that, according to Adami, who enumerates him among the fingers and compofers of the pontifical chapel, his name was fometimes prefixed to the productions of others, in order to forward their fale.

Why Du Verdier and others have called Arkadelt a Frenchman, Dr. Burney doth not know: his maſter, at leaſt, was a Netherlander, and his name has a very Flemiſh appearance. He was at Venice in the elder Doni's time, and compofed chiefly to Latin and Italian words. Whatever country gave him birth, he was an excellent compofer; and, for the time in which he lived, his melodies are uncommonly natural, fmooth, and graceful.

ARKADINSKAIO, in *Geography*, a town of Ruſſian Tartary, in the country of the Coſſacks, on the river Medveditza, 240 miles north-eaſt of Azoph, and 124 fouth-weſt of Saratov. N. lat. 50° 10'. E. long. 43° 4'.

ARKANSAS, a north-weſt branch of Miſſiſippi river, which falls in by two mouths, and forms an iſland, whoſe north-weſtern point lies in N. lat. 33° 35'. W. long. 91°. Its length is thirty-five, and breadth ten miles.

ARKEEKO, a town of Abyſſinia, ſeated on a large bay of the Arabian gulf, and conſiſting of about 400 houſes, of which ſome few are built of clay, and the reſt of coarſe graſs-like reeds. There is water enough for large ſhips cloſe to Arkeeko, but as the bay is open to the north-eaſt, it is uneaſy riding in blowing weather. The bottom is compoſed of ſoft ſand. In ſtanding in upon Arkeeko from the ſea, through the canal between Shekh Seide and the main land, it is neceſſary to range the coaſt about a third nearer the main than the iſland. The point, or Shekh Seide, ſtretches far out, and has ſhallow water upon it. The cape that forms the ſouth weſt ſide of the large bay is called "Ras Gedem," being the rocky baſe of a high mountain of that name, ſeen at a conſiderable diſtance from ſea, and diſtinguiſhed by its form, which is that of a hog's back. In the bay between Arkeeko and Maſuah are two iſlands, Toulahout and Shekh Seide; the firſt on the weſt, the other on the ſouth, both uninhabited and deſtitute of water. Shekh Seide has a marabout, or ſaint's tomb, on the weſt end. It is not half a mile in length, when not overflowed; but has two large points of ſand which run far out to the eaſt and weſt. Its weſt point runs ſo near to Toulahout, as, at low water, ſcarcely to leave a channel for the breadth of a boat to paſs. N. lat. 15° 35'. E. long. 39° 30'. Bruce's Trav. vol. iii. p. 56.

ARKEL, a diſtrict of the united provinces, in the low countries, belonging particularly to that of Holland; comprehending the town and ſeigniories of Aſperia, of Heuchelnam, and ſome villages: and otherwiſe called the country of Gorkum.

ARKI, a town of European Turkey, ſituate in Boſnia, at the mouth of the river Boſna.

ARKITES, in *Ancient Geography*, the deſcendants of Canaan, who inhabited the town of Arka or Arca.

ARKITES, were alſo a people ſo denominated, according to Bryant in his "Analyſis of Ancient Mythology," from Noah's ark, and the deſcendants of this venerable patriarch, who ſent out various colonies that eſtabliſhed themſelves in different countries of the globe. They were diſtinguiſhed by their peculiar rites, and they gave names to the different countries and towns in which they ſettled, which had a reference to the ark, and their anceſtors who were preſerved by it from the deſtruction of the deluge. Thoſe of them who came into Greece, ſettled in many parts, but eſpecially in Argolis and Theſſalia, where they introduced their rites and worſhip. In the former of theſe regions, they were commemorated under a notion of the arrival of Da-naus, or Danaus, ſuppoſed to have been a perſon who fled from his brother Ægyptus, and came over in a ſacred ſhip given by Minerva; which, like the ARGO, is ſaid to have been the firſt ſhip that was conſtructed, and he was aſſiſted in the building of it by the ſame deity, divine wiſdom. Danaus, upon his arrival, built a temple, called Argus, to Jönah, or Juno, of which he made his daughters prieſteſſes. The people of the place had an obſcure tradition of a deluge from which ſome few eſcaped, the principal of whom was Deucalion, who took refuge in the Acropolis, or temple. The Arkites who ſettled in Theſſaly carried with them the ſame memorials, concerning Deucalion and his deliverance, which they appropriated to their own country. Theſe Arkites, and their rites, extended very widely, from Chaldæa and Babylonia, where they originated; and paſſed from Egypt and Syria, to Phrygia and Pontus, Thrace and the cities of Greece; and they were likewiſe carried into Hetruria, and into the regions of the Celtæ, and traces of them are to be obſerved as high up as the Suevi. Bryant thinks, that the Arkite rites prevailed in many parts of Britain, eſpecially in the iſle of Mona, which was afterwards the chief ſeat of the Saronides or Druids: and he conceives, that this iſland had its name Mona, or Menai, Men-ai, the iſland of the god Lunus, from its rites. The ſame worſhip was probably further introduced, as he imagines, into ſome of the Scottiſh iſles, and particularly into that called Columb-kil or Columba. To the claſs of Arkite prieſts Bryant refers the Cabiri, or Curetes, Corybantes,

bantes, Telchines, and Idæi Dactyli, who belonged to the ſame order, under different denominations. See ARGOLIS, ARGONAUTS, and ARK.

ARKIT-KAN, in *Geography*, a town of Aſiatic Turkey, in the province of Caramania, eighteen miles eaſt of Akſhehr.

ARKLOW, a ſmall neat town of the county of Wicklow, in Ireland, ſituate near the mouth of the little river Ovaca, or Ovo; and having a haven for ſmall craft. The copper mine company have had thoughts of making the river navigable to Rathdrum; but the port is ſo bad, and the coaſt ſo ſhoaly, that the veſſels muſt remain about a mile off, and put out to ſea on the ſlighteſt appearance of bad weather. There was a deſperate battle fought here, on the 9th of June 1798, between the inſurgents, twenty thouſand ſtrong, and the king's troops and yeomanry under general Needham. The town was ſet fire to by the rebels, and great part of it deſtroyed; but they were finally repulſed with conſiderable loſs. Diſtance from Dublin thirty-ſix miles. N. lat. 52° 48′. W. long. 6° 8′.—In 1795, a diſcovery was made of native gold in a brook that deſcends from the north-eaſt ſide of a mountain about 600 yards above the level of the ſea called Kinſhelly, and ſituate about ſeven Engliſh miles to the weſt of Arklow. This diſcovery was made public, and the reſearches for gold began early in the month of September, and continued till the 18th of October, during which period of about ſix weeks, the quantity of gold that is ſuppoſed to have been collected amounted to 800 ounces. The gold was of a bright yellow colour, perfectly malleable; and it was found in pieces of various weights, forms, and ſizes, from the moſt minute particle to 202.7 dwts.; one piece of 2 oz. and another of 22 oz. were alſo found. Two ſpecimens of this gold were aſſayed by his majeſty's aſſay-maſter in the tower of London; one of which appeared to contain, in 24 carats, 21$\frac{6}{8}$ of fine gold, 1$\frac{7}{8}$ of fine ſilver, and $\frac{3}{8}$ of alloy, which ſeemed to be copper tinged with a little iron. The works were taken poſſeſſion of by order of government; and the operations of the peaſants, who in great numbers had been induſtrious in their reſearches, were diſcontinued. Phil. Tranſ. vol. lxxxvi. p. 34—45.

ARKLOW *bank*, denotes ſand-banks in the Iriſh ſea, about ten miles long, and ſcarcely one broad, five miles from the coaſt of Ireland, having the town of Arklow nearly oppoſite to the middle part of them.

ARKWKIGHT, SIR RICHARD, in *Biography*, an eminent manufacturer, advanced himſelf, by his mechanical inventions for carding and ſpinning cotton, from the humble ſtation of a country barber to an immenſe fortune and an honorary title. For performing theſe operations of carding and ſpinning by means of machinery, it was required either that the uſual manœuvre of the carder ſhould be effected with ſquare cards, or that cylinders, covered with a kind of metallic bruſh-work, ſhould be made to revolve in contact with each other, either to card or to ſtrip, according as the reſpective velocities, directions, and inclinations of their wires might be adjuſted. With regard to ſpinning, it would be indiſpenſably neceſſary, not only that the raw material ſhould be very nicely prepared, but alſo that it ſhould be regularly drawn out by certain parts repreſenting the fingers and thumbs of the ſpinner. The contrivance for this purpoſe conſiſted of a certain number of pairs of cylinders, each pair revolving in contact with each other. Suppoſe then that a looſe thread or ſlightly twiſted carding of cotton were made to paſs between one pair of cylinders, properly adapted with a facing for holding it, and that it proceeded from thence to another pair, whoſe ſurfaces revolved with a much greater velocity; it is evident, that this quicker revolution would draw out the cotton, and render it thinner and longer when it came to be delivered at the other ſide. This is the operation which the ſpinner performs with his finger and thumb; and if the cotton be delivered to a ſpinning apparatus, it will be converted into thread. Sir R. Arkwright contrived to make theſe rotatory carding and ſpinning engines to move by horſe, by water, and by ſteam; and thus, by the ſaving of labour, and with the advantage of a patent monopoly, he was rendered one of the moſt opulent of our manufacturers.

After he had quitted his original buſineſs, in the year 1767, he came to Warrington, where he projected a mechanical contrivance for a kind of perpetual motion. A clock-maker of this town, whoſe name was John Kay, diſſuaded him from it, and ſuggeſted that much money might be gained by an engine for ſpinning cotton, which Kay promiſed to deſcribe. Arkwright at firſt objected, but afterwards aſked Kay, if this engine might be made at a ſmall expence? Kay had been employed in making a cotton ſpinning engine; and in the trial for ſetting aſide Arkwright's patent, it was proved that he had invented ſuch an engine, but he had not brought it to perfection. Kay and Arkwright applied to Peter Atherton, eſq. of Liverpool, for aſſiſtance in the conſtruction of ſuch an engine, who, diſcouraged by the mean appearance of the latter, declined undertaking it; though he ſoon after agreed to lend Kay a ſmith and watch-tool maker to prepare the heavier part of the engine, whilſt Kay himſelf undertook to make the clock-maker's part of it, and to inſtruct the workmen. In this way Arkwright's firſt engine, for which he afterwards took out a patent, was made. Mr. Arkwright ſoon after connected himſelf in partnerſhip with Mr. Smalley of Preſton in Lancaſhire; but their property failing, they went to Nottingham, and there, by the aſſiſtance of wealthy individuals, erected a conſiderable cotton mill turned by horſes. A perſon of the name of Hayes had alſo employed himſelf in making cylindrical carding engines. Upon the whole, without minutely detailing further particulars, it appears that the cotton ſpinning was no new attempt when Mr. Arkwright embarked in it; but many difficulties occurred in bringing it to perfection. In the hands of Mr. Arkwright, the carding and ſpinning of cotton became a great national manufacture. According to his ſtatement, it appears that the advancement of it during a period of five years, coſt him and thoſe that were concerned with him 12,000*l.* before they derived from it any profit; and it muſt be allowed, that he alone ſeems to have had ſufficient perſeverance, activity, and ſkill to perfect a ſcheme, in the proſecution of which many others had failed, and to render it valuable to himſelf and the public. The merits of ſir R. Arkwright may be ſummed up with obſerving, "that the object in which he was engaged is of the higheſt public value; that though his family were enriched, the benefits which have accrued to the nation, have been incalculably greater; and that upon the whole, he is entitled to the reſpect and admiration of the world." He was knighted by his preſent majeſty on the 22d of December 1786, on occaſion of preſenting an addreſs from the high ſheriff and hundred of Wirkſworth; and died at his works at Crumford in Derbyſhire, Auguſt 3d, 1792. Gen. Biog.

ARL, GROSS, in *Geography*, a town of Germany, in the circle of Bavaria, and biſhopric of Salzburg, 10 miles S.W. of Radſtadt, and 38 S.S.E. of Salzburg.—Alſo, a river of Germany, which runs into the Salza, about 6 miles S.W. of St. John, in the biſhopric of Salzburg.

ARL, *Klein*, a river of Germany, which runs into the Salza, near the town of St. John.

ARLANT, a town of France, in the department of Puy de Dome, and chief place of a canton in the diſtrict of Am-

bert-

bert, 3 leagues ſouth of Ambert. The place contains 3,345, and the canton 10,934 inhabitants; the territory includes 167½ kiliometres, and 9 communes.

ARLANZA, a river of Spain, which runs into the Piſuerga, between Valencia and Valladolid.

ARLANZO, a town of Spain, in Old Caſtile, 3 leagues from Lerma.

ARLANZON, a river of Spain, which joins the Arlanza, near Palenzuela.

ARLAUD, James Anthony, in *Biography*, a famous painter, was born at Geneva in 1668. His principal attention was devoted to portrait painting, and he excelled in it to ſuch a degree, that the regent duke of Orleans, who favoured him with his patronage at Paris, ſaid of him, that while other miniature painters produced only images, he had found the means to paint portraits. In 1721 he viſited England, and having been recommended to the princeſs of Wales, afterwards queen Caroline, he was much favoured by the court. After leaving England, he made a tour through the provinces of France, and afterwards through Switzerland. Beſides portraits, Arlaud produced ſome hiſtory pieces, and other works. His Leda, which he copied from a bas-relief of Michael Angelo, and which at a ſmall diſtance appeared like the original marble, he deſtroyed, becauſe he thought it too licentious. After a reſidence of about 40 years at Paris, he returned with a handſome fortune and a good collection of pictures to his native place; where he died in 1743, at the age of 75 years. His valuable collection of paintings, drawings, models, and rare books, he left to the public library of Geneva. Moreri.

ARLAY, in *Geography*, a town of France, in the department of Jura, and chief place of a canton in the diſtrict of Lons-le-Saunier, five miles north of Lons-le-Saunier.

ARLBERG, a mountain of Germany, in the Tyroleſe, being a part of the Alps, between Bregentz and the lake of Conſtance.

ARLE, a river of Denmark, which runs into the North ſea, four miles ſouth of Breditede.

ARLEN, a town of Germany, in the county of Tyrol, ſituate on a mountain, 8 miles N.W. of Landeck.

ARLEQUIN, or Harlequin, in *Natural Hiſtory*, a trivial Engliſh name occaſionally applied to ſome birds, inſects, ſhells, and other objects of natural hiſtory, that are remarkable for a ſtriking variety of colours; thus the *Trochilus multicolor* of Gmelin is called by Dr. Latham the harlequin humming-bird, and the ſame may be illuſtrated by various other inſtances of the like nature.—The French naturaliſts adopt the term *arlequin* alſo; for example, *arlequin de Cayenne* is the common name of the *prionus longimanus*, *Prione longimane* (*Cerambyx longimanus* of Linnæus); *arlequin doré*, the name given by Geoffroy to their *Chryſomèle céréale* (*Chryſomela cerealis* of Linnæus); and *arlequin velue*, a name given likewiſe by Geoffroy to their *Cétoine velue* (*Cetonia hirta* of Fabricius).

ARLES, in *Geography*, a town of France, in the department of the Eaſt Pyrenées, and chief place of a canton in the diſtrict of Ceret, 18 miles S.W. of Perpignan. The place contains 1,226, and the canton 4,776 inhabitants; the territory includes 192½ kiliometres, and 11 communes. N. lat. 42° 27′. E. long. 2° 32′.

Arles, a city of France, and principal place of a diſtrict in the department of the mouths of the Rhone, and chief place of a canton, in the diſtrict of Taraſcon, was, before the revolution, the ſee of an archbiſhop. It is ſituated in the midſt of a fertile country, which produces corn, wine, manna, oil, and fruit of various kinds. This city has ſeveral monuments of antiquity, which are worthy of notice. The amphitheatre is of an oval form, and was begun by Julius Cæſar, but never finiſhed. It is in circumference about 1164 feet, and the front is 102 feet in height. The arena, or middle, is 420 feet long, and 312 broad; the porticos or piazzas are three ſtories high, built with very large ſtones, and each of them conſiſts of 60 arches, which in part ſtill remain. The obeliſk is of granite, 58 feet high, and 7 feet in diameter at the baſe, the pedeſtal is adorned with four lions in marble, and at the top is a blue ball, on which are flower-de-luces of gold, and terminated by a ſun. It was dug up near the walls of the city in 1675, erected in the following year, and dedicated to Louis XIV. Here are the ruins of two temples; the remains of a triumphal arc; two large columns of Grecian marble; the wreck of a capitol built here by the Romans; the burying place of the Pagans and Chriſtians, ſituate on the top of a hill, conſiſting of two parts, one called "Campus Elyſius," or "Eliſcamp," and the other "Moulaires;" that of the Pagans being diſtinguiſhed by two letters, D. M. "Diis manibus," and that of the Chriſtians by a croſs. Various pieces of gold, ſilver, and bronze have been found here: and alſo urns, lamps, and cups, without number. It was at Arles that the ſtatue of Diana was dug up, which was removed to the gallery of Verſailles. On a column erected in honour of Conſtantine the Great, who made this city the ſeat of empire, repaired its walls, and built a palace in it, is an inſcription, which imports that he was the reſtorer of Arelata or Arles. Thirteen councils were held in this city, between the years 353 and 1261. At Arles there is an academy of belles lettres founded in 1669; the academy of ſciences was diſcontinued after the life of Louis XIV., by whom it was founded. The marſhy land that lies in the vicinity of Arles renders it unwholeſome. The place contains 21,000, and the canton 23,020 inhabitants: the territory includes 1,047½ kiliometres, and three communes. N. lat. 43° 4′. E. long. 4° 48′.

ARLESHEIM, a ſmall but pleaſant town of Switzerland, about 4 miles from Baſle. Within a quarter of a mile from this town is a beautiful hermitage, deſigned for the employment of the poor in a ſeaſon of great ſcarcity, and furniſhing agreeable walks for the inhabitants of the town. The walks are carried along the ſides of rocks, which are richly wooded, and through a ſemicircular plain, bounded by fertile hills, and watered by a ſmall lake; ſeveral natural caverns add to the romantic ſingularity of the ſcenery; while many tranſparent ſtreams, brought from a conſiderable diſtance, fall in ſmall caſcades, or bubble from the ground like real ſprings.

ARLEUX, a town of France, in the department of the North, and chief place of a canton in the diſtrict of Douay, 8 miles N.W. of Cambray. The place contains 1,460, and the canton 9,938 inhabitants: the territory includes 105 kiliometres, and 15 communes. N. lat. 50° 17′. E. long. 3° 16′.

ARLINGTON, a townſhip in Bennington county, Vermont, 12 miles north from Bennington, containing 991 inhabitants.

Arlington *Bay*, lies on the eaſt coaſt of Ireland, within the entrance of Carlingford bay.

Arlington's *Iſland*, is ſituated not far from the ſouth ſhore of Magellan's ſtraits.

ARLON, a town of the Netherlands, in the comté of Chini, annexed to the duchy of Luxemburgh; and by the new arrangement, in the department of the Forêts, and chief place of a canton in the diſtrict of Luxembourg; ſituate on a hill near the ſource of the river Semoy, 13 miles eaſt of Luxemburgh, and 14 ſouth of Bailogne. The place contains 3,128, and the canton 11,688 inhabitants: the territory includes 310 kiliometres, and 13 communes. N. lat. 49° 53′. E. long. 5° 28′.

ARLOTTO, Il Piovano, or *the Dean*, in *Biography*, was

was born of a family named "Mainardi," at Mugello, near Florence, in 1395, and at the age of 28 years aſſumed the clerical profeſſion. By his peculiar talent of contributing to the amuſement of ſociety by his humourous extravagances and repartees in converſation, he obtained eccleſiaſtical preferment, of which the higheſt was the rural deanery of St. Creſci, in the dioceſe of Fiaſole. Leſs celebrated as a poet than a buffoon, he rambled over Italy and other countries, diverting thoſe with whom he aſſociated by his pleaſantries and ſingularities; and thus recommended himſelf even to Lorenzo and Giuliano del' Medici. After his death, which happened in 1483, at the age of 87, a collection of his jeſts, witticiſms, and adventures, was printed under the title of "Facetie Fabule e Motti del Piovano Arlotto, Prete Fiorentino," which has been frequently reprinted. Nouv. Dict. Hiſtor.

ARLY, in *Geography*, a river of Savoy, which runs into the Iſere, near Conflans.

ARLYNG, in *Ornithology*, a name by which the Linnæan *Motacilla oenanthe* is known in ſome parts of England. This is the bird, called by Ray, Willughby, and other old writers, the fallow-ſmich, or white-tail, and is the wheat-ear of modern Engliſh ornithologiſts.

ARM, *brachium*, in *Anatomy*, ſtrictly ſpeaking, ſignifies the whole of that part of the upper extremity which intervenes between the ſhoulder and the elbow.

Arm, *Amputation of*, in *Surgery*. See Amputation.

Arm-*pit*. See Axilla.

Arm-*preſentation*, in *Midwifery*, is when the arm or hand of the fœtus preſents to the orifice of the uterus, inſtead of the head. In natural labours, that is, when the head of the fœtus is the preſenting part, and frequently when the breech preſents, they may be eaſily perceived through the parietes of the uterus and vagina, at whatever period of geſtation labour comes on, even before the os uteri begins to be dilated; but when the arm, or any other part, preſents, the body of the fœtus being thruſt down with more difficulty, it frequently happens, we are not able to diſtinguiſh the preſenting parts until the os uteri is conſiderably dilated; and ſometimes they are not to be diſcovered until the membranes are ruptured, and the waters are flowing away. Whenever, therefore, on examining *per vaginam* during a pain, no part of the fœtus can be diſtinctly felt, we ſhall be generally right in concluding that the labour will be preternatural, that is, that the arm, ſhoulder, or ſome other part than the head or breech of the fœtus, will preſent to the orifice, unleſs the deſcent of the fœtus be prevented by the unnatural projection of the brim of the ſacrum, or the pelvis be in ſome other way contracted and diſtorted. In theſe caſes, by the general conſent of practitioners, the child muſt be turned and extracted by the feet. For the manner of performing this operation, ſee Præternatural Labours.

Arm *of a horſe*, is that part of his fore leg which is intercepted between his ſhoulder and knee. See Horse.

Arm, in the *Manege*, is applied to a horſe, when he endeavours to defend himſelf againſt the bit, to prevent obeying or being checked thereby.

A horſe is ſaid to *arm* himſelf, when he preſſes down his head, and bends his neck, ſo as to reſt the branches of the bridle upon his briſket; in order to withſtand the effort of the bit, and guard his bars and his mouth.

A horſe is ſaid to *arm himſelf with the lips*, when he covers the bars with his lips, and deadens the preſſure of the bit. This frequently happens in thick-lipped horſes. The remedy is by uſing a bit-mouth, forged with a cannon or ſcratch-mouth, broader near the bankers than at the place of its preſſure or reſt upon the bars.

For *arming againſt the bit*, the remedy is, to have a wooden ball covered with velvet or other matter, put on his chaul; which will ſo preſs him between the jaw bones, as to prevent his bringing his head ſo near his breaſt.

Arm, in *Geography*, is uſed for a branch of a ſea or river. Italy and Sicily are only parted by an arm of the ſea. St. George's arm, in the Mediterranean, is the Thracian Boſphorus.

Arm *Iſland*. See Ark.

Arm, among *Gardeners*, is ſometimes uſed in reſpect of cucumbers and melons, in the ſame ſenſe as branch of other plants.

Arm is alſo figuratively uſed for *power*. The ſecular arm is the lay or temporal authority of a ſecular judge; to which recourſe is had for the execution of the ſentences paſſed by eccleſiaſtical judges. The church ſheds no blood; even the judges of inquiſition, after they have found the perſon guilty, ſurrender him to the ſecular arm. The council of Antioch, held in 341, decrees, that recourſe be had to the ſecular arm to repreſs thoſe who refuſe obedience to the church; for ſecular arm, they here uſe exterior power.

Arm, in the *Military Art*, *Heraldry*, &c. See Arms, and Armor.

Arm, in *Sea Language*, a ſhip is ſaid to be *armed*, when fitted out, and provided, in all reſpects for war.

Armed ſhip more peculiarly denotes a veſſel that is occaſionally taken into the ſervice of government in time of war, and employed to guard ſome particular coaſt, or attend on a fleet. All ſhips of this ſort are commanded by an officer of the navy, and are upon the ſame eſtabliſhment with the king's ſloops.

Alſo a croſs-bar ſhot is ſaid to be *armed*, when ſome rope-yarn, or the like, rolled round about one end of the iron bar which runs through the ſhot, both that the ſhot may be the better rammed down into the gun, and leſt the ſharp end of the bar ſhould catch into any honey-combs within the cylinder of the piece.

Arm, *Yard*. See Yard.

Arm, in reſpect of the *Magnet*.—A loadſtone is ſaid to be *armed*, when it is capped, caſed, or ſet in iron or ſteel; in order to make it take up the greater weight; and alſo to diſtinguiſh readily its poles. See Armed Magnet.

ARMA, in *Geography*, a ſmall province of South America, with a town and a river of the ſame name. The ſoil is ſo fertile, that it produces maize twice in the year.

Arma *dare*, to give arms, in ſome ancient charters, ſignifies to dub or make a knight.

Arma *deponere*, to lay down arms, was a puniſhment anciently enjoined when a man had committed an offence. Leg. Hen. I.

Arma *mutare*, q. d. to change arms, was a ceremony uſed to confirm a league or friendſhip.

Arma *moluta*, were ſharp weapons: Fleta calls them *arma emolita*.

Arma *reverſata*, inverted arms, was a puniſhment when a man was convicted of treaſon or felony.

ARMADA, a Spaniſh term, ſignifying a fleet of men of war. The armada which attempted to invade England in the time of queen Elizabeth A. D. 1588, is famous in hiſtory; it was partly ſcattered by the wind, and partly ſubdued by the Engliſh fleet. On which occaſion a medal was ſtruck with this motto, *Afflavit Deus, et diſſipantur*.

The ſituation of Philip II. at the time when he projected this invaſion, was ſuch as furniſhed a variety of motives, not only to induce his undertaking it, but to flatter him with the hope of ſucceſs. Whilſt ſecretly meditating his deſign in the preceding year, and actually commencing his preparations, Drake deſtroyed a whole fleet of tranſports at Cadiz, laden with ammunition and naval ſtores; he alſo ravaged his weſtern coaſt, inſulted Liſbon, and took a rich carrack,

carrack, laden with treaſure and papers of great importance. By this ſhort expedition, the means of which had been furniſhed by the London merchants, the naval preparations of Spain were diſconcerted, the propoſed expedition againſt England was retarded twelve months, and the queen had leiſure to make more ſecure meaſures againſt that formidable invaſion. Cavendiſh had alſo, in the ſame year, committed great depredations on the Spaniards in the South-Sea; having taken nineteen veſſels, ſome of which were richly laden; and after returning by the Cape of Good Hope, he had entered the river Thames in his way to London with a kind of triumph. His mariners and ſoldiers were cloathed in ſilk, and his ſails were of damaſk, his top-ſail cloth of gold, and his prizes were eſteemed the richeſt that had ever been brought into England. Philip, provoked by theſe hoſtilities on the part of Elizabeth, had harboured for a conſiderable time a ſecret and violent deſire of revenge. His ambition alſo, and the hopes of extending his empire, were much encouraged by the preſent proſperous ſtate of his affairs; by the conqueſt of Portugal, the acquiſition of the Eaſt Indian commerce and ſettlements, and the yearly importation of vaſt treaſures from America. Beſides, his higheſt glory was connected with that perpetual object of his policy, which was the ſupport of orthodoxy and the extermination of hereſy; and as the power and credit of Elizabeth were the chief bulwark of the proteſtants, he hoped, by ſubduing that princeſs, to acquire the immortal renown of re-uniting the whole Chriſtian world in the catholic communion. Above all, his indignation againſt his revolted ſubjects in the Netherlands, inſtigated him to attack the Engliſh, by whom they were encouraged and ſupported. The period which he had choſen for this purpoſe was peculiarly favourable to his deſign; as a truce had been lately concluded with the Turks; the empire alſo was in the hands of a friend and near ally; and France, the perpetual rival of Spain, was ſo diſtracted with inteſtine commotions, that ſhe was incapable of directing her attention to her foreign intereſts. Thus circumſtanced, Philip was determined, by one bold effort, to acquire that aſcendant in Europe, to which the preſent greatneſs and proſperity of the Spaniards ſeemed ſo fully to entitle them; and he therefore proceeded immediately to the execution of his ambitious project. His preparations had been for ſome time conducted with ſtudied ſecrecy and reſerve; but when his reſolution was formed, every part of his extenſive empire reſounded with the noiſe of armaments. And all his miniſters, generals, and admirals were employed in forwarding the deſign. The marquis of Santa Croce, a ſea-officer of great reputation and experience, was deſtined to conduct the naval equipments, and to command the fleet. Accordingly the plans were laid and meaſures were taken in all the ports of Sicily, Naples, Spain, and Portugal, for fitting out ſuch a fleet and embarkation as had never before had its equal in Europe. The military preparations in Flanders were no leſs formidable. Troops were collected from all quarters for reinforcing the duke of Parma; and an army of 34,000 men was aſſembled in the Netherlands, which was kept in readineſs to be tranſported into England in boats and flat-bottomed veſſels, previouſly prepared and conveniently ſtationed for this purpoſe. To the moſt renowned nobility and princes of Italy and Spain, who were ambitious of ſharing in the honour of this great enterpriſe, might be added ſome hundreds of deſperate Engliſh renegadoes under the conduct of Stanley, who had been already proſcribed for delivering a Dutch fortreſs to Spain. The Spaniards, oſtentatious of their power, and elated with vain hopes, had already denominated their navy the "Invincible Armada."

As ſoon as the news of this propoſed invaſion reached the court of London, the queen made preparations for reſiſtance; nor was ſhe diſmayed by that power, by which all Europe apprehended ſhe muſt of neceſſity be overwhelmed. Her forces, however, ſeemed very unequal to reſiſt ſo potent an enemy. All the ſailors in England amounted at that time to about 14,000 men, and the royal navy conſiſted only of 28 ſail, many of which were of ſmall ſize. The dexterity and courage of the ſeamen far ſurpaſſed thoſe of the Spaniſh mariners, and compenſated for the inferior ſize and force of their veſſels. The alarm rouzed the exertions of the Engliſh people; and they concurred with ſingular alacrity in defending their liberty and religion againſt thoſe imminent perils with which they were menaced. The city of London ſupplied thirty ſhips and 10,000 men; other ports followed this example; the nobility and gentry, among whom were ſeveral Roman catholics, and even aliens, hired, armed, and manned 43 ſhips at their own charge; and all the loans of money which the queen demanded, were cheerfully granted. The command of the navy was entruſted with lord Howard of Effingham, a man of courage and capacity, and under him, as admiral, ſerved Drake, Hawkins, and Frobiſher, the moſt renowned ſeamen in Europe. The principal fleet was ſtationed at Plymouth; and a ſmaller ſquadron of 40 veſſels, commanded by lord Seymour, ſecond ſon of the protector Somerſet, lay off Dunkirk, in order to intercept the duke of Parma. An army of 20,000 men was diſpoſed in different bodies along the coaſt; and a body of 20,000 foot and 1000 horſe, under the command of the earl of Leiceſter, was ſtationed at Tilbury, in order to defend the capital. The principal army conſiſting of 34,000 foot and 2000 horſe, commanded by lord Hudſon, guarded the queen's perſon, and had orders to march whitherſoever the enemy ſhould appear. James, the Scots king, retained his engagements, with a fidelity that was of great importance to England and the proteſtant cauſe, and kept himſelf prepared to march with the force of his whole kingdom to the aſſiſtance of Elizabeth; and the queen obtained ſome ſecondary aid from Denmark and the Hanſe-towns. In a word, all the proteſtants throughout Europe were intereſted and anxious ſpectators on this occaſion. In order the more to excite the martial ſpirit of the nation, the queen appeared on horſeback in the camp at Tilbury; and riding through the lines, diſcovered a cheerful and animated countenance, exhorted her ſoldiers to remember their duty to their country and their religion, and profeſſed her intention, though a woman, to lead them herſelf into the field againſt the enemy, and rather periſh in battle than ſurvive the ruin and ſlavery of her people. The loyalty and enthuſiaſm of the ſoldiers were elevated into a kind of phrenzy, and they were prepared for any exertion which the cauſe in which they were engaged might require.

In the beginning of May, the armada was ready; but when it was preparing to ſail, the admiral, the marquis of Santa Croce, and the vice-admiral, the duke of Paliano, both died; and the duke of Medina Sidonia, a nobleman altogether unacquainted with naval affairs, and unexperienced in action, was appointed admiral. On the 29th of May, the Spaniſh fleet ſet ſail from Liſbon; but the next day it was diſperſed by a violent ſtorm, and ſome of the ſmalleſt ſhips were ſunk, whilſt the others took ſhelter in the Groine. As ſoon as the armada was refitted, it ſailed again towards the Engliſh coaſt. The fleet conſiſted of 130 veſſels, of which about 100 were galleons of larger ſize than any before uſed in Europe; and it carried on board 19,295 ſoldiers, 8456 mariners, 2088 galley-ſlaves, and 2630 great pieces of braſs ordnance. It was victualled for ſix months, and attended by 30 ſmaller veſſels. Superſtition too added her fanatic but powerful aid: bulls, denouncing

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ing hell-fire to Elizabeth and her abettors, accompanied the ſquadron; and a conſecrated banner from Rome waved over the heads of theſe new cruſaders. On the 19th of July, the armada arrived in the channel, diſpoſing itſelf in the form of a creſcent, and ſtretching to the diſtance of ſeven miles from the extremity of one diviſion to that of the other. The Engliſh admiral had juſt time to get out of port, when he ſaw it in full ſail, as Bentivoglio, an Italian writer, in a kind of poetical language, deſcribes its progreſs, and yet advancing with a ſlow motion, as if the ocean groaned with ſupporting, and the winds were tired with impelling, ſo enormous a weight. As the armada proceeded up the channel, Effingham, with the Engliſh fleet conſiſting of 140 ſhips, gave orders to avoid a cloſe fight, but to ſkirmiſh with the larger ſhips of the Spaniſh fleet, which it continued to do for ſix days. The armada, having reached Calais, caſt anchor before that place; and waited the arrival of the prince of Parma, who delayed leaving the Flemiſh ports until he was aſſured that the Spaniards were maſters at ſea. Whilſt the Spaniſh fleet lay confuſedly in this poſition, the Engliſh admiral, by a ſucceſsful ſtratagem, diſpatched eight of his ſmaller ſhips filled with combuſtibles, one after another, into the midſt of the enemy; and thus alarmed them to ſuch a degree, that they immediately cut their cables, and betook themſelves to flight with the greateſt diſorder and precipitation. The Engliſh fell upon them the next morning, took about 12 of their large ſhips, and damaged ſeveral others. The Spaniſh admiral having deſtroyed only one ſmall veſſel of the Engliſh, and perceiving that his own fleet had greatly ſuffered, and was in danger of being totally deſtroyed, prepared to return homewards: but as the wind oppoſed his paſſage through the channel, and the Engliſh veſſels haraſſed his retreat, he determined to ſail northwards, and making the tour of the iſland, to reach the Spaniſh harbours by the ocean. The Engliſh fleet for ſome time purſued him; and if their ammunition had not failed them, the whole armada muſt have been compelled to ſurrender at diſcretion; and indeed the duke of Medina was prevented from ſo doing merely by the advice of his confeſſor. The event, however, proved almoſt equally fatal to the Spaniards. A violent tempeſt aſſailed the armada after it had paſſed the Orkneys; and the mariners, unable to govern their unwieldy ſhips, yielded to the fury of the ſtorm, and allowed their ſhips to drive either on the weſtern iſles of Scotland, or on the coaſt of Ireland, where they were miſerably wrecked. At length, after the experience of inexpreſſible humiliation and diſtreſs, the ſhattered fleet, conſiſting of leſs than half its number, returned to Spain; and the ſeamen and ſoldiers, very much reduced by famine and diſeaſe, and the various hardſhips with which they had encountered, filled the country with accounts of the deſperate valour of the Engliſh, and of the tempeſtuous violence of the ocean that ſurrounds them. Philip, as ſoon as he heard of the diſaſtrous event, ſo mortifying to his pride and ambition, with an affected philoſophy fell on his knees, and rendering thanks for that gracious diſpenſation of Providence, expreſſed his joy that the calamity was not greater. The Spaniſh prieſts, who had frequently foretold the infallible ſucceſs of this holy cruſade, perplexed in accounting for the victory which had been gained over the catholic monarch by excommunicated heretics and an execrable uſurper, at laſt diſcovered, that all the calamities of the Spaniards had proceeded from their allowing the infidel Moors to live among them. The firſt Engliſh newſpaper, entitled the "Engliſh Mercurie," was printed during the time of the Spaniſh armada; the firſt number, dated the 23d of July 1588, is ſtill preſerved in the Britiſh Muſeum. Hume's Hiſt. vol. v. p. 330—345. Watſon's Hiſt. Philip II. vol. iii. p. 122. Andrews' Hiſt. Great Britain, vol. i. p. 145.

ARMADILLA, in the Spaniſh America, denotes a ſquadron of men of war, to the number of ſix or eight, from twenty-four to fifty pieces of cannon, which the king maintains to prevent foreigners from trading with the Spaniards and the Indians, both in time of war and peace.

The veſſels of this armadilla are thoſe that have been ſo much talked of, under the name of *guarda coſtas*.

They have even power to take all Spaniſh merchant-ſhips they meet with on the coaſts, that have no licences from the king.

The South ſea has its armadilla as well as the North ſea. The ordinary abode of the former is at Calao, a port of Lima; that of the latter at Carthagena.

ARMADILLO, in *Entomology*, one of the ſpecies of the ONISCUS genus, deſcribed by Linnæus in his Fauna Suecica. It is oval, cinereous brown, with a tail obtuſe and entire. This kind inhabits Europe; lurks under ſtones; and is called by Ray *aſellus lividus*.

ARMADILLO, in *Zoology*, the name given by Engliſh writers to thoſe quadrupeds which in the Linnæan ſyſtem conſtitute the genus DASYPUS: it is derived from the Spaniſh word *armadille*, and is ſynonymous with the French *tatou*. See DASYPUS.

ARMAGARA, in *Ancient Geography*, a town of India, on this ſide of the Ganges. Ptolemy.

ARMAGEDDON. See MEGIDDO.

ARMAGH, or ARDMAGH, in *Geography*, the name of one of the counties of the province of Ulſter in Ireland. It has lough Neagh on the North; the county of Down on the eaſt; Louth on the ſouth; Tyrone on the north-weſt; and Monaghan on the weſt. Its length from north to ſouth is nearly thirty-two Engliſh miles, and its breadth almoſt twenty, and the ſuperficial content 181,450 acres, or 283 ſquare miles (290,786 acres, and 454 ſquare miles Engliſh). The number of houſes, according to the laſt official return, is 22,900, in which, according to Mr. Buſhe's ſtatement, we cannot reckon fewer than 130,000 inhabitants; which is a population of near 460 perſons to every ſquare mile; a greater proportion than is found in any other county except Dublin. The number of pariſhes in this county are twenty, and, what happens only in Ulſter, the number of churches is greater, being twenty-ſix. Beſides the two county members, the city of Armagh ſends a member to the Imperial parliament. There is in this county very little flat ground; but the gentle hills which diverſify the face of it, are covered with a very rich ſoil, except in the diſtrict called the *Fews* which is full of mountains, and in the ſouth-eaſtern angle which is occupied by the lofty Sliebhgullen; but great part even of this rough ground is cultivated, and thickly inhabited. Throughout this county, the farms are ſmall, ſeldom exceeding from forty to ſixty acres, more commonly from five to twenty acres; and the tillage in general is bad, which has been obſerved to be the caſe wherever the linen manufacture ſpreads, becauſe tillage is there only a ſecondary object. To the induſtry of the people, and the flouriſhing ſtate of this manufacture which is carried on in all its branches, the extraordinary population of the county is to be attributed, and indeed there is no part of Ireland which affords ſuch pleaſing ſpectacles to a philanthropic obſerver. Yet, ſtrange to tell, this apparently happy ſpot, where induſtry ſeems to confer every bleſſing, has been the ſcene of moſt of the diſturbances which have taken place in the north; and both the Oak-boys and Defenders had their origin in it. There is no river of conſequence in Armagh, but

but the Blackwater which ſeparates it from Tyrone, on its north-weſtern boundary is navigable for ſome miles into lough Neagh; and the river Bann, and the Newry canal, afford a water-carriage from the lough to the bay of Carlingford on the eaſtern ſide. There are ſome conſiderable bogs from which the inhabitants are ſupplied with abundance of good turf, which is much uſed for firing. Some good marble is alſo found in this county. Armagh was one of the counties forfeited to the crown after the reduction of the earl of Tyrone, in the latter end of queen Elizabeth's reign, and was colonized under James the Firſt; and the northern part is ſtill called Oneil-land from the family name of that noted chieftain. The aſſizes are held at the city of Armagh. Beaufort, Young, &c.

ARMAGH, a city, and the capital of a county to which it gives name, in the province of Ulſter, Ireland. It is ſaid to have been founded by St. Patrick in the fifth century (though the very exiſtence of ſuch a perſon has been queſtioned), on an eminence from which it acquired its name, which implies a great high place or field. On the eſtabliſhment of Chriſtianity in this country, Armagh became a conſiderable city, and a celebrated univerſity, which was not only reſorted to by the natives, but alſo by the Anglo-Saxon youths from Britain. In the ſeventh century it was nearly deſtroyed by fire; and on the arrival of the Danes, was frequently plundered, and the greater part of its records taken away and deſtroyed. In 1152, cardinal Paparou being ſent to Ireland as legate, conſtituted Armagh the metropolitan ſee of Ireland; and it was provided by ſolemn ordinance, that no one ſhould be allowed to profeſs or teach theology, who had not been educated at its univerſity. This Univerſity however has been long extinct. The town was frequently plundered by the Engliſh before the reduction of that part of the iſland, and it was entirely deſtroyed by O'Neil in the reign of queen Elizabeth. It was ſoon after rebuilt and garriſoned, and has lately become a pretty town of good ſize, and well inhabited, through the attention and munificence of primate Robinſon, lord Rokeby. He built there a handſome archiepiſcopal palace, and a noble houſe for the ſchool, which is one of the royal foundations, and extremely well endowed. To theſe he added a public library for the promotion of ſcience. He alſo erected a complete obſervatory; with a liberal eſtabliſhment for the ſupport of an aſtronomer, and ſecured the permanency of his endowments by ſeveral acts of parliament. The province of Armagh contains ten dioceſes; the archbiſhop having under him, the biſhops of Dromore, Down and Connor, Derry, Raphoe, Clogher, Kilmore, Ardagh, and Meath. The archbiſhoprick extends into five counties, viz. Armagh, Tyrone, Londonderry, Louth, and Meath, and is reputed to be worth 5000l. per annum. Armagh has one of the beſt linen markets in Ulſter, and there are many bleach-greens in its neighbourhood on the banks of the Callen, a ſmall ſtream which paſſes near the foot of the riſing ground on which it is built. Its diſtance from Dublin is ſixty-two miles, N. by W. N. lat. 54° 20′ 30″. W. long. 6° 32′. Collect. de Reb. Hiber. N° 11. Beaufort. Leland.

ARMAGIA, a town of Arabia, ſixty-eight miles ſouth of Cathem.

ARMAGNAC, a province of France, in the diſtrict of Gaſcoyne, and government of Guyenne; before the late diviſion, about thirty-ſix leagues long and twenty-five broad; is bounded on the north by Angenois and Condomois, on the eaſt by Languedoc and the country of Comminges, on the weſt by Marſan and Bearn, and on the ſouth by the Pyrenees, which ſeparate it from Arragon, and Bigorre. The capital is Auch. It is divided into Upper and Lower Armagnac; the former lies among the Pyrenéan mountains, and comprehends four vallies; and the latter is more extenſive and fruitful, and contains proper Armagnac, and ſeveral counties and earldoms. The ſoil is generally fertile, and produces corn, wine, fruits, and paſture; and the commerce is conſiderable in wine, brandy, wool, flax, &c. The Armagnacs, who were the adherents of the young duke of Orleans, and ſo called from the count of Armagnac, father to this prince, formed one of the two parties into which the whole kingdom of France was divided, about the year 1415. The city of Paris, diſtracted between them and the Burgundians, but inclining to the latter, was at this time a perpetual ſcene of blood and violence; the king and royal family were often detained captives in the hands of the populace; their faithful miniſters were butchered or impriſoned before their faces; and it was dangerous for any man, amidſt theſe enraged factions, to be diſtinguiſhed by a ſtrict adherence to the principles of probity and honour. The fraternity of butchers declared for the duke of Burgundy, and committed the moſt violent outrages againſt the oppoſite party; whilſt the Armagnacs made intereſt with the fraternity of carpenters; the populace ranged themſelves on one ſide or the other; and the fate of the capital depended on the prevalency of either party. At length the Burgundians prevailed; butchered many of the faction of Armagnac, and threw the count and ſeveral perſons of note into priſon, who were afterwards murdered by the populace.

ARMAMAR, a ſmall town of Portugal, in the province of Beira and diſtrict of Lamago, containing two pariſhes and about 1300 inhabitants.

ARMAMAXI, compoſed of the Latin *arma*, and the Greek ἁμαξα, *plauſtrum*, *carriage*, in *Antiquity*, a kind of Scythian chariots, or carriages, compoſed of two wheels, variouſly adorned with crowns, ſhields, breaſt-plates, and other ſpoils, carried in proceſſion after the images of the gods and great men. Theſe were ſometimes called *amaxi*, or *amaxæ*. Pitiſc. Lex. Ant.

ARMAMENT, a large body of forces, raiſed and provided with the furniture of war, either for land or ſea ſervice.

ARMAMENTA, in *Roman Antiquity*, comprehended the rigging and tackling of a ſhip, its ſails, ſail-yards, oars, ropes, &c. Hence *arma* denotes the ſails (Virg. Æn. v. 55.) and the rudder (vi. 353).

ARMANCE, in *Geography*, a river of France, which runs into the Armançon, near St. Florentin, in the department of the Yonne.

ARMANÇON, or ARMASNSON, a river of France, which riſes near Semur-en-Auxois, and runs into the Yonne, near Ligny.

ARMANT, a village of Egypt, ſeated on the Nile, in the route from Thebes to Eſné; ſuppoſed by Savary to be the ancient Hermunthis.

ARMARCALES, in *Ancient Geography*, a name given by Abydenus to the artificial channel that connected the two branches of the Euphrates, more properly denominated by Ammianus NAARMALCHA; which ſee.

ARMARIUM *unguentum*, among *Hermetical Philoſophers*, a ſympathetic ointment, or weapon-ſalve, whereby wounds are ſaid to have been cured at a diſtance, by only dreſſing the weapon.

ARMATA, in *Entomology*, an European ſpecies of APIS, deſcribed in the Syſtema Naturæ from Muſ. Leſk. It is brown; the head and thorax grey; jaws armed with a tooth at the baſe; bottom of the feet yellow. This inſect belongs to the genus MELITTA in Kirby's Apum Angliæ, where it is thus deſcribed under the ſpecific name *armata*: "nigra,

"nigra, cinerascente-villosa; maxillis longitudine capitis, basi dente armatis."

ARMATA, a species of LEPTURA found in some parts of Europe. The thorax is black and spinous; antennæ and legs ferruginous; wing-cases yellow, with two dots, a heart-shaped spot, and three bands of black. Herbst. Gmel. &c.—This insect bears some resemblance to *leptura attenuata*; the head, feet, posterior thighs and shanks, are black.

ARMATIUM, in *Ancient Physic*, a detersive kind of *collyrium*, of great value in removing asperities of the eyelids. Its chief ingredients were *æs ustum*, gum ammoniac, and the roots of the tree *thus*. The preparation is described by Galen, Aetius, Paulus, and Scribonius.

ARMATORIUS, in *Entomology*, an insect described in the *Fbarician mantissa*. It is small, and inhabits Germany; colour black, scutel white; thorax immaculate, posterior part bidentated; abdomen and legs ferruginous.

ARMATURA, ARMATURE, in a general sense, is the same with what we otherwise call ARMOUR.

ARMATURA is more particularly used in the *Ancient Military Art*, for a kind of exercise, performed with missive weapons, as darts, spears, arrows, and the like.

In this sense, armatura stands contradistinguished from *palaria*; the latter being the exercise of the heavy-armed, the former of the light-armed.

The armatura was practised with great diligence among the Romans; they had their campidoctores, on purpose to instruct the tyrones, or young soldiers, in it. Under it were included the throwing of the spear or javelin, shooting with bows and arrows, &c.

ARMATURA is also an appellation given to the soldiers who were light-armed.

Aquinus seems, without reason, to restrain armatura to the tyrones, or young soldiers, under discipline or tutorage in the exercise above mentioned.

ARMATURA is also a denomination given to the soldiers in the emperor's retinue. Du-Cange.

Of these we find two schools mentioned in the *notitia imperii*, called the *armaturæ seniores*, and *armaturæ juniores*. Their commander was entitled TRIBUNUS *armaturarum*.

ARMATUS, in *Entomology*, a species of CIMEX that inhabits New Holland. The thorax is acutely spined; scutel black with two dots, and apex testaceous; antennæ and legs red. Fabricius. Gmelin.

ARMAVIARA, in *Ancient Geography*, a town of Asia, in the greater Armenia. Ptolemy.

ARMAXA, or ARMACA, a town of Asia, in Cappadocia. Anton. Itin.

ARME', in *Ichthyology*, a specific name given by the French naturalists to a fish of the SILURE genus, found in Asia; and according to Block, in Surinam; this is the Linnæan *Silurus militaris*. See MILITARIS.

ARMED, in *Law*. See ARMS.

ARMED, in *Sea-Language*. See ARM.

ARMED in *flute*. See FLUTE.

ARMED, in *Heraldry*, is used in respect of beasts and birds of prey, when their teeth, horns, feet, beak, talons, or tusks, are of a different colour from the rest.—He bears a cock, or a falcon, *armed* or, &c.

ARMED *at all points*, terms applied to a person who is completely covered with armour, except his face.

ARMEDON, or ARMENDON, in *Ancient Geography*, a name given by Pliny to a small island in the vicinity of Crete, opposite to the promontory of Sammonium: probably one of those nameless rocks which now encompass Candia.

ARMENA, in *Botany*, a name given by Pliny to a kind of wild asparagus; but the ancient Greeks have used the same word to express the young shoots of the common asparagus, at the time when they are eaten; and not only these, but the young sprouts of the cabbage, and of all other esculent plants.

ARMENIA, in *Ancient* and *Modern Geography*, a country of Asia, derives its name, according to the Greeks, from Armonus, one of the Argonauts, who settled in this country. Bochart (Phaleg. l. i. c. 3.) supposes Armenia to be a contraction of הַר מִנִּי, Har-mini, denoting the mountain of Mini, the name of a province of this country, mentioned by the prophet Jeremiah (ch. li. 27.) and placed by him between Ararat and Aschchenaz; and probably referred to by Amos (ch. iv. 3.) under the name of הַר מוֹנָה, Harmunah, or mountain of the moon. To this purpose Mr. Bryant (Anal. Anc. Mythol. vol. iii. p. 2.) distinguishing between this country and Aramea, or the land of Aram, which was separated from it by mount Taurus, supposed it to be denominated from Ar-men or Har-men, the mountain where the ark rested.

Armenia was anciently divided into Major and Minor, or the Greater and Lesser.

Armenia Major, or Armenia properly so called, was, according to Strabo, bounded on the south by mount Taurus, separating it from Mesopotamia; on the east by the two Medias; on the north by Iberia and Albania, or that part of Caucasus by which both are surrounded; and on the west by Armenia Minor, or the mountains Paryadres, by some Pontic nations, and by the Euphrates. Ptolemy divides the whole of Armenia into three districts: the first, comprehending that part which lies between the Cyrus and the Araxes; the second, those provinces which extend westward to the bending of the Euphrates; and the third, all the country lying between the springs of the Tigris, and that part of the Euphrates which separates Commagene from Armenia Major. The most considerable cities of ancient Armenia were Artaxata, Sebastia, Armosata, Tigranocerta, Artagera, Carcathiocerta, Colonia, and Chorsa. Strabo enumerates six rivers of principal note; viz. the Lycus and Phasis, falling into the Pontus; the Cyrus and Araxes, discharging themselves into the Caspian Sea; and the Tigris and Euphrates, which disembogue themselves into the Persian Gulf. The most considerable mountains were the Moschick, separating the western parts of Armenia from Colchis; the Paryadræ, extending from the former to the borders of Armenia Minor and Pontus; Masius, bounding the province of Sophene to the south, as Antitaurus does to the north; Niphates, Abus, and the Gordyæan mountains. As to the origin of the ancient Armenians, Herodotus, and after him Stephanus, derive them from the Phrygians, on account of several Phrygian words that had been blended with the ancient language of the Armenians. Strabo supposes, that they were originally Syrians, or that the Syrians and Armenians were two tribes of the same nation; and in this opinion Bochart acquiesces, as he discovered a great similarity between these two nations, in their manners and language. However, in process of time, many foreigners settled among them; namely, Phrygians, Greeks, and Persians.

Armenia was advanced at a very early period to the honour of a kingdom. After the death of Barzanes, the successor of its first king Scytha, it was divided into several petty kingdoms, as we learn from Pliny (H. N. l. vi. c. 9.). The Armenians were afterwards subdued by the Medes, to whom they were made tributaries by Astyages, but continued to be under the government of kings of their own country. During its subjection to the emperor of Persia,

Armenia was reduced to the form of a province, and its rulers were prefects appointed by the Perſian kings. Armenia, as a part of the Perſian empire, was ſubdued by the Macedonians under Alexander the Great; and remained in ſubjection to the Macedonians till the time of Antiochus the Great. During the minority of Antiochus, Artaxias and Zadriades, two governors of Armenia, united their forces, ſeized on the country they governed, and having added to it ſome neighbouring provinces, erected two kingdoms, viz. that of Armenia Major, which Artaxias reſerved for himſelf, and that of Armenia Minor, which was allotted to Zadriades. Antiochus made ſeveral attempts to recover the provinces, which theſe governors had appropriated to themſelves, but his efforts were unſucceſsful; and by an alliance with the Romans, they ſecured to themſelves and their poſterity the continued poſſeſſion of them. After the death of Artaxias, the Armenian hiſtory is interrupted by a chaſm of about 70 years; it is only known, that the Armenians had engaged in a war with the Parthians, which terminated to their diſadvantage. Tigranes, however, the king's ſon, who had been delivered as a hoſtage to the Parthians, was reſtored to his kingdom after his father's death, about the year before Chriſt 95; and entered into an alliance with Mithridates Eupator, againſt the Romans. Having married Cleopatra, the daughter of Mithridates, Tigranes invaded Cappadocia, and took poſſeſſion of it, but ſurrendered it to Ariarathes, the ſon of Mithridates. Soon after his expedition into Cappadocia, he ſeems to have made peace with the Romans, and abandoned the cauſe of Mithridates; and having been choſen king of Syria, he indulged his ambition by invading Armenia Minor, and reducing the whole kingdom. After ſeveral ſucceſsful expeditions, by which Tigranes enlarged the boundaries of his dominion, he was defeated with great ſlaughter by Lucullus the Roman general, in the vicinity of Tigranocerta, who at length took the town, and got poſſeſſion of the immenſe treaſures which it contained. The conſequence of a ſecond defeat was the total diſperſion of the united armies of Tigranes and Mithridates, and the flight of the former to the moſt remote part of his dominions. During a ceſſation of hoſtilities, occaſioned by the mutiny of the Roman ſoldiers againſt Lucullus, and a diſagreement between him and Pompey, by whom he was ſuperſeded in the command, Mithridates and Tigranes rallied their forces, overran Cappadocia, and recovered all Armenia, with a great part of Pontus; but Tigranes's ſon, taking up arms againſt his father, joined the Romans, and conducted Pompey into Armenia. Tigranes, diſpirited by his ſon's revolt, met Pompey on his march towards Artaxata, and ſurrendered himſelf into his hands. Pompey, after having heard the appeal of the father for juſtice againſt his ſon, reſtored the kingdom of Armenia to Tigranes, together with the greateſt part of Meſopotamia; impoſing upon him at the ſame time a fine of 6000 talents for making war againſt Rome without cauſe. Tigranes, being put in poſſeſſion of his kingdom, voluntarily yielded to the Romans Cappadocia, Cilicia, Syria, and that part of Phœnicia which he poſſeſſed, and reſerved for himſelf only his paternal kingdom. His ſucceſſor Artuaſdes, called by Joſephus, Artabazes, by Oroſius, Artabanes, and by others, Artoadiſtes, was put to death by order of Marc Antony; and the kingdom of Armenia was conferred by Antony on Alexander, his ſon by Cleopatra. Artaxias, the eldeſt ſon of Artuaſdes, who was proclaimed king by the Armenians, was obliged by the Romans to abandon his kingdom, and fly into Parthia; but he was ſoon put to death. Tiberius, whom Auguſtus had deputed to ſettle the affairs of the eaſt, beſtowed the kingdom of Armenia, after the death of Artaxias, on his younger brother, Tigranes; who was in a little while, by Tiberius's own orders, put to death. The kingdom was afterwards given by Auguſtus to Artuaſdes, ſuppoſed to have been the ſon of Artaxias II.; but the Armenians, tired with the Roman yoke, expelled him, and called in Phraates, king of Parthia, preferring ſubjection to the Parthians rather than to the Romans. Upon the approach of the Roman army, Phraates withdrew, and Artuaſdes was reſtored to the throne. After a ſucceſſion of ſeveral kings, occaſionally under the controul of the Parthians, but generally holding the crown as vaſſals of the Roman empire, being either appointed or confirmed by the emperors: the ancient kingdom of Armenia was reduced by Trajan to the form of a province; and the Tigris was made the eaſtern boundary of the empire, which Auguſtus had thought fit to extend no farther than the banks of the Euphrates; but it ſoon recovered its liberty, and was again governed by its own kings, in the reign of Conſtantine the Great, and his ſucceſſor, to whom the kings of Armenia were feudatories. In the Perſian war, A. D. 365—378, the tributary kingdoms of Armenia and Iberia, the ſovereignty and alliance of which had been ſolemnly renounced by the Romans, were expoſed, without protection, to the arms of the Perſian monarch. Armenia was reduced to the ſtate of a Perſian province by Sapor, and the adminiſtration was ſhared between a diſtinguiſhed ſatrap and a favourite eunuch. In the reign of Juſtin II. it was ſubdued by the Saracens, A. D. 687, who held it till the irruption of the Turks; and when they took poſſeſſion of it, about 755 or 884, they gave it the name of Turcomania. The Turks, by invading Perſia, and other eaſtern countries, gave the Armenians an opportunity of throwing off the Turkiſh yoke, and of chuſing kings for themſelves, by whom they were governed till the country was again ſubdued by Occadan or Heccata, the ſon of Cingis, and firſt Cham of the Tartars. The conqueſt of the Tartars, however, was not ſo complete as wholly to extirpate from Armenia the race of its own kings; as we read of ſome of them who reigned afterwards, and particularly in our own chronicles, of Leo, king of Armenia, who, in the reign of Richard II., came into England to ſolicit aid againſt the Turks, by whom he had been driven from his kingdom. In the year 1472, Uſſan Caſſanes, king of Armenia, ſucceeding to the crown of Perſia, made Armenia a province of that empire; and in this ſtate it continued till the year 1522, when it was ſubdued by Selim II. and made a province of the Turkiſh empire; from which time it has ever continued ſubject to the Turks, except the eaſtern part of it, which belongs to the Perſians.

Armenia Minor, was bounded on the eaſt by the Euphrates, which ſeparated it from Armenia Major; on the ſouth by Mount Taurus, parting it from Cilicia; on the weſt and north by a long chain of mountains, called in different places Mons Scardiſcus, Amanus, and Antitaurus, which divided it from Cappadocia. This is a very mountainous country, but ſome of the mountains are interſperſed with pleaſant and fruitful vales, abounding with oil and wine, not inferior to the beſt in Greece. This country was a part of Cappadocia, till the reign of Antiochus the Great, when the diſtinction between Armenia the Greater and the Leſſer was introduced; as we have already mentioned. In the time of the Romans it was divided into four provinces; viz. Laviana, Mariana, Aravena, and Melitene, each of which had its cities, mentioned by Ptolemy; but thoſe of chief note were Melitene, Nicopolis, Garnace, Aza, Arabyſſus, Daſcuſa, Zimara, and Ladana. The manners, cuſtoms, and religion of the inhabitants of Armenia Minor, were

were ſimilar to thoſe of Armenia Major. Its firſt king was Zadriades, who, forming an alliance with the Romans, was maintained on the throne which he had uſurped. Nero beſtowed this kingdom on Ariſtobulus, great grandſon of Herod the Great; upon whoſe death it fell to Tigranes, his near relation; and as he died without iſſue, Armenia Minor was made by Veſpaſian a province of the Roman empire, and thus continued till the diviſion of the empire, when it was ſubjected to the emperors of the Eaſt. On the decline of their power, it was ſubdued, firſt by the Perſians, and afterwards by the Turks, who called it "Geneeh," and have held it ever ſince. Anc. Un. Hiſt. vol. viii. p. 363—410. Gibbon's Hiſt. i. 435. ii. 139, &c. iii. 137. iv. 157, &c. v. 428. See ARMENIANS.

Armenia is ſtill divided into *Leſſer* and *Greater*. Armenia the Leſſer is one of the two diſtricts of ALADULIA; Cappadocia being the other. It has Greater Armenia on the eaſt, Syria on the ſouth, the Euxine on the weſt, and Cappadocia on the north. It is alſo called Weſtern or Lower Armenia, and is ſubject to Turkey.

Armenia the Greater, or Turcomania, is bounded on the ſouth by Meſopotamia, and the provinces of Diarbekir, Kurdiſtan, and Aderbijan; on the north by Georgia; on the eaſt by Perſia, and particularly the province of Shirvan; and on the weſt by Cappadocia and the Leſſer Armenia, from which it is parted by the river Euphrates. It belongs partly to the Turks and partly to the Perſians. The chief towns in that part which belongs to the Turks, are Erzerum, the capital of Armenia, Kars, Barazid, Muſh, Argiſh, Van, &c. In that part of Armenia to which the dominion of Perſia extends, are Erivan, the capital, Ganjals, near the Kur, Naciſvan, Arlabad, Aſtabad, Marend, Cors, &c. Armenia is one of the moſt healthy and fertile provinces in Aſia; it abounds with mountains and valleys, lakes and rivers, ſo that the climate is temperate, and the ſoil rich; and ſome have conceived from its fertility, as well as its central ſituation on the globe, that it was the ſeat of Paradiſe, or the garden of Eden. Beſides all ſorts of grain, it produces tobacco, cotton, flax, melons, and grapes, and formerly olives. See ARARAT. It has alſo mines of ſalt, ſufficient to ſupply all Perſia. The extreme cold of this country has been long noticed; and to this purpoſe ſir John Chardin informs us, that he found ice in the rivulets in the mornings of the month of July. The inhabitants are ſober and induſtrious; and they are deſcribed as a ſenſible and polite people. By their frugality and enterpriſe, they are ſingularly qualified for commercial tranſactions. Since the conqueſt of their country by Shah Abas, king of Perſia, they have been diſperſed through various parts of Aſia and Europe, and have devoted themſelves, as merchants and brokers, to trade, in the conduct of which they excel: hence they are become, in a great meaſure, maſters of the whole trade of the Levant, and are much concerned in that of other places. It is common to meet with Armenians at Leghorn and Venice, and even in England and Holland; whilſt they are alſo known, by their commercial dealings, in Perſia, Turkey, and Tartary, and indeed all over the Eaſt. Shah Abas the Great, it is ſaid, with a view of ſecuring the conqueſt of Armenia, removed into Perſia the firſt Armenians who ever ſettled there; and on this occaſion about 30,000 families were tranſported into the province of Ghilan only, whence we have brought the fineſt Perſian ſilks. He alſo cauſed all the inhabitants of Zulfa, a large city of Armenia, to ſettle at Iſpahan, whence the new Zulfa of Perſia took its name. This Zulfa is ſince become the center of the commerce of the Armenians; and to this ſame Shah Abas theſe people are ſaid to owe their genius and diſpoſition for trade, little of which appeared before their tranſmigration into Perſia. As Abas the Great had no other object in view but that of enriching his country, and was ſenſible that this muſt be effected by trade, he directed his views to ſilk as the moſt precious commodity, and to the Armenians as the moſt proper people to be employed in diſpoſing of it. Accordingly, the Armenians, who were at firſt mere huſbandmen, were converted by him into merchants; and theſe merchants are become ſome of the moſt able and moſt celebrated traders in the world. Such has been their extenſive and eſtabliſhed reputation in this reſpect, that the cardinal de Richlieu, we are told, had a deſign to make a ſettlement of them in France, for promoting the commerce of that country; and the chancellor Seguier granted them a printing-houſe at Marſeilles. See ARMENIANS.

ARMENIACA, in *Botany*. See PRUNUS.

ARMENIAN BIBLE. See BIBLE, and ARMENIAN *Verſion*, infra.

ARMENIAN *Bole*. See BOLE.

ARMENIAN *Language and Science*. The Armenians, according to the account given of them by Moſes Chorenenſis, were, in their original ſtate, rude and ſavage, without letters, knowledge, and culture, in a great degree ignorant of the hiſtory of their anceſtors; and indebted for the ſcanty information reſpecting them to the books of their neighbours. They had no written characters, and thoſe of their neighbours were not fit for expreſſing the ſounds of their language. At length, however, the art of writing was introduced among them. For a conſiderable time their tranſactions were recorded in the Aſſyrian language; in proceſs of time they employed that of the Greeks; and afterwards they made uſe of that of the Perſians. In the time of Moſes Chorenenſis, the names of their towns, and ſome other particulars, were expreſſed in one of theſe three languages. It was after the introduction of Chriſtianity, that Mieſrob, either towards the cloſe of the fourth or the commencement of the fifth century, invented letters that accurately expreſſed the ſounds of the Armenian language, and which are in uſe among them at this day. This invention, according to the tradition of the country, was revealed to Mieſrob in a dream, after the author had in vain attempted to make the diſcovery himſelf, and after he had taken many uſeleſs journies to procure aſſiſtance from the learned. Sir William Jones (Aſiat. Reſ. vol. iii. p. 12.) is of opinion, that the baſis of the Armenian language was ancient Perſian, of the ſame Indian ſtock with the Zend, and that it has been gradually changed ſince the time when Armenia ceaſed to be a province of Irân. However, the letters in which it now appears are allowed to be comparatively modern; and if they be not derived from the Pahlavi, they are probably, as this ingenious writer imagines, an invention of ſome learned Armenians in the middle of the fifth century. According to Strabo, the language of the ancient Armenians was ſimilar to that of the Syrians; at leaſt it is very probable, from Polyænus (l. iv.), that they uſed the Syrian characters. The modern Armenians pretend, that, beſides their vulgar language, they have a learned one, which has no affinity with the other oriental languages, and which is very expreſſive, and enriched with all the terms of religion, and of arts and ſciences. Moſes Chorenenſis informs us, that Arteſchiſch II. took great pains to civilize the Armenians, and to reſcue them from that ſtate of barbarity in which they lived; and he ſays, that agriculture was little and rarely attended to in this country. They could neither build bridges nor conſtruct boats; they had no method of dividing time, and were ſcarce able to diſtinguiſh

guiſh the ſucceſſion of the moons. If, indeed, we credit the fables recorded by Beroſus, we find that Noah left among the Armenians books of religious ceremonies; that he taught them aſtronomy, and the diſtinction of years and months; that on this account he was honoured amongſt them, under the titles of Olybama and Aſia, i. e. the "heaven" and "ſun;" that they dedicated many cities to him, under the name of Jupiter Sagus, eſteeming him the ſoul of the heavenly bodies. The Armenians alſo tell us, that Noah taught them huſbandry, and the planting of vines; that he was their firſt king; and that, when he quitted Armenia, he left his mother, wife, and ſeveral of his deſcendants, to people the country. However, in later times, the Armenians made conſiderable progreſs in the uſeful arts and ſciences; and particularly in the ſcience of commerce. See ARMENIA.

ARMENIAN *Religion.* Strabo informs us, that the ancient Armenians worſhipped the ſame deities with thoſe of the Medes and Perſians; but this muſt be underſtood with ſome latitude, and as applicable to different epochas of their empire. The chief deity of the Armenians, according to Strabo, ſeems to have been the goddeſs Tanais, or Anaitis, whom we know, from other authorities, to be the Náhéd or Venus of the Perſians; and it is for many reaſons highly probable, that one and the ſame religion prevailed through the whole empire of Cyrus. See ANAITIS. For an account of the Armenians after the introduction of Chriſtianity, ſee ARMENIANS.

ARMENIAN *Stone, lapis Armenus*, a mineral cuprous ſtone, or earth of a blue colour, ſometimes ſpotted with green, black, and yellow. It is a very ſcarce foſſil, anciently brought only from Armenia, but is now found very pure, though in ſmall quantities, in the mines at Goſſelaer in Saxony.

The *Armenian ſtone*, in its harder ſtate, bears a near reſemblance to *lapis lazuli*, from which it ſeems only to differ in degree of maturity: they are diſtinguiſhed by this, that the *lapis armenus* is ſofter, and inſtead of ſparks of gold, is often ſpeckled with green.

Boerhaave ranks it among ſemi-metals; and ſuppoſes it compoſed of a metal and earth. Woodward ſays, it owes its colour to an admixture of copper.

Mr. Kirwan ſays, that it conſiſts of calcareous earth or gypſum, penetrated with the blue calx of copper: hence it ſometimes effervelces with acids, ſometimes not; but never gives fire with ſteel; it loſes its colour when heated. Elem. of Mineral. p. 262.

Its chief uſe is in Moſaic work, though it has ſome place alſo in phyſic. It is a very valuable ſubſtance in painting, being a bright and florid blue. It was in ſo high eſteem as a paint, among the ancients, that counterfeits were continually attempted to ſerve in its place.

Both this and the *lapis lazuli* are ORES of copper.

ARMENIAN *Verſion*, in *Biblical Hiſtory*, an ancient tranſlation of the ſcriptures, for which the church of Armenia, according to the unanimous teſtimony of the Armenian writers, is indebted to Mieſrob, who is ſaid to have finiſhed it in the year 410. This is atteſted by Moſes Chorenenſis, a diſciple of Mieſrob; who adds, that he began with the Proverbs of Solomon. Moſes lived in the fifth century, and aſſiſted in the third verſion of the bible. The internal characters, and the readings of the Armenian verſion, have convinced the critics in that language, and eſpecially La-Croze, a man of the moſt profound erudition, that the antiquity aſcribed to the Armenian verſion does not exceed the truth. The learned, however, are divided in opinion, whether it was taken from the Greek original, or from the Syriac verſion. The Armenians pretend that it was taken from the Syriac; and Moſes Chor. (l. iii. c. liv. p. 300.) explicitly confirms this opinion. To which it has been added, that the Armenian verſion contains readings, which are found in no MS. or verſion, except the Syriac. But another relation from the ſame writer, (l. iii. c. lxi. p. 313.) is adduced on the other ſide of the queſtion; and this is deciſive: for it gives a full and credible account of the care beſtowed by the Armenians on their verſion of the bible, and that they tranſlated it twice from the Syriac, and a third time from the Greek. Hence may be aſſigned the reaſon, why the readings of the Armenian verſion are ſo frequently different from the Syriac. Another argument, which has been thought deciſive in favour of the opinion, that our preſent Armenian verſion was not taken from the Syriac, is, that the former contains thoſe books of the New Teſtament, which were never admitted into the latter. The Armenian verſion would be an ineſtimable treaſure, if it had deſcended to the preſent age unaltered by time and ſuperſtition. But the churches of the Leſſer Armenia, or Cilicia, ſubmitted in the thirteenth century to the authority of the pope; and Haitho, or Hethem, who reigned from 1224 to 1270, became ſhortly before his death a Franciſcan friar. This prince was not only attached to the church of Rome, but likewiſe acquainted with the Latin language; and, publiſhing a new edition of the Armenian bible, he altered, or rather corrupted it, from the Vulgate. He tranſlated, for inſtance, all the prefaces of Jerom; and as the words of 1 John v. 7. were not in the old Armenian MSS., he inſerted them probably from the Latin; for thirty-ſeven years after his death this paſſage was quoted at a council held at Cis, in Armenia, and is found in other Armenian records. Michaelis Int. N. T. by Marſh, vol. ii. p. 98, &c. See *Armenian* BIBLES.

ARMENIANS, in *Eccleſiaſtical Hiſtory*, a diviſion among the eaſtern Chriſtians, thus called from *Armenia*, the country anciently inhabited by them.

Some have ſuppoſed, that Chriſtianity was eſtabliſhed in Armenia by the apoſtle St. Bartholomew; but this is certain, that in the beginning of the fourth century the Armenian Chriſtians were in a flouriſhing ſtate. In this century Tiridates the king eſtabliſhed an hierarchy; and in the beginning of the ſixth, under the patriarch Nierſes, the Armenian church ſeceded from other eſtabliſhments, became independent, and embraced the theory of the Jacobites, ſome few articles of diſcipline excepted. The ſchiſm of the Armenians is placed eighty-four years after the council of Chalcedon, A. D. 535. It was conſummated at the end of ſeventeen years; and it is from the year of Chriſt 552, that the æra of the Armenians is dated. In the fifth century, Armenia was divided into fifteen provinces, and ſubdivided into one hundred and ninety-one dioceſes.

The Armenian church, in the ſixteenth century, was governed by three patriarchs, the chief of whom reſided in a monaſtery at Echmiazin, three leagues from Erivan. The dioceſe of this patriarch comprehends Greater Armenia; and he preſides over forty-two archbiſhops; he is elected by biſhops, and his election is confirmed by the king of Perſia. The revenues of this ſpiritual ruler are ſuch as would enable him to live in the moſt ſplendid and magnificent manner; and yet there is no mark of pomp or opulence in his external appearance, or in his domeſtic œconomy. His table is frugal, and his habit plain; nor is he diſtinguiſhed from the monks, with whom he lives, by any other circumſtance beſides his ſuperior power and authority. A ſecond patriarch, ſubject to the firſt, and called "the Catholic," reſides at Cis in Cilicia, and has twelve archbiſhops under him, who

govern

govern the churches eſtabliſhed in Cappadocia, Cilicia, Cyprus, and Syria. A third patriarch lives in the iſland of Aghtamar, in the midſt of the great lake of Varaſpuracan; he has no more than eight or nine biſhops under his juriſdiction, and is regarded by the other Armenians as the enemy of their church. Beſides theſe prelates, who are patriarchs in the true ſenſe of the term, the Armenians have other ſpiritual leaders who are honoured with the title of patriarchs, though it be unattended with the authority and prerogatives of the patriarchal dignity. Thus, the archbiſhop of the Armenians, who lives at Conſtantinople, and whoſe authority is reſpected by the churches eſtabliſhed in thoſe provinces that form the connection between Europe and Aſia, enjoys the title of patriarch. The ſame denomination is given to the Armenian biſhop who reſides at Jeruſalem; and to the prelate of the ſame nation, who has his epiſcopal ſeat at Caminec in Poland, and governs the Armenian churches that are eſtabliſhed in Ruſſia, Poland, and the adjacent countries. They aſſume the title of patriarchs, on account of ſome peculiar privileges conferred on them by the great patriarch of Echmiazin; for by an authority derived from this ſupreme head of the Armenian church, they are allowed to conſecrate biſhops, and to make every third year, and diſtribute among their congregations, the holy chriſm or ointment, which, according to a conſtant cuſtom among the eaſtern chriſtians, is the excluſive privilege of the patriarchs. After the death of Abas the Great, the Armenian exiles, who, under his protection, had enjoyed the ſweets of liberty and abundance, were involved in various kinds of calamity. The ſtorm of perſecution ſhook their conſtancy; and many of them apoſtatiſed to the Mahometan religion, ſo that it was apprehended that that branch of the Armenian church, which had been planted in Perſia, and eſpecially in Iſpahan, would gradually periſh. On the other hand, the ſtate of religion in that church derived conſiderable advantages from the ſettlement of Armenians in different parts of Europe, for the purpoſes of commerce. Theſe merchants, who had fixed their reſidence during the ſixteenth century, at London, Amſterdam, Marſeilles, and Venice, were not unmindful of their brethren in their native country; but ſupplied them with Armenian tranſlations of the holy ſcriptures, and of other theological books, from the European preſſes, which prevented the illiterate and ſuperſtitious people, who lived under the Perſian and Turkiſh governments, from ſinking into the moſt conſummate and deplorable ignorance.

The Armenians, though they agree with the other Monophysites in the main doctrine of that ſect, relating to the unity of the divine and human nature in Chriſt, differ from them, nevertheleſs, in many points of faith, diſcipline, and worſhip; and hence it comes to paſs, that they hold no communion with that branch of the Monophyſites, who are Jacobites, in the more limited ſenſe of that term. As to the euchariſt, they agree with the Greeks, except in this that they mix no water with their wine, and uſe unleavened bread after the manner of the Latins. Infants of two or three months old are admitted to the communion; and the conſecrated bread, ſoaked in the conſecrated wine, is diſtributed with peculiar ceremonies. When the prieſt takes the chalice and pattin, he is followed by his deacons and ſub-deacons, with flambeaux and plates of copper furniſhed with bells: thus accoutred, with a cenſer before him, he goes in proceſſion round the ſanctuary; he then places them on the altar, pronounces the words of conſecration, and turns himſelf to the people, who fall down, kiſs the earth, and beat their breaſts; then, after taking the bread himſelf, he diſtributes it to the people. In the baptiſm of children, they practiſe trine immerſion; and then the prieſt binds a ſmall cord of ſilk and cotton round the neck of the child, anoints his forehead, ſtomach, arm-pits, hands, and feet, and makes on each part the ſign of the croſs. The child, after baptiſm, is carried home by the godfather with the ſound of drums and trumpets. The women do not go to church for forty days after delivery; and they obſerve many Jewiſh cuſtoms. The Armenians celebrate an annual feſtival, called Cachacouran, which, half Armenian and half Perſian, ſignifies the baptiſm of the croſs. It is generally ſuppoſed that this is a religious ceremony, like the theophany of the Greeks, and the epiphany of the Roman catholics. It is celebrated on the ſixth of January, and the terms ſignify "manifeſtation;" but it is not agreed, whether it commemorates the birth of Chriſt in his manifeſtation in the fleſh; or his appearance to the wiſe men when he was manifeſted to the Gentiles; or his manifeſtation to the Jews by the voice from heaven at his baptiſm. Perhaps it is merely a civil inſtitute, reſembling the Roman luſtrum. The Perſians mark this Armenian feſtival in their almanacks; their Mahometan kings attend it; and ſome ſay, it is an imitation of the Abhirkan of the Guebres, or Gaurs, i. e. the feſtival of luſtral water, in uſe among the ancient Perſians.

The Armenians abſtain very rigorouſly from eating of blood, and meats ſtrangled, and are much addicted to faſting; inſomuch that from their diſcourſe, one would conclude that almoſt their whole religion conſiſted in faſting; and the higher the rank of their clergy, ſo much the greater muſt be their abſtinence. Their monks, every Wedneſday and Friday, eat neither fiſh, nor eggs, nor oil, nor any thing made of milk; and during Lent, they live upon nothing but roots; they are allowed wine only on the Saturday in the holy week, and meat on Eaſter Sunday. Beſides the great Lent, they have four or five others of eight days each, preparatory for the four great feſtivals of the Nativity, the Aſcenſion, the Annunciation, and of St. George, during which they are not allowed ſo much as to ſpeak of eggs, fleſh, oil, or butter.

Their monaſtic order is in great repute among them, ſince one of their patriarchs introduced that of St. Baſil; but part of them, which have united with the church of Rome, have changed their ancient rule for that of the Dominicans.

ARME'NISTAIRE, in *Zoology*, a term occaſionally given by ſome French writers to the Medusa tribe of *Vermes Mollusca*. See Medusa.

ARMENTA, one of the ſynonymous names of Bos *Americanus* of Gmelin, an animal which Dr. Shaw conſiders a variety only of Bos *Taurus*. "The American Biſon," ſays that author, "ſeems to differ in no reſpect from the European, except in being more ſhaggy, and in having a more protuberant bunch or fleſhy ſubſtance over the ſhoulders: the fore-parts of the body are extremely thick and ſtrong; the hinder parts comparatively weak. The colour of the American Biſon is reddiſh brown, and the hair in winter is of a woolly nature, falling down over the eyes, head, and whole fore-part of the animal. In ſummer, it often becomes almoſt naked, but particularly on the hind part of the body. It grows, according to Lawſon, to a vaſt ſize, and has been found to weigh ſixteen hundred, and even two thouſand four hundred pounds; and the ſtrongeſt man cannot lift one of the ſkins from the ground." Gen. Zool. Gmelin, who expreſſes ſome doubt whether it be diſtinct from Bos *Taurus*, aſſigns it the ſame character as

Linnæus

Linnæus had previouſly given to the variety of that ſpecies, *ferus*; namely, cornibus divaricatis, juba longiſſima, dorſo gibboſo, only making it a ſecond variety β. (horns divaricate, mane long, back gibbous, var. β.) This is Bos (*Biſon Americanus*) cornibus furſum reflexis, dorſo gibboſo, capitis piis longiſſimis obtito. Briſſ. regn. an. *Biſon d'Amerique* of Buff. *Buffalo*, Lawſ. Carol. *Buffalo*, Cateſby. *American oxen or beeves*, Dobbs. Hudſ. *American bull*, Pennant. See Taurus.

ARMENTEQUI, or Armenza, in *Geography*, a village of Spain, in the country of Alava, once a city and ſee of an archbiſhop, one mile from Vittoria.

ARMENTIERES, a town of France, in the department of the North, and chief place of a canton in the diſtrict of Lille, ſeated on the Lys. It was taken and diſmantled by the French in 1687. The place contains 7598, and the canton 14,914 inhabitants: the territory includes 55 kiliometres and 6 communes. N. lat. 50° 40′. E. long. 3° 3′.

ARMENTO, a town of Italy, in the kingdom of Naples, and province of Baſilicata, 20 miles S. S. E. of Potenza.

ARMERIA, in *Botany*. See Dianthus.

ARMERIUS. See Dianthus, and Silene.

ARMET, in *Geography*, a town on the iſland of Nouſſa-Laout, one of the Molucca iſlands.

ARMIDA, in *Entomology*, the name of a ſpecies of Phalæna, in the *Bombyx* family, that inhabits Cayenne. The wings are yellow, ſpeckled, and ſpotted with violet, and a ſtreak behind of the ſame colour. Fabricius, Gmelin, &c. *Obſ.* This is a large inſect; the antennæ are yellow; the thorax yellow with a violet coloured ſpot on the back; abdomen yellow with a violet-coloured ſpot on the firſt ſegments; wings beneath yellow, with a violet ſpot in the middle. *Obſ.* This muſt not be confounded with the moth figured by Cramer, t. 197. *fig.* A., under the ſpecific name of Armida, that being Phalæna *Erythrina* of Fabricius and Gmelin.

ARMIERES, in *Geography*, a ſmall town of Hainault, on the Sambre.

ARMIGER, *armour-bearer*, in *Modern Writers*, denotes a title of dignity, rendered in Engliſh by *Eſquire*.

Armiger, in *Entomology*, a ſpecies of Cimex found in Africa. It is grey; thorax acutely ſpined; two dots on the ſcutel, the antennæ and legs pale. Gmelin and Fabricius. *Obſ.* This is Coreus *armiger* of the latter author, and was firſt deſcribed by him in his Species Inſectorum.

Armiger, a name given by Fabricius to a ſpecies of Cancer that inhabits the Southern ocean. The thorax is ſomewhat ſmooth, with eight teeth on each ſide, and five lobes in front; the arms are toothed on each ſide. Fab. Mant. Inſ.

Armiger, a ſpecies of Monoculus, in the ſixth ſection of the Gmelinian ſyſtem, or thoſe furniſhed with an univalve ſhell; eyes two, and placed beneath; two antennæ, and from four to eight legs. In this ſection (*Arguli*) are only three ſpecies, and the preſent is diſtinguiſhed from the two others by having ſix legs. Slabb. microſc. Gmel. &c.

ARMILAUSA, in *Antiquity*, a ſhort military coat, reaching down only to the knee. Aquin. and Pitiſc. Lex. Ant.

It was thus called, as being divided both before and behind, and only cloſe about the ſhoulders, *in armos tantum clauſa*, quaſi *armiclauſa*. Iſid. Orig. l. xix. c. 22.

The word is ſometimes alſo written, armelauſa, armelauſia, armicaſia, and armilcaſia.

Armilausa is alſo applied, in *Eccleſiaſtical Writers*, to the ſcapular of monks and canons; thus called on account of its hanging from the arms or ſhoulders. Schmid. Lex Eccleſ. p. 73.

The ſame habit is vulgarly called patience.

ARMILLA, in *Zoology*, one of the Vermes *infuſoria*, belonging to the genus Leucophra, and both figured and deſcribed by Müller in his Zool. Dan. It is inviſible to the naked eye, round, and annular; it is rather thickened above, and bent into the form of a ring.

Armilla *membranoſa* is a name given by ſome *Anatomiſts* to the annular ligament.

ARMILLARIS, in *Zoology*, a creature of the Vermes *Molluſca* kind, in the genus Nereis. It is ſubdepreſſed; peduncles conic; cirri lenticular. This ſpecies inhabits the North ſeas, where it buries itſelf deep in the ſands. The ſhape is filiform; length an inch and a quarter; on each ſide of the head are three moniliform feelers; in the body are a hundred and twenty joints, each of which is furniſhed with a ſmall peduncle on both ſides; and the tail terminates in two long filaments or threads. Müll. O. Fabr. Gmel. &c.

ARMILLARY, Armillaris, formed of *armilla*, a bracelet or ring, in *Aſtronomy*, an epithet given to an artificial ſphere compoſed of a number of metalline circles, repreſenting the ſeveral circles of the mundane ſphere put together in their natural order.

Armillary ſpheres ſerve to aſſiſt the imagination in conceiving the arrangements and the motions of the heavenly bodies.

Such is that repreſented (*Plate* II. *Aſtron. fig.* 14.)—Where P and Q repreſent the poles of the world, A D the equator, E L the ecliptic and zodiac, P A G D the meridian, or the ſolſtitial colure, T the earth, F G the tropic of cancer, H T the tropic of capricorn, M N the arctic circle, O V the antarctic, N and O the poles of the ecliptic, and R S the horizon.

The armillary ſphere conſtructed by Dr. Long, in Pembroke-hall, Cambridge, is eighteen feet in diameter; and more than thirty perſons may conveniently ſit in it. The lower part of the ſphere inviſible in England is cut off; the whole apparatus is ſo contrived, that, when in order, it may be turned round with as little labour as it takes to wind up a jack.

Armillary *trigonometer*, an inſtrument firſt contrived by Mr. Mungo Murray, and improved by Mr. Ferguſon, conſiſting of five ſemicircles; viz. meridian, vertical circle, horizon, hour circle, and equator; ſo adapted to each other by joints and hinges, and ſo graduated and divided, as to ſerve for expeditiouſly reſolving many problems in aſtronomy, dialling, and ſpherical trigonometry. For the drawing, deſcription, and method of uſing it, ſee Ferguſon's Tracts, p. 80, &c.

ARMILLATI Milites, in *Antiquity*, thoſe who wore bracelets on their left arms, bellowed on them by their generals or emperors. But the term is more frequently applied to ſoft and effeminate ſoldiers, who wore bracelets on their arms, not as the rewards of their proweſs, but marks of their foppery. Aquin. Lex.

ARMILLATUM, in *Conchology*, a ſpecies of Buccinum, figured and deſcribed by Liſter and others. The ſhell is oblong; the aperture large and toothleſs; the whorls crowned with a ſingle row of tubercles. Its native place is unknown.

ARMILLATUS, in *Entomology*, a ſpecies of Curculio that inhabits the Cape of Good Hope. The thorax is ſomewhat ſpinous on the ſides; a grey belt near the tip of the thighs; ſhanks dentated. Sparm. nov. act. Stock. There is a variety of this inſect entirely of a browniſh grey colour, and

and another in which the wing-cafes are clouded with grey, and an oblong fpot placed obliquely on each fide.

ARMILLATUS, a fpecies of CERAMBYX, of a large fize, that is found in India. On each fide of the thorax are four fpines; wing-cafes ferruginous, with a black margin; a fingle tooth on the poſterior thighs. Gronov. Fabr. &c.

ARMILUSTRIUM, in *Antiquity*, a feaſt held among the Romans; wherein they ſacrificed, armed at all points, and with the ſound of trumpets.

Some define *armiluſtrium* to have been a feaſt, wherein a general review was made of all the forces, in the Campus Martius. But this does not come up to the point; for Varro does not derive the word from the Latin *arma* and *luſtrare, to make a review*; but from the cuſtom of holding this feaſt in the place where the reviews were uſed to be made, or rather from their going round the place armed with bucklers.

The ſacrifice was intended for the expiation of the armies, and the proſperity of the arms of the people of Rome; and was celebrated on the fourteenth of the calends of November. This feaſt may be conſidered as a kind of benediction of arms. It was firſt obſerved among the Athenians.

ARMINIACHA, in *Geography*, a ſmall town of Aſia Minor, in Aladulia, at the foot of mount Taurus; ſuppoſed to have been the ancient Cybiſtra.

ARMINGS, in a ſhip, are the ſame with *waſt-cloths*, being red cloths hung about the outſides of the ſhip's upper works fore and aft; and before the cubbridge-heads.

There are ſome alſo hung round the tops, and called *top-armings*. See TOP.

ARMINIA, in *Ancient Geography*, a river of Italy, in Etruria, flowed from north to ſouth between Saturnia and Vulſinii, and diſcharged itſelf into the ſea near Forum Aurelii.

ARMINIANISM, the doctrine of Arminius and of his followers. See ARMINIANS.

ARMINIANS, in *Eccleſiaſtical Hiſtory*, the followers of Arminius, who, though educated at Geneva, and having imbibed the doctrines concerning predeſtination and grace, maintained by Calvin, Beza, Zanchius, &c. began to expreſs his doubts concerning them in the year 1591; and upon farther inquiry, adopted ſentiments more nearly reſembling thoſe of the Lutherans, than of the Calviniſts. After his appointment to the theological chair at Leyden, he thought it his duty to avow and vindicate the principles which he had embraced; and the freedom with which he publiſhed and defended them, expoſed him to the reſentment of thoſe who adhered to the theological ſyſtem of Geneva, which then prevailed in Holland; but his principal opponent was Gomar, his colleague. The controverſy which was thus begun, became more general after the death of Arminius in the year of 1609, and threatened to involve the United Provinces in civil diſcord. The Arminian tenets gained ground under the mild and favourable treatment of the magiſtrates of Holland, and were adopted by ſeveral perſons of merit and diſtinction. The Calviniſts, or Gomariſts as they were now called, appealed to a national ſynod; accordingly the ſynod of Dort was convened by order of the States General, in 1618; and was compoſed of eccleſiaſtical deputies from the United Provinces, as well as from the reformed churches of England, Scotland, Heſſe, Bremen, Swiſſerland, and the Palatinate. The principal advocate in favour of the Arminians was Epiſcopius, who at that time was profeſſor of divinity at Leyden. It was firſt propoſed to diſcuſs the principal ſubjects in diſpute, and that the Arminians ſhould be allowed to ſtate and vindicate the grounds on which their opinions were founded; but ſome difference ariſing as to the proper mode of conducting the debate, the Arminians were excluded from the aſſembly; their caſe was tried in their abſence; and they were pronounced guilty of peſtilential errors, and condemned as corrupters of the true religion. In conſequence of this deciſion, they were treated with great ſeverity; they were deprived of all their poſts and employments; their miniſters were ſilenced, and their congregations were ſuppreſſed. However, after the death of prince Maurice, who had been a violent partiſan in favour of the Gomariſts, in the year 1625, the Arminian exiles were reſtored to their former reputation and tranquillity; and under the toleration of the ſtate, they erected churches and founded a college at Amſterdam, appointing Epiſcopius to be the firſt theological profeſſor. The Arminian ſyſtem has very much prevailed in England ſince the time of archbiſhop Laud, and its votaries in other countries are very numerous.

The diſtinguiſhing tenets of the Arminians may be comprized in the following five articles; relating to predeſtination, univerſal redemption, the corruption of man, converſion, and perſeverance. With reſpect to the firſt, they maintained, "That God, from all eternity, determined to beſtow ſalvation on thoſe, who he foreſaw would perſevere unto the end in their faith in Chriſt Jeſus; and to inflict everlaſting puniſhments on thoſe who ſhould continue in their unbelief, and reſiſt unto the end his divine ſuccours; ſo that election was conditional, and reprobation in like manner the reſult of foreſeen infidelity, and perſevering wickedneſs."

On the ſecond, the Arminians taught, "That Jeſus Chriſt, by his ſufferings and death, made an atonement for the ſins of all mankind in general, and of every individual in particular; that, however, none but thoſe who believe in him can be partakers of their divine benefit."

On the third article, they held, "That true faith cannot proceed from the exerciſe of our natural faculties and powers, nor from the force and operation of free-will, ſince man, in conſequence of his natural corruption, is incapable either of thinking or doing any good thing; and that therefore it is neceſſary, in order to his converſion and ſalvation, that he be regenerated and renewed by the operation of the Holy Ghoſt, which is the gift of God through Jeſus Chriſt."

Fourthly, "That this divine grace, or energy of the Holy Ghoſt, begins and perfects every thing that can be called good in man, and conſequently all good works are to be attributed to God alone; that nevertheleſs this grace is offered to all, and does not force men to act againſt their inclination, but may be reſiſted, and rendered ineffectual by the perverſe will of the impenitent ſinner." Some modern Arminians interpret this and the laſt article with a greater latitude.

Fifthly, "That God gives to the truly faithful, who are regenerated by his grace, the means of preſerving themſelves in this ſtate;" and though the firſt Arminians made ſome doubt with reſpect to the cloſing part of this article, their followers uniformly maintain, "that the regenerate may loſe true juſtifying faith, forfeit their ſtate of grace, and die in their ſins."

The modern ſyſtem of Arminianiſm likewiſe, founded on a comprehenſive plan projected by Arminius himſelf, as appears from a paſſage in his laſt will, extends the limits of the Chriſtian church, and relaxes the bonds of fraternal communion in ſuch a manner, that Chriſtians of all ſects and denominations, whatever their ſentiments and opinions may

be, papiſts excepted, may be formed into one religious body, and live together in brotherly love and concord. But, in order to avoid the reproach of being altogether unconnected by any common principles, Epiſcopius drew up a confeſſion of faith, expreſſed for the moſt part in words and phraſes of Holy Scripture, which the Arminians have generally adopted, though not enjoined upon them by any authoritative obligation.

The Arminians are alſo called *Remonſtrants*, from an humble petition intitled their *Remonſtrance*, which, in the year 1610, they addreſſed to the ſtates of Holland. Their principal writers are, Arminius, Epiſcopius, Voſſius, Grotius, Curcellæus, Limborch, Le Clerc, and Wetſtein; not to mention many others of more modern date. Brandt's Hiſt. of the Reformation in the Netherlands; and Moſheim's Eccleſ. Hiſt. by Dr. Maclaine, vol. v.

The progreſs of Arminianiſm has been ſomewhat retarded, and its prevalence reſtrained, more eſpecially in Germany, and ſeveral parts of Swiſſerland, in conſequence of the aſcendant which the Leibnitian and Wolfian philoſophy hath gained in theſe countries, particularly among the clergy and the men of learning. Leibnitz and Wolf, by attacking that liberty of indifference which is ſuppoſed to imply the power of acting, not only without, but againſt motives, ſtruck at the very foundation of the Arminian ſyſtem. Beſides, by conſidering the multiplicity of worlds that compoſe the univerſe as one ſyſtem or whole, whoſe greateſt poſſible perfection is the ultimate end of creating goodneſs, and the ſovereign purpoſe of governing wiſdom, they removed from the doctrine of predeſtination thoſe arbitrary procedures and narrow views with which the Calviniſts have been charged with loading it, and gave it a new, a more pleaſing, and a more philoſophical aſpect. As the Leibnitians laid down this great end as the ſupreme object of God's univerſal dominion, and the ſcope to which all his diſpenſations are directed, ſo they concluded, that if this end was propoſed, it muſt be accompliſhed. Hence the doctrine of neceſſity, to fulfil the purpoſes of a predeſtination founded in wiſdom and goodneſs: a neceſſity phyſical and mechanical in the motions of natural and inanimate things, but a neceſſity moral and ſpiritual in the voluntary determinations of intelligent beings, in conſequence of prepollent motives which produce their effects with certainty, though theſe effects be contingent, and by no means the offſpring of an abſolute and immutable fatality. Theſe principles are evidently applicable to the main doctrines of Calviniſm; by them predeſtination is confirmed, though modified with reſpect to its reaſon and end; by them irreſiſtible grace, irreſiſtible in a moral ſenſe, is maintained upon the hypotheſis of prepollent motives and a moral neceſſity. The perſeverance of the ſaints is alſo explicable upon the ſame ſyſtem, by a ſeries of moral cauſes producing a ſeries of moral effects. The learned Canzius has written a book for the expreſs purpoſe of ſhewing the eminent uſe that may be made of the Leibnitian and Wolfian philoſophy, in throwing light upon the chief articles of our faith, "Philoſophiæ Leib. et Wolf. uſus in theologia per præcipua fidei capita." Francof. and Leipſ. ed. 2. 1749. The ſcheme of neceſſity, and of partial evil tending to univerſal good, has been foſtered in ſome parts of Great Britain, and has converted ſome zealous Arminians into moderate and philoſophical Calviniſts. But "the zealous Calviniſts (ſays Dr. Maclaine) have for the moſt part held firm to their theology, and blended no philoſophical principles with their ſyſtem; and it is certain that the moſt eminent philoſophers have been found, generally ſpeaking, among the Arminians. If both Calviniſts and Arminians claim a KING, it is certain that the latter alone can boaſt of a NEWTON, a LOCKE, & CLARKE, and a BOYLE.

ARMINIUS, or HARMANSEN, JAMES, in *Biography*, founder of the ſect called *Arminians*, was born at Oude-Water in Holland, in 1560; and he loſt his father in his infancy. He was firſt inſtructed by a Catholic prieſt, who was ſecretly a friend to the reformed religion, and by his liberality encouraged as a ſtudent at Utrecht. Upon the death of this patron, he obtained aſſiſtance from Rodolphius Snelbius, his countryman, and in 1575 accompanied him to Marpurgh. During his abode in this place, he received information that his native town was pillaged by the Spaniards; and haſtening thither to viſit his family, he found that his mother, ſiſter, brother, and other relations, had been put to the ſword. At Leyden he afterwards proſecuted his ſtudies with reputation; and at length the magiſtrates of Amſterdam provided him with the means of finiſhing his education at Geneva. The lectures of Theodore Beza on the epiſtle to the Romans, are ſuppoſed to have firſt ſuggeſted to Arminius thoſe ſpeculations, which led him to form a new ſect. As he adopted and privately taught the philoſophical ſyſtem of Peter Ramus, he was obliged to withdraw from Geneva; and he then removed to Baſil, where he gained great credit by his lectures: after a ſhort interval he returned to Geneva, and enjoyed in tranquillity the ſociety of the learned. Deſirous of farther improvement, he viſited Padua, in order to attend the philoſophical lectures of the celebrated Zabarella; and after having travelled in Italy for five or ſix months, he returned, in 1588, to Amſterdam, where he found his patrons much prejudiced againſt him. "It was reported and believed, that Arminius had kiſſed the Pope's toe, whom he had only ſeen in a crowd; that he had contracted an intimacy with Jeſuits, whom he had never heard of; that he had introduced himſelf to Bellarmin, whom he had never ſeen; and that he had abjured the reformed religion, for which he was prepared to die." Theſe prejudices, however, as they were occaſioned by groundleſs rumours and calumny, gradually ſubſided; and the talents and zeal of Arminius, as a ſtrenuous advocate for the reformed religion, and an eloquent preacher, raiſed him to diſtinguiſhed notice; accordingly he was engaged to refute a work which had been written againſt Beza's doctrine of predeſtination. In the courſe of his examination, he became a proſelyte to the opinions which he had undertaken to refute; and renouncing the Calviniſtic doctrine concerning the decrees of God and divine grace, he maintained, that the merits of Chriſt extended to all mankind, and that the grace of God, which is neceſſary to ſalvation, is attainable by all. This change in the ſentiments of Arminius took place in the year 1591; and his undiſguiſed and honeſt avowal of it excited hoſtilities, which would have been injurious to Arminius, if the magiſtrates of Amſterdam had not interpoſed and ſuppreſſed the conteſt. After having officiated as a miniſter in the church of Amſterdam for fifteen years, Arminius, notwithſtanding the heretical opinions which he had adopted, was elected, in 1603, to the profeſſorſhip of divinity in the univerſity at Leyden, and admitted to the degree of doctor in divinity. In his lectures, and alſo in his writings, the profeſſor ſtrenuouſly aſſerted and defended his opinions, and made many converts both among the clergy and the laity. His adverſaries, however, were very numerous; and of theſe the moſt violent was his colleague, Francis Gomar. Unable to contend with the various modes of attack by which his enemies perſecuted him, he ſunk under a complication of diſeaſes, and departed this life in the year 1609. Arminius was eminently diſtinguiſhed by his piety and integrity,

integrity, and conciliated the eſteem even of his enemies, by his modeſty and diffidence, by the candour of his temper, and the affability of his manners. He choſe rather, ſays Brandt, his biographer, to be religious in reality than in appearance, and preferred the approbation of his own mind to the opinion of the world. His motto was "Bona conſcientia paradiſus." "A good conſcience is a paradiſe." Peter Bertius concludes his funeral oration upon him with theſe words: "He was a man who could not be ſufficiently eſteemed by thoſe who knew him, and thoſe who did not eſteem him, never knew him ſufficiently." He was a friend to univerſal toleration, and with him it was a fundamental principle, that Chriſtians are accountable only to God for their religious ſentiments, and that no individual can be juſtly puniſhed by the magiſtrate for erroneous opinions, while he conducts himſelf as a virtuous and obedient ſubject, and makes no attempt to diſturb the peace and order of civil ſociety. As a writer, his manner of reaſoning and his ſtyle are ſomewhat ſcholaſtic; but he is diſtinguiſhed by ſimplicity and perſpicuity. His works are compriſed in one volume, 4to. printed at Frankfort in 1631 and 1634, &c. His "Diſputationes publicæ et privatæ" afford a juſt and accurate notion of the doctrine and character of Arminius. Moſheim's Eccl. Hiſt. vol. v. p. 439, &c. Gen. Dict. See ARMINIANS.

ARMIRO, in *Geography*, a ſea-port town of European Turkey, in the province of Theſſaly or Janna, on the ſouth-weſt ſide of the gulf of Volo; ſuppoſed to be the Eretria of the ancients. N. lat. 39° 42′. E. long. 23° 30′.—Alſo, a river in the iſle of Candia, near Caſtel-Malveſi, which empties itſelf into the Mediterranean near Paleo-Caſtro, ſaid to be the "Oaxes" of the ancients.—Alſo, a town of South America, in Guiana, four leagues from Cayenne.

ARMISTICE, ARMISTITIUM, in *Military Language*, from *arma ſtare*, or *ſiſtere*, a ſhort truce, or a ceſſation of arms for a ſmall time.

ARMOA, in *Geography*, a river of Arcadia, which diſcharges itſelf into the Alpheus, ſuppoſed to be the Amarynchus of the ancients.

ARMOACHIQUOIS, a tribe of wandering Indians on the borders of Canada.

ARMOISIN, in *Commerce*, a ſilk ſtuff, or kind of taffety, of an indifferent goodneſs; made at Lyons, and at ſeveral places in Italy. There are half armoiſins, made at Avignon, which are of inferior quality, and leſs price than the others. Some pretend that the word *armoiſin* comes from the Italian *armeſino*; or that theſe ſilks were thus called, becauſe there were coats of arms delineated on the cloths in which they were wrapped.

There is alſo a taffety of this name manufactured in the Eaſt Indies; but of an inferior quality to thoſe made in Europe.

ARMONA, in *Geography*, a town of the iſland of Negroponte.

ARMONIAC. See AMMONIA.

ARMONICA, from ἁρμονία, *harmony*, is a name which Dr. Franklin has given to a muſical inſtrument conſtructed with drinking-glaſſes. It is well known that a drinking-glaſs yields a ſweet tone, by paſſing a wet finger round its brim. Mr. Pockrich, of Ireland, was the firſt who thought of playing tunes formed of theſe tones. He collected a number of glaſſes of different ſizes, fixed them near each other on a table, and tuned them by putting into them water, more or leſs, as each note required. Mr. Delaval, F. R. S. made an inſtrument in imitation of that which was contrived by Mr. Pockrich: and from this inſtrument Dr. Franklin took the hint of conſtructing his *armonica*.

The glaſſes for this muſical inſtrument are blown as nearly as poſſible in the form of hemiſpheres, having each an open neck or ſocket in the middle. The thickneſs of the glaſs near the brim is about one tenth of an inch, increaſing towards the neck, which in the largeſt glaſſes is about an inch deep, and ½ inch and a half wide within; but theſe dimenſions leſſen as the ſize of the glaſſes diminiſhes, only obſerving that the neck of the ſmalleſt ſhould not be ſhorter than half an inch. The diameter of the largeſt glaſs is nine inches, and that of the ſmalleſt three inches: between theſe there are twenty-three different ſizes, differing from each other a quarter of an inch in diameter. For making a ſingle inſtrument, there ſhould be at leaſt ſix glaſſes blown of each ſize, and out of theſe thirty-ſeven glaſſes (which are ſufficient for three octaves with all the ſemitones) may be found, that will either yield the note required, or one a little ſharper, and fitting ſo well into each other, as to taper regularly from the largeſt to the ſmalleſt. The glaſſes being choſen, and the note for which each glaſs is intended being marked upon it with a diamond, they are to be tuned by diminiſhing the thickneſs of thoſe that are too ſharp, which is done by grinding them round from the neck towards the brim, comparing, by means of a well-tuned harpſichord, the tone drawn from the glaſs by your finger with the note you want, as ſounded by the correſponding ſtring of the harpſichord. The largeſt glaſs in the inſtrument is G, a little below the reach of a common voice, and the higheſt G, including three complete octaves: and they are diſtinguiſhed by painting the apparent parts of the glaſſes within ſide, every ſemi-tone white, and the other notes of the octave with the ſeven priſmatic colours: ſo that glaſſes of the ſame colour (the white excepted) are always octaves to each other.

When the glaſſes are tuned, they are to be fixed on a round ſpindle of hard iron, an inch in diameter at the thickeſt end, and tapering to a quarter of an inch at the ſmalleſt. For this purpoſe, the neck of each glaſs is fitted with a cork, projecting a little without the neck; theſe corks are perforated with holes of different diameters, according to the dimenſion of the ſpindle in that part of it where they are to be fixed. The glaſſes are all placed within one another, the largeſt on the biggeſt end of the ſpindle with the neck outwards; the next in ſize is put into the other, leaving about an inch of its brim above the brim of the firſt; and the others are put on in the ſame order. From theſe expoſed parts of each glaſs, the tone is drawn, by laying a finger upon one of them, as the ſpindle and glaſſes turn round. The ſpindle thus prepared, is fixed horizontally in the middle of a box, and made to turn on braſs gudgeons at each end. A ſquare ſhank comes from its thickeſt end through the box, on which ſhank a wheel is fixed by a ſcrew: this will ſerve, like a fly, to make the motion equable, when the ſpindle is turned by the foot like a ſpinning-wheel. The wheel is eighteen inches in diameter, and conceals near its circumference about twenty-five pounds of lead, and may be made of mahogany. An ivory pin is fixed in the face of the wheel, about four inches from the axis; over which is put the loop of the ſtring, that comes up from the moveable ſtep to give it motion. The box is about three feet long, eleven inches wide at the biggeſt end, and five inches at the ſmalleſt end; it is made with a lid, which opens at the middle of its height, and turns up by back hinges. The inſtrument, thus completed, ſtands on a neat frame with four legs. This inſtrument is played upon by fitting before it, as before the keys of a harpſichord, turning the ſpindle with the foot, and wetting the glaſſes now and then with

a ſponge and clean water. The fingers ſhould be firſt ſoaked in water; and rubbed occaſionally with fine chalk, to make them catch the glaſs, and bring out the tone more readily. Different parts may be played together by uſing both hands; and the tones are beſt drawn out when the glaſſes turn from the ends of the fingers, not when they turn to them.

The advantages of this inſtrument, ſays Dr. Franklin, are, that its tones are incomparably ſweet beyond thoſe of any other; and that they may be ſwelled and ſoftened at pleaſure by ſtronger or weaker preſſures of the finger; and continued to any length: and when it is once well tuned, it never again wants tuning. Franklin's Letters, &c. on Philoſophical Subjects, p. 428.

Mr. Pockrich, the firſt performer on rummer glaſſes, by a fatal accident was burned in his bed at his lodgings in Swithin's Alley near the Royal Exchange, in 1759, by the houſe in which he lodged taking fire in the night, and being deſtroyed, before any aſſiſtance could arrive.

Mr. Schuman, a German harpſichord-maſter, played publickly afterwards with conſiderable ſucceſs in ſeveral parts of London and Weſtminſter. But the firſt and only performer on the Armonica, conſtructed and ſo accurately deſcribed by Dr. Franklin, in a letter to Padre Beccaria of Turin, was the eldeſt Miſs Davies, ſiſter to Miſs Cecilia Davies, the celebrated opera ſinger, but beſt known in Italy by the title of *l'Ingleſina*.

The talents of our two countrywomen, the Miſs Davieſes, who reſided a conſiderable time at Vienna, in the ſame houſe as the celebrated Haſſe and Fauſtina (ſee Preſent State of Muſic in Germany, Art. Vienna, vol. i.), have been deſcribed by the admirable lyric poet, Metaſtaſio; the eldeſt for her performance on the Armonica, at that time a new inſtrument; and the youngeſt, for her vocal abilities. The Empreſs-queen had been ſo pleaſed by their ſeveral talents, that in the year 1769, on the marriage of the infant duke of Parma with the arch-ducheſs Maria Amelia, ſhe deſired Metaſtaſio to write a cantata, which was ſet by Haſſe, in order to diſplay their ſeveral talents. This cantata has been publiſhed in late editions of the poet's works, under the title of *l'Armonica*, the name of the new inſtrument on which the eldeſt Miſs Davies accompanied her ſiſter, in the performance of the cantata.

A letter written by the poet to the princeſs di Belmonte, at Naples, recommending theſe performers to her protection, will ſerve as a comment to the cantata juſt mentioned.

"The bearers of this moſt reverential addreſs, are two Engliſh young perſons, travelling under the conduct of their worthy parents, in order to give teſtimonies at Naples of their ſeveral abilities in muſic; their names are Miſs Mary, and Miſs Cecilia Davies: the firſt performs with admirable ſkill on an inſtrument of new invention called the Armonica. It is compoſed of glaſſes of different ſizes, revolving, by means of a pedal, on a ſpindle. Theſe glaſſes, forming a regular ſcale of tones and ſemi-tones, being delicately touched with wet fingers during their revolution, produce the moſt uncommonly ſweet and celeſtial tones imaginable; particularly in pathetic ſtrains, for which the inſtrument is eminently calculated. The other ſiſter, who is poſſeſſed of a very pleaſing and flexible voice, ſings extremely well, with much art and natural expreſſion; and when accompanied by her ſiſter on the Armonica, ſhe has the power of uniting her voice with the inſtrument, and of imitating its tones ſo exactly, that it is ſometimes impoſſible to diſtinguiſh one from the other. They have been here univerſally admired and applauded: and my moſt auguſt patroneſs, who has deigned to hear them frequently, has honoured them with munificent teſtimonies of imperial approbation."

Miſs Cecilia Davies performed in the theatre of San Carlo at Naples, the part of *Bradamante*, in Metaſtaſio's new opera of Ruggiero.

In the firſt fol. edit. of the French *Encyclopedie*, t. xvii. printed in 1765, under the article VERRES, MUSIQUE DES, Muſical glaſſes, it is ſaid; "they have contrived within theſe few years to produce a new ſpecies of harmony from glaſſes, which is extremely pleaſing to the ear.

"It is pretended that an Engliſhman of the name of Puckridge is the inventor. However this method has been long known in Germany. The inſtrument uſed on this occaſion is an oblong ſquare box, in which are arranged and fixed many round glaſſes of different diameters. In theſe there is water of different quantities. By rubbing the edge of the glaſſes with a wet finger very gently, the ſweeteſt, moſt melodious, and ſuſtained tones are produced, and with theſe the moſt agreeable airs are performed.

"The Perſians, in very high antiquity, have produced muſical ſounds by a ſimilar contrivance; by ſtriking ſeven porcelain cups, tuned by water, with little ſticks, a regular ſcale is produced." No authority is given for theſe aſſertions. Metaſtaſio, who had reſided near fifty years in Germany, calls the Armonica, "an inſtrument of new invention." The producing muſical tones from drinking-glaſſes has been long known to the natives of Great Britain and Ireland; but the forming different toned glaſſes into an inſtrument, and tuning them by water, we have not the leaſt doubt was the invention of a native of Ireland, of the name of Pockrich; as the placing a ſeries of glaſſes on a cylinder, or ſpindle, turned with a pedal, was the invention of Dr. Franklin, who tuned his glaſſes by grinding, not by water. A drawing of Miſs Davies's inſtrument will be found in one of the plates of muſical inſtruments. Her performance on this muſical inſtrument ſo pleaſed the great maſters on the Continent, that Padre Martini, Haſſe, Galuppi, Jomelli, Mozart, &c. preſented her with original compoſitions, purpoſely produced for the Armonica, upon which ſhe often plays, extempore, ſtill more exquiſite ſtrains than theſe great compoſers, at an early period of its invention, thought this inſtrument capable of expreſſing.

ARMOR, or ARMOUR, in a general ſenſe, is a term that may be applied to any defenſive habit, uſed to protect the perſon of the wearer from the attack of an enemy; or abſtractedly, to any part of ſuch habit. Armour, in the aggregate ſenſe of the word, is frequently called *harneſs* by the Engliſh writers of the fifteenth and ſixteenth centuries, as well as in our ancient ſtatutes.

The materials anciently uſed for the making of armour were exceedingly multifarious; depending in ſome inſtances upon the produce of the country in which it was fabricated, but more generally upon the judgment or experience of the inhabitants. Among the more civilized nations, braſs, iron, and other metals were preferred; and in the time of Aſiatic magnificence, even gold was not ſpared: on the other hand, the Libyans, according to Herodotus (in Polymnia), who aſſiſted Xerxes when he invaded Greece, were clothed in tunics of leather, to ſupply the place of body armour; and the ſame author (in Clio) aſſures us, that the military dreſs of the ancient Perſians was compoſed of leather, and girt about the body with a leathern girdle; and ſpeaking of the Aſiatic Indians (in Polymnia), he tells us, that ſome of them uſed a ſpecies of armour made with wood; others again plaited ruſhes upon each other like mats, and worked them into the form of a *thorax*, or *breaſt-plate*; he alſo mentions (in Melpomene) a people who inhabited the maritime

parts to the weſtward of the Garamantes, who, "when they make war," (ſays he,) "wear the ſkins of oſtriches inſtead of armour."

The ſhield, the helmet, and the breaſt-plate, may claim precedence of every other part of the ancient defenſive armour; the firſt, from the obvious uſe of ſuch an inſtrument and the extenſiveneſs of its ſervice; and the other two, from the protection they afforded to the ſources of life and ſenſation. We muſt refer to the ſacred writings for the earlieſt memorials of the ancient military habit; little more, indeed, than the names of the different parts of this habit occur; but with the aſſiſtance of more modern authority, we may be enabled to form ſome idea of the nature and uſefulneſs of thoſe parts, when applied to the protection of the wearer.

The defenſive armour of the Iſraelites conſiſted of a ſhield, a helmet, a military veſt, a thorax or breaſt-plate, and belts of metal, or plated with metal, to gird upon the body, beneath the breaſt-plate. It does not appear that they wore greaves or military boots for the defence of their legs; though the greaves are mentioned as a part of the armour belonging to Goliath, the giant of Gath (1 Samuel, chap. xvii. ver. 6.): they were alſo worn by other Aſiatic nations; and at the ſiege of Troy, by the Grecians in general. Homer frequently diſtinguiſhes his countrymen by the epithet of well-greaved or well-booted Grecians. The greaves attributed by the author of the book of Samuel to Goliath, are called (מִצְחָה), literally, the ſhiners, or ſhining plates, and were made of braſs, reſembling probably thoſe upon the legs of the little figure marked A. *Plate* I. of *Armour*, which reach from the top of the knee, to the inſtep, but do not cover the feet; ſo thoſe of the giant are expreſsly ſaid to have been placed above his feet. The figure B. upon the ſame plate, of which we have two views, exhibits the greaves of a thicker conſiſtency, and from the manner in which they are faſtened upon the back part of the legs, they appear to have been made with the ſkins of animals, having the fur upon them. See GREAVES.

In the book of Exodus (chap. xxviii. ver. 32. and chap. xxxix. ver. 23), Moſes mentions a garment, which our tranſlators conſidered as a military one, and accordingly have rendered it an *habergeon*; that is, a ſhort tunic of mail, fitted cloſe to the neck, without ſleeves, and deſcending ſomething lower than the breaſt. The ſacred penman, ſpeaking of "the robe of the Ephod," ſays, "there ſhall be a hole in the top, in the midſt thereof, and it ſhall have a binding of woven work round about the hole of it, as it were the hole of תחרא an *habergeon*, that it be not rent." But the deduction of the original word, from a root which ſignifies to make hot, juſtifies the lexicographers in conceiving it to have been a thick or quilted garment fitted cloſe to the body; and probably it was the ſame as the veſt which Saul put upon David, previouſly to his arming him with the thorax and girdle (1 Samuel, chap. xvii. v. 38, 39.). This veſt, indeed, is diſtinguiſhed by another name (יְרָד), but the objection is of little moment, for a redundancy of names applied to ſingle objects, is common enough to be met with in the Hebrew, and other Aſiatic languages. Saul's tunic was evidently placed under the body armour, to prevent the plates of metal from preſſing too cloſely on the ſkin, and hurting it; and anſwered preciſely the purpoſe of the doublet, or pourpoint, worn beneath the coat of mail in more modern times (ſee DOUBLET); and perhaps, like that, was made without ſleeves. Upon the *fig.* B. *Plate* I. we find a ſimilar kind of military garment which is worn without the breaſt-plate, and has only one ſleeve occupied by the left arm; this tunic appears to have been fabricated with ſome rigid material, perhaps of thick leather, and might have anſwered the double purpoſe of the pourpoint and the pectoral: the right ſleeve, which is full of folds, is evidently made of more pliant ſtuff than the body garment, and probably belonged to an inner tunic; it was ſubſtituted for the leather ſleeve, becauſe it was leſs rigid, and did not equally impede the motions requiſite for the ſword-arm. This curious ancient figure is preſerved in the Britiſh Muſeum; it is of Greek workmanſhip, and was found in the ruins of Herculaneum.

The *thorax* or *breaſt-plate*, called in the Hebrew שִׁרְיָן or שִׁרְיוֹן, derived from a word ſignificant of *ſtrength*; and uſually rendered by our tranſlators, *coat of mail*; formed another part of the Jewiſh military habit; it is firſt mentioned as ſuch, 1 Samuel, chap. xvii. v. 38. and the ſame word is uſed for the body armour of Goliath the Philiſtine (ibid. ver. 5.), joined with an adjective, expreſſive of its having been covered with plates of braſs in the form of ſcales. This word is totally omitted in our tranſlation, but it is a very important one; and the paſſage may be rendered, "a thorax or breaſt-plate of ſcales of braſs." Herodotus (in Polymnia) informs us, that the Median and Perſian ſoldiers belonging to the army of Xerxes, had each of them a tunic covered with plates of iron like the ſcales of a fiſh, and adorned with ſleeves of various colours; but over the tunic, it appears from the hiſtorian, they wore an Egyptian pectoral. This kind of ſcale armour conſiſted of ſmall plates of metal faſtened upon a garment fitted to the body and limbs of the wearer, and contrived to hang over each other like a fiſh's ſcales, but in ſuch a manner, as not to prevent the flexibility of the garment, nor obſtruct the exertions of the ſoldier's agility. The form and nature of this equipment are admirably repreſented by the Sarmatian horſemen, upon the Trajan column; a dreſs, ſomewhat ſimilar, was partially adopted in the weſtern parts of Europe by the heroes of the middle ages; but it was ſoon ſuperſeded by the chain, or ring mail, which became univerſal.

It is highly probable, that the *thorax* of the Philiſtine was much longer in proportion to his ſize than that of Saul, and might cover the greater part, if not the whole of the front of his body; at leaſt one may ſo judge from its great weight, equal, it is ſaid, to 189 pounds Troy weight; for had the breaſt-plate of Saul been longer or larger than the ancient pectorals uſually were, and proportionate to his ſize, it would have been an abſurdity in him to have attempted to put it upon David, who was a ſtripling, and at leaſt a full head and ſhoulders beneath his ſtature. Yet we are told, he did put it upon David, and girded his ſword upon the tunic beneath it. When David rejected the dreſs, it is not ſaid he did it becauſe it was too large or too long, or that he appeared ridiculous in it, but becauſe he had not eſſayed, tried, or been uſed to ſuch an equipment; for which reaſon, inſtead of being uſeful, it was an incumbrance to him, and obſtructed the free uſe of his arms. See BREAST-PLATE.

If we turn to the little figure A. *Plate* I. we may meet with ſomething reſembling the body armour of Saul, and may eaſily conceive how it might be applied to a perſon of ſmaller ſtature, without the leaſt inconſiſtency; firſt, we obſerve the ſhort ſkirts of the tunic (above mentioned) with which David was firſt inveſted; ſecondly, the thorax or breaſt-plate, here apparently one ſolid plate of metal, worked into the form of a man's breaſt, and faſtened upon the tunic; beneath the thorax, are two belts plated with metal, from one of which the ſword was uſually ſuſpended. If we look to the ſacred text, we ſhall find that Saul girded David with his own ſword upon the tunic; and as he had been previouſly inveſted with the thorax, it reaſonably follows that

that the ſword was girded "upon" a portion of the tunic which hung below the thorax, agreeably to the repreſentation of the belts upon the bronze. There is only one girdle mentioned in this paſſage of the ſcripture; and perhaps one was ſufficient for David, though Saul, a much taller man, might require two or more. The little figure here engraved perfectly explains the manner in which Ahab king of Iſrael received his death's wound; we are told (1 Kings, chap. xxii. ver. 34.), that he was ſmitten by an arrow, "between the joinings of the belts, and between the breaſt-plate," that is, in the opening where the lower part of the breaſt plate was joined with the uppermoſt belt or girdle. See BELT.

Xenophon (Cyrop. lib. vi.), deſcribing the military dreſs of Abradates king of Suſa, mentions *arm-pieces* as part of it; and the Ancient Grecian ſculptures exhibit broad plates of metal for the protection of the ſhoulders (ſee the *figures* marked C. C. *Plate* I. *of Armour*); and alſo *cuiſſes* for the thighs; and *taſſes*, or plated ſtraps, attached to the thorax, for the protection of the lower parts of the body. In proceſs of time the thorax was gradually enlarged, and from its aggrandiſement originated a complete ſuit of body armour, ſuch as was introduced by the Grecians, and occaſionally uſed by the Romans. In the middle ages, this cuſtom of caſing of men in braſs or iron was revived, and carried in more modern times to a greater extent than it had been before. A front and a back view of a cloſe-armed man according to the ancient Grecian faſhion, is given, *Plate* I. marked C.C.; the ſucceeding alterations will appear hereafter, under the article *Coat of Mail*. We may here add, that the *lorica* or *mail*, a ſpecies of armour ſo famous in the ages of chivalry, is by no means of modern invention. The thorax of the Philiſtine giant appear to have been ſomewhat of this kind, conſiſting of ſmall plates of metal quilted over each other like the ſcales of a fiſh; and if we turn to *Plate* I. and examine the body of the *figure* marked D. we ſhall find ſtrong indication of a chain-mail or net-work of wire rings. If it ſhould be thought, from the ſmoothneſs of the bronze upon the left ſide, that the armour was only made to cover the right, it will be neceſſary to obſerve, that this figure in its original ſtate was ſupported by another figure, whoſe right arm, broken away near the elbow, appears beneath its left ſhoulder, and the part of the arm which is loſt covered that portion of the body where we remark the deficiency of the mail; in the preſent caſe, the left hand of the ſupporting figure is alſo ſeen upon the right hip.

The Egyptian armour of defence for the perſon conſiſted of a *brazen helmet*, and a *thorax* or coat of linen ſo plaited and folded as to reſiſt the point of the enemy's weapon; the whole ſeems to be formed of rolls of linen or cotton faſtened together like the ſtockings worn at preſent by the Tyroleſe, or like the hay-bands which a countryman twiſts round his legs to ſerve inſtead of boots. *Fig.* 1 and 2. *Plate* II. were copied from the tombs of the kings of Thebes. Denon's Egypt. Herodotus.

In the earlieſt defenſive armour for the perſon, the Greeks ſeem to have uſed the ſkins of animals. Hercules wore the lion's ſkin, which, in very ancient ſculpture and painting, is tied round his neck by the paws, and again faſtened round his loins with a ligature, in ſuch a manner as to form a kind of coat. Jupiter wore the ægis, or goat-ſkin, for both breaſt-plate and ſhield, to which afterwards was added a cover of metal ſcales for better defence, and it was farther decorated with the Meduſa's head to terrify the beholder; the κυνέη, or dog's ſkin, was the ancient hat and helmet.

The κυνέη, or *dog's ſkin*, is the name generally given to the helmet by the Greeks. Homer frequently uſes it, but it is particularly given to that worn by Ulyſſes in the night expedition. Τρυφάλεια, *tryphalia*, is the triple-creſted helmet; the creſts were principally made of horſe-hair. *Fig.* 4. *Plate* II. is of the firſt deſcription. Κόρυς, *korus*, a word derived from κάρη the head, is properly applied to N° 13 and 16. *Plate* III. and the helmets of 7 and 8. *Plate* II. becauſe this ſpecies of helmet being drawn over the face, at the ſame time that the form of the head was preſerved, the features of the wearer appeared through the front of the helmet.

The Greeks made the thorax, or armour for the body, of braſs, linen, or leather. Homer calls his heroes, braſs-coated.

The plate-armour for the body conſiſted of four principal diviſions, the breaſt-plate, the back-plate, the ſhoulder-plates and the ζῶμα, or the *zone*.

The breaſt and back-plates were formed to reſemble the naked body (ſee *fig.* 8. *Plate* II. and *fig.* 14 and 18. *Plate* III.): theſe two pieces were faſtened together by haſps on each ſide.

The ſhoulder-plates were tied to the paps of the breaſt, in ſome inſtances, which projected like high buttons, to allow room for the knot; ſee *fig.* 8. *Plate* II.

The ζῶμα, or *zone*, comprehended the belt and hanging ſtraps which formed the loweſt part of the thorax; ſee *fig.* 3, 7, and 8. *Plate* II.

Fig. 6 and 7. are coats of mail; in *fig.* 6. the ſhoulder-plates are faſtened by ſtrings to a ſmall circle or *umbilicum*, cloſe to the girdle. *Fig.* 3. *Plate* II. has the appearance of linen armour or a coat of mail.

Κνημῖδες, *ocreæ*, were greaves of braſs or tin to defend the legs; theſe were faſtened behind the leg with two ſtraps and buttons each.

The *aſpis* was the large round ſhield, ſee *fig.* 9. *Plate* III. The *pelta* was a ſmaller ſhield, *fig.* 10. *Plate* III.

There were ſeveral other ſhields, but thoſe of the large round, and large oval forms, ſeem to have been moſt commonly uſed.

Fig. 12. *Plate* III. is one of the Roman heavy-armed ſoldiers called *principes;* his armour conſiſts of plates of iron or braſs. *Fig.* 20. *Plate* III. is one of the Roman *velites*, or light-armed ſoldiers, his covering conſiſts of a leather jacket, breeches or femoralia, and ſandals. *Fig.* 15. ſame plate, is a Roman general (the emperor Trajan), whoſe dreſs is ſufficiently explained in the account of Grecian plate armour; the only peculiarity in this figure worthy of obſervation is, that he wears the military *chlamys* or cloak.

Fig. 11. and 19. *Plate* III. are two brazen ſwords in the Britiſh Muſeum, the latter is ſheathed in the ſame metal; theſe with the helmets 13 and 16. and the breaſt and back-plates 14 and 18. were found in the field of Cannæ, and are believed to have belonged to the Carthaginians.

Fig. 5. *Plate* II. is a figure in an elegant ſuit of armour, copied from an antique paſte in the collection of Mr. Taſſie; but whether it is Etruſcan or Roman would be difficult to determine, as it bears but little reſemblance to any other ancient work of art that is known.

Although the foregoing obſervations will throw conſiderable light on the ſubject of Greek and Roman armour in general, yet it muſt be acknowledged that their ſpecies is almoſt infinite; and that all the antique ſtatues, pictures, and gems of armed warriors, of which many hundred exiſt, exhibit thoſe differences and peculiarities which muſt naturally be expected from the variety of times, countries, geniuſes of men, and the gradual progreſs of improvement. In the repreſentations of armour for the body made of leather, we ſee the imitations of that covered with hair, and made with plaited thongs: in the linen mail, we ſee thoſe doubly and triply plaited, and others worked in oilet holes: in the mail of braſs and iron, we ſee different kinds of ſcales and chain-works, with

with the various combinations of rings; theſe differences may be obſerved in the ſtructure of the armour itſelf, beſides the great variety of animals, foliage, and devices, with which the different ſpecimens are decorated. Concerning the magnificent *thorax* of Menelaus deſcribed by Homer in the beginning of the eleventh book of the Iliad, it is ſaid to have had ten ſtripes of black ſteel, twelve of gold, and twenty of tin, beſides three dragons on each ſide, which roſe up to the neck of the thorax; all this could be only decoration, the general form reſembling ſome one of thoſe repreſented in *Plate* II.

Homer and Heſiod's deſcriptions of the ſhields of Achilles and Hercules ſtrike the reader with aſtoniſhment, and bewilder his imagination; but we may form a ſimple and ſatisfactory conception of both, by remembering they were large circles, decorated with baſrelieves of figures, the ſubjects of which followed in ſucceſſion until the laſt reached the firſt. In an enumeration of the magnificent examples of ancient armour, the trophies of Auguſtus, formerly called thoſe of Marius, in the capitol, excite our aſtoniſhment by the extreme richneſs and beauty of the helmets, coats of mail, ſhields, &c. which compoſe them; and the knowledge of theſe noble works has been widely communicated by Piraneſi's admirable prints. In concluding this ſubject, it is to be remarked, that the excavations of Pompeia have furniſhed a great quantity of curious and intereſting information on the ſubject of ancient armour, totally unknown to the moderns before. There are in the king of Naples' muſeum of Portici ancient Roman helmets made of braſs, with viſors to cover the face and guard the eyes; armour for the upper and lower arms, ſhoulders, elbows, and thighs, of a kind not to be ſeen in any of the antique ſtatues or baſrelieves. Some of theſe pieces are adorned with figures, groups, and other ornaments; but as no drawings are permitted to be made from them, except by thoſe perſons employed for the publication of the Herculanean antiquities, by the Neapolitan government, we muſt wait for the next volume of that work to ſatisfy our curioſity.

In *Plate* I. the *figures* C, C, and D. will be ſufficiently explained by what has been ſaid concerning the different articles in *Plates* II. and III. there being nothing particular in theſe figures excepting the ſwan or gooſe's head which forms the creſt of *fig.* C. The *fig.* A. and B. wear helmets with viſors; the helmet of *fig.* A. has a high cone and two horns; the ſhield, which was originally a long ſquare, is broken.

Vegetius obſerves (De re militari, l. i. c. 10.), that the Roman infantry was invariably covered with defenſive armour, from the foundation of the city to the reign of the emperor Gratian. The relaxation of diſcipline, and the diſuſe of exerciſe, rendered the ſoldiers leſs able and leſs willing to ſupport the fatigues of the ſervice; they complained of the weight of the armour, which they ſeldom wore; and they ſucceſſively obtained permiſſion for laying aſide both their cuiraſſes and their helmets. The heavy weapons of their anceſtors, the ſhort ſword and the formidable *pilum*, which had ſubdued the world, inſenſibly dropped from their feeble hands. As the uſe of the ſhield is incompatible with that of the bow, they reluctantly marched into the field. The cavalry of the Goths, the Huns, and the Alani, had felt the benefit and adopted the uſe of defenſive armour; and as they excelled in the management of miſſile weapons, they eaſily overwhelmed the naked and trembling legions, whoſe heads and breaſts were expoſed, without defence, to the arrows of the barbarians. The loſs of armies, the deſtruction of cities, and the diſhonour of the Roman name, ineffectually ſolicited the ſucceſſors of Gratian to reſtore the helmets and cuiraſſes of the infantry. The enervated ſoldiers abandoned their own and the public defence, and their puſillanimous indolence may be conſidered as the immediate cauſe of the downfal of the Roman empire. Gibbon, vol. iii. p. 67, 68.

Thus far we have chiefly conſidered the defenſive *Armour* of the *ancients*; and ſhall now preſent our readers with a correct ſketch of its hiſtory as it relates to Britain.

The early *Britons*, though by no means unacquainted with the ſtratagems of war, ſeem to have had no defenſive armour; merely endeavouring to make their appearance dreadful, by tracing wild and horrid images upon the ſkin; and though they afterwards adopted many of the Roman cuſtoms, arts, and habits, they do not ſeem to have availed themſelves of armour, perhaps thinking the freedom of exertion oppreſſed by ſuch an incumbrance; and it muſt likewiſe be remembered, that it was the conſtant policy of the Romans to deprive all thoſe nations whom they ſubdued of the uſe of arms, and to accuſtom them to a ſoft, effeminate way of life, that they might have neither ability nor inclination to ſhake off their yoke (See Tac. vit. Agr.). And the Britons perhaps had little inclination to adopt the Roman method of defence, ſince it could be no honour to wear the military habit of their conquerors. The *Saxons*, on the other hand, were a ſtout and hardy people, whoſe chief delight was war, and though among the earlieſt of them who arrived in Britain, we hear of nothing like what is now called armour, yet there ſeems ſome ground for thinking that it was not entirely unknown to them, ſince the firſt ſpecies of military habit they afterwards made uſe of, was the ſcale armour, ſimilar to that which Xenophon deſcribes among the Sarmatians, from whoſe neighbourhood it is now believed the anceſtors of the Saxons had their origin. In manuſcripts of the tenth century, the Saxon ſoldiers appear habited in a kind of mail, or ſcale armour, ſimilar to that worn by the ancient Normans (Strutt's Manners and Cuſtoms of the Engliſh, vol. i. p. 29.), already deſcribed. And another kind of mail in uſe appears to have been compoſed of ſtrong wires cloſely interwoven with each other, like fine wicker, with which the ſoldiers were cloathed from head to foot (ſee *Pl.* IV. *f.* 1. 2.); others, however, appear to have been cloathed with it in part only, its inflexibility ſeeming to require that it ſhould be confined to the body, ending at the bottom of the ſtomach, and a little below the ſhoulders (Ibid. vol. i. p. 30.). The helmets uſually worn with this latter ſpecies ſeem to have been of ſkins. A manuſcript in the Cotton library (Cleop. c. 8.) univerſally allowed to be as old as the reign of king Canute, repreſents the *Daniſh* ſoldiers in complete ſuits of armour (ſee *Pl.* IV. *fig.* 3, 4.), from the bends and folds of which they are ſuppoſed to have been made of leather, with a diamond croſſing of ſtrong wires, interwoven with each other, and made with ſtrong joints in proper places. This armour covers the whole body, legs, and arms, half the left hand being left uncovered, for the better purchaſe in holding either the ſword, the ſpear, or the ſhield. Their heads are covered with helmets, much ſuperior to thoſe we have mentioned of the Saxons, and ſtill better faſhioned to ſuſtain the ſhock of a violent blow. A projection alſo croſſes the face, to prevent the perſon armed from receiving any hurt from the croſs ſtroke of an enemy's ſword, not unlike what is ſometimes ſeen in the ancient Greek and Roman helmets; and, with a little variation, in the modern helmets of the Mamalukes.

The defenſive armour of the *Normans* was chiefly the coat of fence called *Mail*, eſpecially for the better ſort; others had body armour of iron or leather. The mail was made of ſmall iron links, with joints at a convenient diſtance, and ſo contrived as to move upon each other with the greateſt

facility (see *Pl.* IV. *fig.* 5.). With this defenſive armour both the horſemen and better ſort of foot were covered, the face and left hand excepted. When the mail itſelf did not compoſe the guard for the head, they wore helmets, either of iron or braſs; the leaders and ſtandard-bearers had generally beavers, compoſed of thin plates of iron, faſtened on the mail before the face; and a few, apparently of an higher rank, wore helmets elumſily conſtructed.

Mail armour maintained its ground from the Norman invaſion to the fifteenth century. Henry IV. is the laſt of our kings who appears in it on his great ſeal (Gough's Sep. Mon. I. cxliii.). Many inſtances, however, of perſons armed *mi-partie*, plated and mail, occur about the middle of the fourteenth century (Ibid. cxliv.); at which time Mr. Groſe affirms, that plated armour was completely introduced both here and in France. The tranſition from mail to plate armour is ſhewn (*Pl.* IV. *fig.* 6.), from the monument of Thomas Beauchamp, earl of Warwick, 1370. When *plated armour* came into faſhion, it was compoſed of different pieces for the back, breaſt, ſhoulders, arms, hands, thighs, legs, and feet, under the ſeveral names of *cuiras*, conſiſting of a back and breaſt-piece; *pouldrons*, *braſſarts*, or gondebraſs or avant-braſs, (corruptly, in Engliſh, *vambraces*); *gauntlets*, *cuiſſarts*, with *genouillieres*; *greaves*, and iron ſhoes. Such was the ſuit of armour in the tower, ſaid to have been made for Henry the VIII., when eighteen years of age (*Pl.* V. *f.* 1.). Plate armour continued in uſe, with few variations, to the cloſe of the ſeventeenth century; when the introduction of firelocks, with the improvement of artillery, and a more active mode of warfare, ſuperſeded the incumbrance of heavy armour. Of all this furniture of war, ſcarce any thing is now retained, except the *cuiraſs*; the gorget or neck-piece, worn by officers, being at preſent only a badge of honour, and of no defence. The minute changes of our ancient armour may perhaps be beſt traced, by the inquiſitive reader, upon ſepulchral monuments.

The different articles of which the ancient armour was compoſed will be found under their reſpective heads.

ARMOR, or ARMOUR, *Horſe*. The horſe belonging to the cavalry, in the army of Cyrus, according to Xenophon (Cyrop. l. vii.), were armed with forehead-pieces, breaſt-plates, and ſide-pieces, and the ſide-pieces ſerved as thigh-pieces to the horſemen. The Sarmatian war-horſes were covered with ſmall plates, in imitation of the ſcales of a fiſh, after the manner of their riders. And Plutarch informs us, that when the Parthians oppoſed the younger Craſſus, they were not only cloathed with defenſive armour themſelves, but that their horſes were completely armed in braſs and ſteel (οἱ δ' ἵπποι καταπεφραγμένοι χαλκοῖς καὶ σιδηροῖς ὑφάσμασιν), poliſhed to the higheſt perfection (Plut. Vit. v. iii. p. 280. ed. 1723.). The inveſting of horſes with defenſive armour was common enough in the middle ages, and was perhaps introduced into England by the Normans (See Hoveden Annal. p. 446.). It continued to the cloſe of the ſixteenth century, when the horſe-armour appears to have conſiſted of a *chanfron*, or kind of maſk, which incloſed the face and ears, with ſometimes a ſpike iſſuing from the center of the forehead; a *criniere*, to guard the mane; a *poitrinal*, or breaſt-plate; and a *croupiere*, or buttock-piece, that uſually deſcended to the hocks. (See *Pl.* V. *fig.* 2.) After this time the *barde*, or horſe armour, appears to have been neglected; except that in the thirteenth and fourteenth years of Charles the ſecond, the horſes of the militia were ordered to be provided with a pectoral and crupper (Groſe's Milit. Antiq. ii. 338.). To prevent their horſes from being fatigued under all their own incumbrances, and the enormous weight of their riders, and to preſerve their vigour for the charge, the men at arms in ancient times had commonly hackneys for riding on a march, and did not mount their war horſes till they were certain of coming to action; a circumſtance which ſometimes occaſioned them to be ſurpriſed and defeated, before they could mount their chargers and form.

ARMOR, or ARMOUR, *for the Tilt Yard*. The ſplendor in which the tournaments of antient times were held, will account for our making the armour of the tilt-yard a ſeparate article. In the middle ages, the common armour ſeems to have been uſed, only ſumptuouſly covered with drapery, both as to man and horſe, and occaſionally charged with the armorial bearings of the combatants. The bridle and furniture were oftentimes of goldſmiths' work, and the capariſons richly embroidered. Toward the reign of Henry the Eighth, the drapery was in a great meaſure thrown aſide; and the taſte of the combatants was uſually diſplayed in the elegance and lightneſs of their tilting armour. Under Elizabeth, it ſeems to have been extravagantly ornamented, and, in many caſes, materially to have differed from the military habit of defence. Mr. Pennant, in the hiſtory of London, has engraved the portrait of Robert Dudley, earl of Leiceſter, clad for the tilt-yard; from which it appears very plainly, that taſte and ſhow were chiefly conſulted (See *Pl.* V. *fig.* 3). Mr. Strutt too, in his Manners and Cuſtoms of the Engliſh, has engraved a portrait of Prince Henry, eldeſt ſon of James the Firſt, in a ſort of half-tilting habit, worn when the pike was exerciſed on foot (ſee *Pl.* V. *fig.* 4).

The gallantry of going to the battle naked, without any defenſive armour, prevailed ſo far, that the French, during the reign of Louis XIV. were obliged to be continually iſſuing ordonnances to reſtrain it; in conſequence of which, the general officers, and thoſe of the cavalry, were obliged to reſume their cuiraſs, which yet has been but ill obſerved.

And now we conclude the article of armour; but not without informing our readers, that the firſt part of it was furniſhed by a hand of which death has now deprived us. The perſon we allude to was Mr. Joſeph Strutt, of whoſe ability as an antiquary the world has been long convinced.

ARMOR, *Coat*, is the eſcutcheon of any perſon or family, with its ſeveral charges, and other furniture; as mantling, creſt, ſupporters, motto, &c.

Thus we ſay, a gentleman of *coat-armor*, meaning one who bears arms. See ARMS.

ARMORACIA, in *Botany*. See COCHLEARIA.

ARMORACIÆ, in *Entomology*, a ſpecies of CHRYSOMELA, deſcribed in the Linnæan Fauna Suecica, by Fabricius, Herbſt, Gmelin, and others. It is very gloſſy; blueiſh black above; beneath black. Degeer names it chryſomela plantaginis, from its being found chiefly on the plantain. Cochlearia armoracia ranunculo aquatili, flammula.

ARMORIAL, ſomething that relates to arms, or heraldry.

In this ſenſe we ſay an armorial figure, armorial bearing, armorial enſign, the armorial lily of France, armorial lion or leopard of England, &c.

ARMORIAL is alſo a title given to ſeveral books, which contain the arms of a number of perſons of quality.

In this ſenſe we meet with the French armorial, the Spaniſh armorial, &c.

ARMORIC, or AREMORIC, ſomething that belongs to the province of Bretagne, or Britany, in France. See ARMORICA.

ARMORIC, abſolutely uſed, denotes the language in uſe among the inhabitants of Britany.

The French uſually call this language *Bas-breton*; compounded, ſays M. Menage, of *ar*, *upon*, and *mor*, *ſea*.

The Armoric is a dialect of the Welch, and ſiſter of the Corniſh language.

The

The inhabitants of Britany, of Cornwall, and of Wales, formerly underſtood each other's ſpeech; though conſiderable diverſities have crept in between theſe languages, ſince their ſeparation from each other.

The inhabitants of Britany, Mr. Lluyd obſerves, by their intercourſe with the French, have much altered their ancient orthography; beſides that there are ſeveral words in the Armoric which have no affinity with the Welſh; and that both the Armoric and Corniſh retain ſeveral ancient words and phraſes which are loſt in the Welſh. Julian Manoir, a Jeſuit, has publiſhed an Armoric grammar and vocabulary, in French, which has been tranſlated into Engliſh by Mr. Williams, and publiſhed with notes by Mr. Lluyd. In Archæol. tit. 3. and 4. p. 180, &c. Before him, Yvon Quillevere had publiſhed an Armoric vocabulary at Paris, 1521.

Toland has given a catalogue of ſeveral Armoric words, which prove to be Iriſh; alſo a vocabulary Armoric and Iriſh.

ARMORICA, in *Ancient Geography*, the name given by the Romans, after the conqueſt of Gaul, to that portion of its maritime countries that is ſituate in the north-weſt corner between the rivers Seine, the Loire, and the Atlantic. The name Armorica was anciently given to the whole northern and weſtern coaſt of Gaul, from the Pyrenæans to the Rhine; under which name it was known in Cæſar's time. Cæſ. De Bell. Gall. lib. vii. c. 14. During the firſt three centuries of the Chriſtian æra, this remote corner was with little interruption in tranquil ſubjection to the reſiſtleſs dominion of Rome. But its ſubmiſſion was the exaction of force, not the acquieſcence of content. The Armoricans were impatient of ſlavery, and when the northern hordes ſhook the tottering fabric of the weſtern empire, they were eager to revolt. They expelled the Roman magiſtrates who acted under the authority of the uſurper Conſtantine; and a free government was eſtabliſhed among a people who had ſo long been ſubject to the arbitrary will of a maſter. The independence of Armorica was confirmed by Honorius himſelf; but after the northern conquerors of Gaul had ſucceſſively fallen, the maritime provinces were reſtored to the empire. Employed on this portion of hiſtory, Gibbon (Hiſt. vol. v. p. 363.) in a few lines marks the character of a people "reſtleſs under conſtraint, but unfit for liberty." Yet their obedience was imperfect and precarious; the vain, inconſtant, rebellious diſpoſition of the people, was incompatible either with freedom or ſervitude; and Armorica, though it could not long maintain the form of a republic, was agitated by frequent and deſtructive revolts. In the end of the fifth century, when Clovis eſtabliſhed his Franks in Gaul, Armorica, after a long and obſtinate oppoſition, at length capitulated on honourable terms, by which the people were admitted to be a part of the newly-formed kingdom of France. The Britons, when finally ſubdued by the Saxons, and expelled from their native land, ſought and found refuge in Armorica, and coaleſcing with the natives, became a powerful though vaſſal ſtate. This territory, ſays Warton (Hiſt. Eng. Poet. vol. i. diſſ. 1.), was, as it were, newly peopled in the fourth century, by a colony or army of the Welſh, who migrated thither under the conduct of Maximus, a Roman general in Britain, and Conan, lord of Meiriadoc or Denbighland. Milton more than once alludes to this Welſh colony:

"Et tandem Armoricos Britonum ſub lege colonos."
Manſus.

And, in the "Paradiſe Loſt," (b. i. 579.), he mentions indiſcriminately the knights of Wales and Armorica, as the cuſtomary retinue of king Arthur:

"——What reſounds
In fable or romance, of Uther's ſon
Begirt with Britiſh and Armoric knights."

This migration of the Welſh into Armorica, which had thrown off its dependence on the Romans during the diſtractions of the empire, ſeems to have occaſioned a cloſe connection between the two countries for many centuries. From this connection of Wales with Armorica, the ſcene of ancient romances, we are able to deduce the reaſon why Wales was ſo conſtantly made the theatre of the old Britiſh chivalry, and alſo why ſo many of the favourite fictions which occur in the early French romances, ſhould alſo literally be found in the tales and chronicles of the elder Welſh bards. It was owing to the perpetual communication kept up between the Welſh and the people of Armorica, who abounded in theſe fictions, and who naturally took occaſion to interweave them into the hiſtory of their friends and allies.

Armorica, or Britany, was not annexed to the crown of France till the cloſe of the fifteenth century, and the inhabitants retained various privileges and immunities, which continued in force until the revolutionary eſtabliſhment of departments put an end to all local or provincial privileges, and amalgamated all former diverſities into one maſs.

From the ſettlement of the refugee Britons, Armorica received the name of Leſſer Britain or Britany, and was governed by dukes. See BRITANY, and GAUL.

ARMORIST, a perſon ſkilled in the knowledge of arms.

ARMORUM CONCUSSIO, in *Antiquity*, the claſhing of arms, practiſed by the Romans before an engagement, deſigned for ſtriking a panic into their enemies. It always followed the *claſſicum*, and *barritus*.

ARMORY, or ARMOURY, a ſtore-houſe of arms, or a place where military habiliments are kept to be ready for uſe. There are armories in the Tower, and in all arſenals, citadels, caſtles, &c. Imbezzling or deſtroying the king's armour or warlike ſtores, is declared to be felony without benefit of clergy, by ſtat. 31 Eliz. c. 4. 22 Car. II. c. 5. 12 Geo. III. c. 24.

ARMORY, is alſo uſed for a branch of HERALDRY: being the knowledge of coat-armors, as to their blazons and various intendments.

ARMOSATA, or ARSAMOSATA, in *Ancient Geography*, a very conſiderable city of Armenia, and next in importance to Artaxata; ſituate between the Tigris and the Euphrates. It took its name from the river Arſamus of Pliny, or Arſamatus of Tacitus, on which it was built. It was by turns taken and ſacked by the Huns, Arabs, and other neighbouring nations.

ARMOSON, a promontory of Aſia, in Carmania, near a place called Armaſia, at the entrance of the Perſian Gulf.

ARMOT, in *Geography*, a ſmall iſland in the ſea of Gaſcogny, on the coaſt of Saintonge.

ARMOURER, a maker of arms, or armour. The profeſſion of an armourer, which was formerly an office of great importance in this kingdom, is now totally extinct.

The Roman armourers were diſpoſed in certain places in the empire, it being forbid, either to ſell, to buy, or make arms elſewhere. They were exempt from all offices and taxes, and received a ſalary from the public.

When once they had taken that employment on themſelves, neither they nor their children were allowed to quit it. To prevent this, they had a kind of note, or ſtigma, impreſſed on the arm, whereby they might be known.

known. If any of them fled, or fecreted their ware, the reſt were obliged to anſwer for him; on account of which, the effects of ſuch as died without a legal heir went to the college.

There were fifteen *armamentaria* or repoſitories of arms in the Eaſtern empire, placed near the frontiers; and nineteen in the Weſtern. Pitiſc. Lex. Aut.

ARMOURER *of a ſhip*, a perſon whoſe office is to take care that the arms be in a condition fit for ſervice.

ARMS, ARMA, in a general ſenſe, include all kinds of weapons, whether for offence or defence. Nicod derives the word from the Latin phraſe, *quod ſuperſint armos*, becauſe they cover the ſhoulders or ſides; but Varro derives *arma, ab arcendo, eo quod arceant hoſtes*. It is ſuppoſed, that the firſt artificial arms were of wood, and were employed only againſt beaſts; and that Belus, the ſon of Nimrod, was the firſt that waged war; whence, according to ſome, came the appellation *bellum*. Diodorus Siculus takes Belus to be the ſame with Mars, who firſt trained ſoldiers up to battle. Lucretius is minute on this ſubject:

"Arma antiqua manus, ungues dentesque fuere
Et lapides, & item ſylvarum fragmina, rami.
Et flammæ atque ignes poſtquam ſunt cognita primum.
Poſterius ferri, vis eſt æriſque reperta,
Et prior æris erat quam ferri cognitus uſus."

The moſt ancient and univerſal arms of offence ſeem to have been bows and arrows; to which ſucceeded the ſling. See Gen. xxi. 20. xxvii. 3. Job, xli. 19. Heſiod expreſsly tells us, that in the early ages, the arms and inſtruments of the primitive heroes were compoſed entirely of braſs.

The arms of the early Greeks were heavy, and principally defenſive, conſiſting of an helmet, a breaſt-plate, and greaves, all of braſs; with a ſhield, commonly of bull's hide, but often ſtrengthened with the metal juſt mentioned; the ſhield being a ſuperadded protection for every part. The Locrians, however, under Oilean Ajax, were all light-armed; bows were their principal weapons, and they never engaged in cloſe fight. Mitford's Greece, vol. i. p. 102.

The infantry which compoſed the Roman legions were of three kinds, the *haſtati*, the *principes*, and the *triarii*. Their arms, both offenſive and defenſive, were in a great meaſure the ſame. They wore an head-piece of braſs or iron, coming down to the ſhoulders, but leaving the face uncovered; a coat of mail, generally made of leather, covered with ſmall plates of iron, in the form of ſcales, or iron rings twiſted within each other; greaves for the legs, or ſometimes only on the right leg; an oblong ſhield, with an iron boſs; a ſword; and two long javelins. Adams Rom. Antiq. 367. There was alſo a fourth kind of troops, called *velites*, from their ſwiftneſs and agility; they were firſt inſtituted in the ſecond Punic war. They were aſſigned no regular poſt, but fought in ſcattered parties, wherever occaſion might require, uſually before the lines. They were equipped with bows, ſlings, and javelins, a ſmall round ſhield, a ſword, and a helmet of the ſkin of ſome wild animal. (Ibid. 368.) What contributed moſt to render the Romans maſters of the world was, that having ſucceſſively waged againſt all nations, they conſtantly renounced their own methods, arms, &c. whenever they met with better. Thus Romulus, during his war with the Sabines, a bold and warlike nation, adopted their broad buckler in lieu of the ſmall Argian buckler, which he had uſed till that time.

The arms in uſe among the ancient Britons were ſlight, and unfit to withſtand the Romans in a cloſe encounter; though in light ſkirmiſhes, prudently made, the Britons generally gained conſiderable advantage (Strutt, Manners and Cuſtoms, vol. i. p. 3.). Their young men were not only trained to the uſe of arms in early youth, but continued in the exerciſe of them to the very cloſe of age; and were always ready to appear, when called by their leaders into actual ſervice. Their very diverſions and ſports were of a martial and a manly caſt; and the javelin they uſed in hunting was a principal weapon in the field of war. They had neither helmets, breaſt plates, nor defenſive armour, but a light ſhield. Cæſar tells us they had a dart or javelin, which they threw from their war chariots to annoy the enemy; with a ſhort ſpear for the infantry, that had a ball at the nether end fill'd with braſs; this they ſhook with great violence before the battle, in hope to intimidate the enemy; and again when they engaged the cavalry: to the upper end of it a thong was fixed, that when uſed as a miſſile weapon, it might be recovered, and again uſed in the cloſe encounter. They had alſo long and broad ſwords, without points, deſigned only for cutting, which were ſlung by a chain over the left ſhoulder; and occaſionally a ſhort dirk fixed in their girdles. The ſcythes that were ſometimes faſtened to their chariot-wheels, may perhaps be ranked among their offenſive arms.

The anceſtors of the Saxons, in their native woods, we are told, tranſacted no buſineſs, public or private, without being completely armed (Tac. De Morib. Germ. § xiii.); and the cuſtom of wearing ſwords on all occaſions prevailed in every country where the Germans took poſſeſſion.

The early Saxons, previous to their arrival in Britain, beſide the buckler and the dagger, uſed a ſword bent in the manner of a ſcythe; but their deſcendants ſoon changed it for one that was long, ſtraight, and broad, double-edged, and pointed.

The Saxon infantry were not all furniſhed with the ſame offenſive weapons; ſome being provided with ſpears, others with axes, and not a few with clubs, beſide ſwords, which were common to them all. Their ſhields were generally of the middle ſize, for the moſt part oval, always convex, and having a ſharp ſpike projecting from the center; with which, while they defended themſelves, they annoyed their enemies. They fought with their ſwords and ſhields, much like the gladiators of the Romans; and in the earlieſt times had nothing like defenſive armour, which they ſeem to have adopted about the eighth or ninth century. Some alteration in our national arms probably took place on the arrival of the Danes. Their ſwords were both longer and larger than the Saxon ſwords; the lance had a ſlight difference; and they appear to have brought the battle-axe into more general uſe. Verſtegan enumerates the croſs-bow as a Saxon weapon, but had no good authority for the aſſertion; as it neither appears in any ancient hiſtory or delineation, that the Saxons ever were acquainted with it. And though they uſed the common bow when following the chace, they never brought it to the field of action. Their cavalry were armed with greater uniformity than they who fought on foot; carrying in their right hands long ſpears, and at their left ſides a ſword. They were alſo better provided with defenſive armour.

The Saxon and the Daniſh troops were chiefly infantry; and though not entirely for the introduction, we are certainly indebted to the Normans for the more general uſe of cavalry. In regard to defenſive arms among the Normans, both horſe and foot ſoldiers were differently clad; ſome to ſupport the ſet battle, and ſome the lighter ſkirmiſhes (Strutt, Man. and Cuſtoms, vol. i. p. 96.). The offenſive arms the cavalry uſed were long ſpears or lances, ſwords like thoſe of the Saxons, and ſhort dirks or daggers.

Thoſe of the foot ſoldiery were a ſpear, or a bow and arrow, or a ſling, with a ſword; to whom were added the arcubalistarii, or ſhooters with the croſs-bow, an inſtrument entirely of Norman introduction. By the famous aſſize of Henry II. the arms of the infantry are expreſsly ordered neither to be ſold nor pledged, nor ſeized for debt, nor any way alienated, but to be tranſmitted by every man to his heir. Beſide their lances, ſpears, darts, croſs-bows, and ſlings, which may be called the ſmall arms of the middle ages, the Normans introduced a kind of field artillery, which they uſed in battle, conſiſting of various machines of wood, which, by different contrivances and combinations of mechanic powers, threw darts and ſtones to a conſiderable diſtance (See ARTILLERY.). To all which they added *ſpicula ignita*, arrows headed with combuſtible matter for firing towns or ſhipping (Henry's Hiſt. of Britain, iii. 470. 475.). And here we mention, *en paſſant*, the Greek fire, probably brought to Europe immediately after the firſt cruſade. From this period to the reign of Edward I. our military weapons were but little altered: about this time we date the introduction, or perhaps the proper uſe of the Engliſh long-bow; which, as we have mentioned in a former article (ſee ARCHERY), rendered our anceſtors, in one inſtance, ſuperior to all the world.

The introduction of chemiſtry in the thirteenth century gave riſe to many uſeful and curious diſcoveries, ſuch as would have excited the admiration of a more enlightened age. One of theſe was the compoſition of gunpowder, whoſe ingredients and terrible effects were accurately, though under an humane concealment, diſcovered by friar Bacon. The art, however, was neither commonly known nor practiſed; and that of making inſtruments proper for applying it to the purpoſes of war, was ſtill leſs known. See GUNPOWDER.

The exact time when gunpowder and fire-arms were firſt employed in war by the Britiſh nation, is difficult to be diſcovered. If the metrical life of Robert Bruce may be believed, Edward III. had cannon *(crakkys of war)* in his firſt campaign againſt the Scots, 1327. The French undoubtedly uſed them in 1338, as well as Edward, at the battle of Creſſy, in 1346. By degrees, the uſe of cannon became more and more common, ſo that, in a few years, the conſternation that was at firſt produced by their exploſion, was very much abated (Henry, vol. iv. p. 502.). Beſide the greater guns or cannon, a ſmaller kind, called hand cannon, came in uſe, which were carried by two men, and fired from a reſt fixed in the ground. Such, it is ſuppoſed, were the four hundred cannon with which the Engliſh beſieged St. Malo, in 1378 (Ibid. 505.). The invention of gunpowder however, for a long time, made little alteration in the art of war. The Greek fire ſtill continued in occaſional employment; and ſo late even as the time of Elizabeth, the ſtrength of our armies conſiſted in the archers, who having added halberts to their arms, firſt fixed them in the ground till they had diſcharged their arrows, and then reſiſted the impreſſion of the cavalry. The cannon of the fifteenth century were of different kinds, ſhapes, and ſizes; ſome exceeding large, and others very ſmall, diſtinguiſhed from each other by different names, and all made of iron. The writ of Edw. IV. for the protection of the kingdom againſt the Scots, in 1481, enumerates bumbards, cannons, culverynes, fowelers, ſerpentines, and other ordnance; together with ſulphur powder, ſaltpetre, ſtones, iron, lead, and all other materials neceſſary for charging them (omnimodas alias ſtuffuras pro eiſdem cannonibus neceſſariis. Rym. Fœd. xii. 140.): which reminds us that the firſt invention of cannon, not only iron and lead, but quarrels, ſtones, and even arrows, were thrown from them. Strutt's Manners and Cuſtoms, ii. 32.

The improvements in artillery are, at this diſtance, neither perceptible nor of much importance. Having ſtated that mortars and bombs were invented in 1544, by foreigners whom Henry the VIIIth employed (Henry, vi. 399.), we ſhall refer our readers to the article ARTILLERY.

Fire-arms of a portable conſtruction were not invented till the beginning of the ſixteenth century. In 1521, the muſket, mounted on a ſtock, was uſed at the ſiege of Parma; and probably ſoon adopted in England (Henry, vi. 398.). Its form, however, was clumſy, and its weight very inconvenient; while the bow, in the hands of an Engliſh archer, retained the credit of having, within a determinate range, a ſteadier aim and a greater execution. See ARCHERY.

The protector Somerſet, who knew the importance of fire-arms, had above 3,000 foreigners in his pay, of whom the greater part were muſketeers. Andrews' Hiſt. of England.

The firſt bayonets were daggers, which, after the ſoldiers had exhauſted their ammunition, they fitted to the bore of their muſkets. They were introduced in France about 1675; and among the Engliſh grenadiers in the ſhort reign of James the ſecond (Groſe, Milit. Hiſt. ii. 339.). Many ſuch are yet to be ſeen in the ſmall armoury at the Tower. The uſe of them, faſtened to the muzzle of the firelock, was alſo a French improvement, firſt adopted about 1690; it was accompanied, in 1693, at the battle of Marſeille in Piedmont, by a dreadful ſlaughter (De Limiere, Hiſt. Louis XIV. vol. vi. p. 88.); and its uſe was univerſally followed by the reſt of Europe in the war of the ſucceſſion. See BAYONET.

The piſtol had its origin from Piſtoye, a town of Tuſcany (Moreri Dict. v. il Bayonette); and was introduced into England about the middle of the ſixteenth century. Many of the ſhields, ſaid to have been the ſpoils of the armada in 1588, have piſtols in the center, with little gratings for the aim. They were ſometimes introduced at the butt-end of the pike; as well as in the time of Edward VI. at the lower end of the battle-axe. Groſe, i. 123.

In the reign of James I. no great alterations were made in our defenſive arms; and with regard to thoſe of the offenſive kind, all the pikes, except the common pike, grew into gradual diſuſe; the chief weapons of the infantry were muſkets, calivers, pikes, and ſwords; ſwords, carabines, and piſtols of the cavalry. Under Charles I. our fire-arms ſeem to have been without improvements, and there was even ſome inclination to reſtore the bow. About 1625, Walter Neade preſented his majeſty with a book, explaining a new exerciſe for the ſoldiery, whereby the bow and pike being faſtened together, might be uſed at the ſame time. The exerciſe was adopted for trial in the artillery garden, but was afterwards rejected (Neade's double-armed man by the new invention, Lond. 1625, 4to.). The great alteration, when matchlocks were no longer uſed, took place about the third or fourth year of William III. (Groſe, ii. 342.); ſince which time their efficient uſe has proved indiſpenſable.

The progreſs of fire-arms in France was not diſſimilar to that in England. It was not till after the acceſſion of Francis the firſt, 1515, that any conſiderable charge was effected. Between that time, and the death of Henry the third, in 1589, pikes, the ancient weapon of the French infantry, gave place to the arquebuſs; while in the cavalry, lances were gradually and reluctantly exchanged for the piſtol (Wraxall's Hiſt. of France, vol. ii. p. 241.). At that period, the Spaniards were far ſuperior to the French in the art of war. No general could emulate the fame of

the duke of Parma, who ſtudied and conducted war as a ſcience to which mathematical, geographical, and even hiſtorical aid was indiſpenſable. The infantry of Philip the ſecond and third ſpread terror over Europe.

In the middle ages, and even ſo late as the ſixteenth century, the chief national weapon of the Scots was the ſpear, ſeventeen feet in length. It was undoubtedly formidable, when projected by a ſteady and complete battalion. But the Scottiſh troops were deficient in point of diſcipline. In pitched battles, they might have equal bravery, but ſeldom ſucceeded againſt the diſciplined archers.

By the ancient laws of England every man was obliged to bear arms, except the judges and clergy. Under Henry VIII. it was expreſsly enjoined on all perſons to be regularly inſtructed, even from their tender years, in the exerciſe of the arms then in uſe; viz. the long bow and arrows, and to be provided with a certain number of them. 33 Hen. 8.

ARMS, *Arma*, in *Law*, are extended to any thing which a man takes in his hand in his wrath, to caſt at or ſtrike another.—So Crompton—*Armorum appellatio non ubique ſenta, & gladios, & galeas ſignificat, ſed & ſuſtes & lapides.* See VI & *armis*.

By the common law, it is an offence for perſons to go or ride armed with dangerous weapons: but gentlemen may wear common armour, according to their quality, &c. 3 Inſt. This is alſo declared by ſtat. 1 W. and M. ſt. 2. c. 2. The king may prohibit force of arms, and puniſh offenders according to law; and herein every ſubject is bound to be aiding, ſtat. 7 Edw. I. None ſhall come with force and arms before the king's juſtices, nor ride armed in affray of the peace, on pain to forfeit their armour, and to ſuffer impriſonment, &c. 2 Ed. III. c. 3.

The importation of arms and ammunition is prohibited, by 1 Jac. II. c. 8. and by 1 W. and M. ſtat. 2. c. 2. Proteſtant ſubjects may have arms for their defence. So likewiſe, arms, &c. ſhipped after prohibition, are forfeited by 29 Geo. II. c. 16. ſect. 2.

It is one branch of the royal prerogative veſted in his majeſty by ſtatutes 12 Car. II. c. 4. and 29 Geo. II. c. 16. to prohibit the exportation of arms and ammunition out of the kingdom, under ſevere penalties.

Arms of offence in uſe among us at preſent are, the ſword, piſtol, muſket, bayonet, pike, &c.

The arms of the Highlanders are, the broad-ſword, target, poniard, and whinyar or dirk, &c.

There are ſeveral acts of parliament for diſarming the Highlanders: ſee 1 Geo. I. c. 54. 11 Geo. I. c. 26. 19 Geo. II. c. 39. 21 Geo. II. c. 34. 26 Geo. II. c. 22 and 29.

ARMS *of Defence*. See ARMOR and ARMS.

ARMS, *Fire*, are thoſe charged with powder and ball: ſuch are cannon, mortars, and other ordnance; muſkets, carabines, piſtols, and even bombs, granadoes, carcaſſes, &c. Fire-arms diſcharged by hand were firſt called hand-cannons, hand-culverines, and hand-guns; they afterwards acquired the appellations of hackbuts, arquebuſſes, muſkets, and calivers; and, laſtly, their preſent name of fire-locks.

In the hiſtory of the Royal Academy for the year 1707, we have an account of ſome experiments made with fire-arms differently loaded, by M. Caſſini. Among other things, he obſerves, that by loading the piece with a ball which is ſomewhat leſs than the calibre, and only laying a little gunpowder below the ball, and a good deal above it, it will yield a vehement noiſe, but have no ſenſible effect or impulſe on the ball. This he takes to have been all the ſecret of thoſe people who pretended to tell the art of rendering one's ſelf invulnerable, or ſhot-proof.

ARMS, *Bells of*, or *Bell-tents*, denote a kind of tents in the ſhape of a cone, where the company's arms are lodged in the field. They are generally painted with the colour of the facing of the regiment, and the king's arms in front.

ARMS, *Paſs of*, was a kind of combat in uſe among the ancient cavaliers. See PASS.

ARMS, *Stand of*, ſignifies a muſket, a bayonet, a ſword, belt, and cartridge-box.

ARMS *of Parade*, or *Courteſy*, were thoſe uſed in the ancient juſt, and tournament; which were commonly unſhod lances, ſwords without edge or point, wooden ſwords and even canes.

ARMS, *to*, a beat of the drum, is a ſignal to ſummon the ſoldiers to their alarm-poſts on ſome ſudden occaſion.

ARMS denote the natural weapons, or parts of defence of beaſts, as claws, teeth, tuſks, of elephants, beaks of birds, &c.;—and alſo the defenſive weapons of plants, as thorns, prickles, &c.

ARMS are alſo uſed figuratively for the profeſſion of a ſoldier.—Thus we ſay, he was bred to arms.—See FRATERNITY, LAW, PLACE, SUSPENSION *of Arms*.

ARMS, or *Armorial Enſigns*, in *Heraldry*, are marks or badges of dignity and honour regularly compoſed of certain figures and colours, given or authorized by ſovereigns, and borne on banners, ſhields, &c. &c. &c. for the diſtinction of perſons, families, and ſtates.

Concerning the origin and uſe of arms, or armorial enſigns, many authors, who have thought that comparative antiquity muſt neceſſarily decide on the merit of their favourite ſcience, have traced it far beyond the ſcope of chronology, to the Egyptians, and "the land of darkneſs." Diodorus Siculus is cited as an authority, aſſerting, that armorial diſtinctions were firſt adopted by Anubus and Macedo, ſons of Oſiris, under the emblems of a wolf and a dog. To the Greeks they are likewiſe attributed, and if the poetic delineations of the "ſhields" of heroes deſcribed by Homer, Æſchylus, and Virgil, be not inapplicable to the devices of the middle centuries, with apparent propriety; theſe, however, were not analogous, being the perſonal furniture of the chiefs, only embelliſhed according to the fancy of the artiſt, and alluſive to ſome exploit paſt or predicted, but neither hereditary nor gentilitial. Some deduce the introduction of arms from the ancient mythology, and conſider the hieroglyphics and emblems of Greece and Rome impreſſed on the reverſes of their medals, as the indubitable prototypes of modern armories. It has likewiſe been ſuppoſed, that arms were attributed to individuals, and confirmed to them by the Romans; and it is further urged, that in their code of laws under Auguſtus, and in that ſelected by Juſtinian, the "Jus imaginum," unequivocally referred to thoſe rights, this diſtinction of families, or the right of having the images and ſtatues of their anceſtors, an honour which was allowed to thoſe Romans only whoſe anceſtors had borne ſome office in the ſtate, as cenſor, prætor, conſul, &c. He who had the privilege of uſing the images or ſtatues of his anceſtors, was termed "nobilis;" he to whom it was permitted to have his own ſtatue or image only, was called "novus;" and the perſon who was not allowed to have the image or ſtatue either of his anceſtors or of himſelf, paſſed under the appellation of "ignobilis," as do the common people amongſt us who have no right to armorial enſigns. Theſe images or ſtatues were made either of wood, braſs, marble, or wax, painted the better to repreſent the perſons intended, and were dreſſed out according to the quality of the perſons they repreſented, being adorned with the robes of the offices they had borne, and the marks of their magiſtracy. Theſe images were uſually placed by the Romans in cabinets, which

which ſtood in the court before the entrance into their houſes; and on ſolemn days were uſually expoſed to view, not only that the people might be reminded of the nobility and honours of the family to whom they belonged, but in order to excite the poſterity of the poſſeſſors to imitate the virtues of their anceſtors. When any of the family died, the ſtatues and images were not only thus expoſed, but in the funerals were placed on beds, and carried before the corpſe, as enſigns of the nobility of the defunct. Thus, at the funeral of Marcellus, Auguſtus ordered ſix hundred beds of images to be carried before the corpſe; and no leſs than ſix thouſand are reported to have attended that of Sylla the dictator. The right of keeping and exhibiting the images and ſtatues being hereditary, and allowed proofs and evidences of nobility and ancient deſcent, they partook ſo much of the nature of coat-armour, as in ſome meaſure to countenance a probability that the latter were contrived and introduced in lieu of the former. The jus nobilitatis of the moderns, ſay the advocates for this ſuggeſtion, is nothing elſe but the jus imaginis amongſt the Romans; for as they placed the images and ſtatues before the porches and gates of their houſes, ſo our nobility and gentry uſed to have their banners, helmets, and other armour placed in ſome conſpicuous parts of their caſtles or manſions, and their armorial enſigns, either cut in ſtone, or painted on eſcutcheons, over their gates, not only as monuments of their nobility and ancient deſcent, but with intent thereby to encourage the beholders to imitate the virtues and bravery of their anceſtors. The analogy between this and the ſubſequent uſe of armorial enſigns, extends only to the ſingle circumſtance of hereditary appropriation. Acquired as they were by actual ſervices to the ſtate, ſo they were preſerved to the deſcendants of illuſtrious characters by the ſanction of the laws, and thus became a certain ſpecies of right and property, which at once endeared them to the poſſeſſors, and rendered them objects of honourable ambition. Beſides, the pride of the Romans was remarkable, and on every occaſion carried to the higheſt pitch; inſomuch that, in caſe any particular hereditary tokens or marks deſigned for diſtinguiſhing one family from another, and eſtabliſhed by public authority, had been uſed by them, they never would have ſuffered ſuch pleaſing teſtimonies of family honour and aggrandiſement to have ſunk into oblivion; but, on the contrary, would have endeavoured to perpetuate the memory of them, by repreſenting ſome of thoſe honourable badges in the paintings and ſculpture of their villas, ſepulchral monuments, triumphant arches, columns, temples, or other edifices: whereas no ſuch have ever been hitherto diſcovered: conſequently the difference between the jus imaginum of the Romans, and the bearing of coat-armour of later times, is wide and eſſential. Armorial enſigns are military, but the jus imaginum appears to have been a civil inſtitution, eſtabliſhed to do honour to ſuch particular families only. Much honour muſt be attributed to thoſe enſigns which were firſt adopted by the ſtipendiary bands of German ſoldiers; for their chiefs having the power of inveſting them, conſidered them not ſolely with reſpect to gentilitial diſtinction, but as perſonal appendages; and this in the very early centuries. When the Saxons, after their invaſion of this kingdom, ratified the partitions of the whole territory, and eſtabliſhed the heptarchy, to each principality its peculiar badge was aſſigned, and borne upon the banners; and it appears, that whenever any of the provincial kings became monarchs of the iſland, they retained the gentilitial bearing, as perſonal, not adopting any new device. This, however, applies only to a period prior to 959, when Edgar, ſurnamed the Peaceable, added to the "Croſs Floretté" four martlets; in 1042, five were uſed by Edward the Confeſſor, which remains the general armorial bearing of the Saxon nation.

Whether armorial enſigns were uſed by the Merovingian kings, whoſe race became extinct in the perſon of Childeric the Third in 754, or not till the cloſe of the ninth and commencement of the tenth centuries, who ſhall determine? The faireſt conjecture ſeems to be, that the tournaments held with ſuch magnificence towards the end of the tenth century, under the auſpices of Hugh Capet, were introductory of the more general uſage and aſſumption of arms. No ſatisfactory account is preſerved whether, after the perſonal uſe of arms, they were firſt painted or embroidered on rich ſtuffs in the form of pennons, or enamelled on ſhields. The more probable conjecture inclines to the former mode. The victorious William, who had been educated in the courts of Robert and Philip the Firſt, ſucceſſors of Hugh Capet, had imbibed an early taſte for the martial exerciſes of which France was then the moſt magnificent and frequented theatre. After his ſucceſsful enterpriſe, and eſtabliſhment on the throne of England, together with his deſire of ſignalizing his followers, he encouraged, but under great reſtrictions, the individual bearing of arms. About the year 1189, it was uſual to bear a ſmall ſhield faſtened to a belt, upon which arms were painted; and there is proof of this cuſtom obtaining in England prior to Richard the Firſt, upon whoſe great ſeal the ſhield is charged with three lions paſſant, or, as ſome term them, leopards.

The more general uſe of arms, and that which affords the beſt information concerning them, was the cuſtom of engraving them on ſeals for the purpoſe of ratifying deeds and charters. This mode is ſaid to be introduced by Edward the Confeſſor from Normandy, where he was educated, and to have been confirmed by him to the royal uſe. In the year 1095, being the commencement of the croiſades, a period the moſt intereſting in the hiſtory of heraldry now opens, when all Chriſtendom united in one common and infatuated cauſe; when even rival princes engaged in the ſame enterpriſe, not merely becauſe ſanctioned by the church, but rather as being highly delightful to the romantic and warlike genius of that age. The great council of Clermont had determined in that year to recover the holy city from the Saracens, by enliſting the church under the conſecrated banner from which they were to derive ſupernatural aſſiſtance. In the following year this immenſe army began their expedition; and, as a flattering badge, every private ſoldier wore a croſs of red ſtuff ſewed to his ſurcoat, from which circumſtance theſe atchievements were called "croiſades." The hereditary uſe of arms, ſays Camden, was not eſtabliſhed till the reign of Henry III. The laſt earls of Cheſter; the Quinceys, earls of Winchester; and the Lacies, earls of Lincoln; varied ſtill the father from the ſon. The Veres and Berkleys altered their paternal coats, "when they had taken up the croſs," the phraſe of that day for engaging in the holy wars.

The application of arms to the coin of this realm is of great antiquity; the ſcutagium being paid with eſcues, a ſilver coin upon which a ſhield was impreſſed (ſee Coin). The firſt inſtances of ſculpture of arms upon the effigies placed on ſepulchral monuments remain in the Temple Church, London, of the date 1144. The nobility and principal gentry not only continued their armorial enſigns on their ſhields, but in order to be better known and diſtinguiſhed, had them depicted on the breaſts and backs of the tunics and ſurcoats which they wore over their armour, as alſo on the capariſons of their horſes. This faſhion of ſurcoats ſpread over their coats of mail, and hanging down

to

to their heels, appears by the figure of Guido, earl of Richmond, who died in 1136, and is fo repreſented in that dreſs on his ſeal; the figure alſo of William de Valance, earl of Pembroke, in Weſtminſter abbey, who died in 1306, has the ſurcoat fo charged with armorial enſigns. The cuſtom of embroidering arms upon canopies of ſtate prevailed from the fourteenth century: they were likewiſe introduced into caſtles and private houſes, as well as churches, painted in compartments upon the wainſcot, or ſtained in glaſs, and inſerted in the windows of the chief rooms, and painted in the choiceſt ſtyle on vellum rolls. Armorial bearings upon plate were in uſe as early as the beginning of the thirteenth century, as appears by an inventory of the crown jewels taken in 1334. In the reign of Richard II. the armorial device was no longer confined to the gorgeous array of warriors completely armed, but emboſſed and embroidered on the common habits of thoſe who attended the ſumptuous court. Upon the mantle, the ſurcoat, and the juſt-au-corps or bodice, the charge and cognizance of the wearer were profuſely ſcattered, and ſhone reſplendent in taffie and beaten gold. The wardrobe of a nobleman became no ſmall part of his wealth, the articles of which were ſubjects of teſtamentary bequeſt. Even the ladies were as well verſed in mantling their hereditary atchievements, as in the ſervice of oratory: the ſumptuous veils and mantles, which they were employed in embroidering, were made in the form of eſcocheons joined together, and were of velvet, ſattin, and tafferee, according to the rank of the perſon, and were worn as the court dreſs till the commencement of the ſixteenth century; ſince which they have been uſed only as the ſtate dreſs of the officers of arms; from this cuſtom we have the modern phraſe "coat arms, or coats of arms."

The eſcocheon was now no longer ſingly charged with the hereditary bearing, but admitted thoſe of the wife by dimidiation or impalement, and of heirs general by quartering. The firſt that bore arms quarterly in England appears to be John Haſtings, ſecond earl of Pembroke, in 1348. Creſts and cognizances were multiplied, and a mode of decorating the armories introduced, that of placing the ſhield of arms between two animals as ſupporters. Arms were firſt borne on a ſhield by king Richard I., on the capariſons for horſes by Edward I., and the cuſtom of embroidering them on the juſt-au-corps, or bodice, by Richard II.

Originally, none but the nobility had a right of bearing arms; but king Charles V. by his charter in 1371, permitted the Pariſians "to bear arms;" from whoſe example the more eminent citizens of other places did the like. The uſe of arms became more cloſely connected with the ſtudy of genealogy; and when the mode of including in the ſame eſcocheon the armorial bearing of every heir female, with whom an intermarriage had been made, was univerſally followed, they were the more neceſſary to each other. By the fully quartered eſcocheon, a compendious ſcheme of connection preſented at one view, and a general idea communicated of the comparative claims of each family in the ſcale of hereditary dignity. To determine the right of introducing the arms of others into the eſcocheon, and to diſtribute them when altered in their proper gradation, opened a new field of profeſſional ability, which required the moſt diligent application to the laws and confirmed practice of arms. No ſyſtematic or elementary treatiſe, by which the ſcience could have been taught, was made public till the avenues to univerſal information were laid open by the typographic art. It was confined to the heralds, or painter-ſtainers whom they employed, who conſidered it as the myſtery of their trade, and therefore not to be divulged. Henry V. ſeems to have held a juſt opinion of the neceſſity of aſcertaining thoſe who were legally appointed to armorial diſtinctions, and of prohibiting an undue aſſumption of them: in 1417, the 7th of his reign, he iſſued an edict directed to the ſheriff of each county, to ſummon all perſons bearing arms to prove and eſtabliſh their right to them. Many claims, examined in conſequence of this inquiry, were referred to heralds, as commiſſioners; but the firſt regular chapter held by them in a collegiate capacity was at the ſiege of Rouen, on the 5th Jan. 1420. King Richard III. by his letters patent, dated 2d March 1483, the firſt of his reign, directs the incorporation of heralds, and eſtabliſhed the "College of Arms" on its preſent foundation, inveſting them with full powers of ſummoning thoſe that aſſumed the arms of others to appear in the earl-marſhal's court, and of granting eſcocheons to new families. This privilege multiplied the figures of courſe, and varied the differences. Forms of every deſcription in the infancy of the graphic art, without any exact reſemblance, if we may judge from the ſpecimens now remaining, were univerſally introduced. The creation was exhauſted in the repreſentation of the different parts of it, and to Gothic fancy alone we owe the introduction of gryphons, mermaids, wyverns, and harpies. Every invention of art, whether military or mechanic, has been at one time or other a badge of heraldic honour. Arms at preſent follow the nature of titles, which being the ſeveral marks for diſtinguiſhing of families and kindred, as names are of perſons and individuals; they alſo ſhew who were the founders of towns, caſtles, churches, ancient abbeys, and colleges, by having their arms affixed to them; and it is well known, during a war, that a ſhip taken carrying the armorial enſigns of an enemy, is declared a prize, though belonging to a power at amity. Arms are alſo variouſly diſtinguiſhed by the heralds under the following heads.

ARMS *of Dominion*, are thoſe which belong to ſovereign princes and commonwealths in right of their ſovereignty. In regard to ſuch enſigns, it may be obſerved, that if the perſon aſcending the throne by legal ſucceſſion be a ſovereign, he marſhals his arms with thoſe of the dominion to which he ſucceeds. If he who aſcends the throne by legal ſucceſſion, be of the quality of a ſubject, he then lays aſide his own arms, and uſes only thoſe of the dominion to which he ſucceeds. Thoſe who aſcend a throne by election, carry their arms on an eſcocheon placed on the center of the arms of the dominion to which they are elected. William, prince of Orange, placed thoſe of Naſſau over thoſe of England and Scotland, as an elective king.

ARMS *of Patronage*, are part of the arms of thoſe lords of whom the perſons bearing them held in fee, either added to the paternal arms of the perſon aſſuming ſuch addition, or borne as feudal arms in order to ſhew the dependence of the parties bearing them: thus, as the earls of Cheſter bore *garbs*, many gentlemen of the county bore *garbs* alſo. The late earls of Warwick bore *chequy or & blue*, or *chevron ermine*, and therefore many gentlemen of Warwickſhire bore *chequy*.

ARMS, *Feudal*, are thoſe annexed to dignified fees, as dukedoms, marquiſates, earldoms, &c. and which arms the poſſeſſors of thoſe fees carry in order to ſhew their dignities, in imitation of ſovereigns diſplaying the enſigns of their dominions. In England there have been but few inſtances of feudal bearings, but there are many in Spain and in Scotland.

ARMS *of Pretenſion*, are thoſe borne by ſovereigns who are not in poſſeſſion of the dominions to which ſuch arms belong,

long, but who claim or pretend to have a right to thofe territories; thus the kings of Spain quarter the arms of Portugal and Jerufalem; and England thofe of France, till lately.

Arms *of Conceffion*, are augmentations granted by the fovereign or part of his arms; thus the royal augmentation in the arms of the duke of Rutland, were granted by Henry the Eighth.

Arms *of Community*, are thofe of bifhopricks, cities, univerfities, and other bodies corporate. (See Impalement.)

Arms, *Canting*, or as the French call them "armes parlantes," or punning arms, alluding to names, a *trivet* for Trevet, *three herrings* for Herring, &c. Thefe, though fome ancient precedents exift, were not common till the commencement of the feventeenth century, when they prevailed under the aufpices of king James I.

Arms *Paternal and Hereditary*, are fuch as belong to a particular family, and which no other has a right to aflume.

Arms *of Succeffion*, are thofe taken by inheriting certain fiefs or manors, either by will, entail, or duration; as we find that Hubertus de Burgo, earl of Kent, who bore for his arms "gules feven lozenges vairè," granted the manor of Elmore in the county of Glocefter, in 1274, to Anfelmus de Guife, at the yearly rent of a clove-gilliflower in acknowledgment of the gift, with the conceffion of his coat-armour: whereupon the faid Anfelmus de Guife bore the coat with a canton, or charged with a mullet pierced fable; and which arms have been continued by the family, and are now borne by the baronet of that name.

Arms *of Alliance*, are fuch as when an heirefs marries, her iffue quarter her arms to fhew their maternal defcent. By this means the memory of many ancient and noble families, extinct in the male line, is preferved and conveyed to pofterity; which is the principal reafon of marfhalling feveral coats in one fhield.

Arms *of Adoption*, are thofe which you take from another family quarterly with your own. The laft of a family may by will adopt a ftranger to take his furname, arms, and eftate, thereby to continue to the world his name and family after his deceafe; permiffion for which is obtained by petition to his majefty for his royal licence and authority to comply with the requeft of the teftator, and the fign manual is then recorded in the college of arms.

A teft of the antiquity of a coat of arms is in general its fimplicity; a fingle ordinary, or two at moft, conftituting the moft noble.

Arms, in *Falconry*, denote the legs of a hawk, from the thigh to the foot. See Hawking.

Arms, *King of*. See King *of arms*.

Arms, *Herald at*. See Herald.

Arms, *Purfuivant at*. See Pursuivant.

ARMSON, in *Geography*, a town of Germany, in the circle of Weftphalia, and county of Verden, feven miles eaft-fouth-eaft of Verden.

ARMSTRONG, John, in *Biography*, was born in the year 1709, at Caftleton in Roxburghfhire, where his father was minifter, under whom he received the rudiments of his education. Being intended for the practice of medicine, he was fent to Edinburgh, and in 1732, took the degree of Doctor, and publifhed for his thefis on that occafion, a differtation "De tabe purulenta." He foon after came to London, where his wit procured him the notice of fome of the moft eminent men of the time; particularly he became acquainted with John Wilkes, who was then rifing to celebrity. In 1735, he publifhed "An Eflay for abridging the Study of Phyfic, with a Dialogue," written with much humour, "between Hygeia, Mercury, and Pluto, relating to the practice of phyfic, as it is managed by a certain illuftrious focicty;" which gained him credit as a wit, but was probably one of the caufes of his being but little noticed as a phyfician. To repair the injury this might have done him, in 1737, he publifhed "A Synopfis of the hiftory and cure of the Venereal Difeafe." This was however foon followed by the "Œconomy of Love," as more ingenious, and licentious, and calculated entirely to efface any favourable impreffions of his fitnefs for the medical profeffion which his former work might have excited. Its luxuriancies were confiderably pruned by the author in an edition printed in 1768. But the work for which he is indebted for his fame as a poet, is his beautiful "Eflay on the Art of preferving Health," which appeared in 1744. It is written in blank verfe, and is deervedly efteemed one of the fineft fpecimens of didactic poetry in our language. Indeed he feems to have exhaufted his ftock of genius in the compofition of this chef d'œuvre: his poems on "Benevolence," in 1751; "Tafte," in 1753; and "Day," an epiftle to John Wilkes, efq. the laft of his effufions in this line, fcarcely rifing above mediocrity. His epiftle to Mr. Wilkes was written in Germany, in the year 1761, while he was phyfician to the Britifh army there; a poft for which he was indebted to fome of the friends his wit had procured him. In this poem he unfortunately hazarded a reflection on Churchill, which drew from that irritable bard a fevere retort in his "Journey." Before this time, viz. in the year 1758, he had publifhed a volume in profe, of "Sketches and Eflays," under the name of Launcelot Temple, efq. which was well received. His friend Wilkes contributed fome of the eflays in this collection. In the year 1763, he returned to London, and found his practice in medicine fomewhat increafed, through the connections he had formed in the army: but that his calls that way were not very numerous, appears by his being able, in the year 1771, to make a tour through France and Italy, in company with the celebrated artift M. Fufeli. In his journey he met his friend Dr. Smollet, to whom he was much attached. On his return, he publifhed an account of his ramble, under the name he had before aflumed of Launcelot Temple, efquire. His laft work, a 4to. pamphlet, intitled, "Medical Eflays," appeared in 1773. In this he complains of the little attention that had been paid to him, while fo many other phyficians of inferior abilities had rifen to fame and fortune, forgetting that the levity of his own conduct, and not the ficklenefs or want of difcernment of the public, occafioned the neglect. A large portion of his time was fpent at Slaughter's coffee-houfe in St. Martin's lane, where he ufually took his meals, and where meffages to him were ordinarily directed to be addreffed. He died September 1779; and left about 3000 l., a larger fum than his friends fuppofed he could have amaffed out of his very moderate income.

The reputation of Armftrong, as a poet, is almoft folely founded on his "Art of preferving Health." Of his ftyle and manner we have the following character by a very competent judge, in an eflay prefixed to an ornamented edition of the poem, printed in 1795. "It is diftinguifhed by its fimplicity, by a free ufe of words which owe their ftrength to their plainnefs, by the rejection of ambitious ornaments, and a neat approach to common phrafeology. His fentences are fhort and eafy; his fenfe clear and obvious. The full extent of his conceptions is taken in at the firft glance; and there are no lofty myfteries to be unravelled by a repeated perufal. What keeps his language from being profaic, is the vigour of his fentiments. He thinks boldly,

feels

feels ſtrongly, and therefore expreſſes himſelf poetically. Where the ſubject ſinks, his ſtyle ſinks with it; but he has for the moſt part excluded topics incapable either of vivid deſcription, or of the oratory of ſentiment. He had from nature a muſical ear, whence his lines are ſeldom very harſh, though apparently without much ſtudy to render them ſmooth. On the whole, it may not be too much to aſſert, that no writer in blank verſe can be found more free from ſtiffneſs and affectation, more eaſy and graceful without harſhneſs, and more dignified without formality."

He left his fortune by his will to his three nieces, daughters of his brother Dr. George Armſtrong; who, after having practiſed pharmacy ſucceſsfully ſeveral years at Hampſtead, at length obtained a diploma conſtituting him Doctor in Medicine, and came to London, and was made phyſician to a diſpenſary for the benefit of infant poor, opened at a houſe taken for him by the ſubſcribers in Soho ſquare. To aid the deſign, he publiſhed a ſmall treatiſe on the diſeaſes of children, in which he was ſuppoſed to have been aſſiſted by his brother John. The work was well received, and contained ſome obſervations on the ſubject that were new and ingenious. The diſpenſary, however, did not ſucceed; and the Doctor died ſome years after in obſcurity.

ARMUA, in *Ancient Geography*, the modern *Sei-bouze*, a river of Africa mentioned by Pliny, emptied itſelf into the Mediterranean between Aphrodiſium and Hippo Regius, ſouth-eaſt of the former, and north-weſt of the latter.

ARMUS, in *Entomology*, a ſpecies of CURCULIO, found in France. It is black; the ſcutel whitiſh; wing-caſes with denticulated ſtriæ on each ſide.

ARMUYDEN, or ARNEMUDEN, in *Geography*, a ſtrong ſea-port town of Zealand, in the Low Countries, ſituate on the eaſtern ſide of the iſle of Walcheren. It was anciently a large place, and divided into the Old and New Town. The convenience of the port, the depth of water, and its nearneſs to the ſea, drew to it much commerce, eſpecially in ſalt. But it has often been damaged by the ſea, and the harbour is now choaked up with ſand, ſo that the ſea is made navigable by means of a canal to Middleburg, from which Armuyden is diſtant about a league to the eaſt. N. lat. 51° 31′. E. long. 3° 42′.

ARMUZA, ARMOZUM, or ARMUZIA, in *Ancient Geography*, a city of Aſia, in Carmania, near the promontory Armozon, to which it gave name, as well as to the iſland of Ormuz. Pliny, and Ptolemy.

ARMY, a large body of ſoldiers, conſiſting of horſe and foot, under the command of a general, with ſeveral ranks of ſubordinate officers under him.

An army conſiſts of brigades, regiments, battalions, and ſquadrons, and is uſually divided into three corps; which are ranged in three lines. The firſt line is called the front-line, and part of it forms the van-guard; the ſecond, the main body; and the third, the rear-guard, or body of reſerve.—The middle of each line is generally poſſeſſed by the foot; the cavalry forms the wings on the right and left of each line; and ſometimes they alſo place ſquadrons of horſe in the intervals betwen the battalions.

The Britiſh army, when it takes the field, is divided into brigades, and theſe brigades into battalions, ſquadrons, companies, and troops, both in the infantry and cavalry reſpectively. The French have lately made a different diſtribution. Their infantry is divided into half-brigades, each half-brigade conſiſting of three battalions, and each battalion of nine companies. A company of artillery is attached to each half-brigade, for the management of its field-pieces. The half-brigade are either of the line, or light infantry; each battalion of thoſe in the line has its company of grenadiers, and each battalion of light infantry one of carabineers. For the arrangement of the army in order of battle, ſee *Order of* BATTLE.

The number of ſoldiers is neceſſarily much ſmaller, and bears a leſs proportion to the whole number of the people, in a civilized than in a rude ſtate of ſociety. Among the civilized nations of modern Europe, it has been ſtated, as the reſult of long experience, that a prince with a million of ſubjects cannot keep an army of above ten thouſand men, without ruining himſelf. It was otherwiſe in the ancient republics: the proportion of ſoldiers to the reſt of the people, which is now about one to a hundred, might then be as about one to eight: and in ſome of the little Grecian ſtates of ancient Greece, a fourth or fifth part of the whole body of the people conſidered themſelves as ſoldiery, and would ſometimes take the field. The reaſon ſeems owing to that equal partition of lands, which the ancient founders of commonwealths made among their ſubjects; ſo that every man had a conſiderable property to defend, and had means to defend it with. Whereas among us, the lands and riches of a nation being ſhared among a few, the reſt have no way of ſubſiſting, but by trades, arts, and the like; and have neither any free property to defend, nor means to enable them to go to war in defence of it, without ſtarving their families. A large part of our people are either artiſans or ſervants, and ſo only miniſter to the luxury and effeminacy of the great. While the equality of lands ſubſiſted, Rome, though only a little ſtate, being refuſed the ſuccours which the Latins were obliged to furniſh after the taking of the city in the conſulate of Camillus, preſently raiſed ten legions within their own walls: which was more, Livy aſſures us, than they were able to do in his time, though maſters of the greateſt part of the world. A full proof, adds the hiſtorian, that we are not grown ſtronger; and that what ſwells our city is only luxury, and the means and effects of it. Vide Liv. dec. 1. lib. vii.; and Conſid. ſur des Cauſ. de la Grand. des Rom. chap. iii. p. 24.

In the republics of ancient Greece and Rome, during the whole period of their exiſtence, and under the feudal governments for a conſiderable time after their firſt eſtabliſhment, the profeſſion of a ſoldier was not ſo ſeparate and diſtinct, as to conſtitute the ſole or even the principal occupation of a particular claſs of citizens. In proceſs of time, however, that induſtry which produces, and that wealth which follows, the improvements of agriculture and manufactures, provoked the invaſion of neighbours, and rendered it neceſſary for a ſtate, likely and liable to be attacked, to adopt ſome regular meaſures for the public defence, more eſpecially as the people, by their natural habits, were incapable of defending themſelves. In theſe circumſtances, there ſeem to be but two methods to which the ſtate can have recourſe for its own ſecurity: one of theſe is the introduction of a military force under the denomination of a MILITIA; and the other, the eſtabliſhment of a *ſtanding army*. The ſoldiers of this latter deſcription are ſolely or principally occupied in the practice of military exerciſes; and the maintenance or pay which the ſtate affords them is the principal and ordinary fund of their ſubſiſtence. In a ſtanding army, the character of a ſoldier predominates over every other; and the mode of their diſcipline, as well as the conſtancy of their exerciſe, renders the ſoldiers of this claſs ſuperior to a militia, in whatever manner it may be either diſciplined or exerciſed. This ſuperiority of a well-regulated ſtanding army is atteſted by the hiſtory of all ages. One of the firſt ſtanding armies of which we have any diſtinct account, in any well-authenticated hiſtory, is that of Philip

of Macedon. His frequent wars with the Thracians, Illyrians, Theſſalians, and ſome of the Greek cities in the neighbourhood of Macedon, gradually formed his troops, which were probably at firſt militia, to the exact diſcipline of a ſtanding army, which, as he was ſeldom, or never for any long time, at peace, he was careful not to diſband. With this army he vanquiſhed, after repeated and violent conflicts, the gallant and well-exerciſed militias of the principal republics of ancient Greece; and afterwards, with very little ſtruggle, the effeminate and ill-exerciſed militia of the great Perſian empire. The fall of the Greek republics, and of the Perſian empire, was the firſt great revolution in the affairs of mankind, which hiſtory has circumſtantially recorded; and it was the effect of the irreſiſtible ſuperiority which a ſtanding army has over every ſort of militia. The fall of Carthage, ſucceeded by the elevation of Rome, is the ſecond, which may be aſcribed to the ſame cauſe. From the end of the firſt to the beginning of the ſecond Carthaginian war, the armies of Carthage were continually in the field, and employed under three great generals, who ſucceeded one another in the command. Theſe were Hamilcar, his ſon-in-law Aſdrubal, and his ſon Hannibal. The army led by Hannibal from Spain into Italy, muſt neceſſarily have been gradually formed to the exact diſcipline of a ſtanding army. The Roman armies on the other hand, which Hannibal encountered at Trebia, Thraſymenus, and Cannæ, were militia oppoſed to a ſtanding army; and this circumſtance, perhaps, contributed more than any other to determine the fate of thoſe battles. The ſtanding army which Hannibal left behind him in Spain, had the like ſuperiority over the militia which the Romans ſent to oppoſe it, and in a few years, under the command of his brother Aſdrubal, expelled them almoſt entirely from that country. The Roman militia, being continually in the field, became in the progreſs of the war a well-diſciplined and well-exerciſed ſtanding army; and the ſuperiority of Hannibal was gradually diminiſhed. Aſdrubal judged it neceſſary to lead almoſt the whole of the ſtanding army which he commanded in Spain, to the aſſiſtance of his brother in Italy, but being ſurpriſed and attacked by another ſtanding army, in every reſpect equal or ſuperior to his own, he was entirely defeated. When Aſdrubal had left Spain, the great Scipio was oppoſed merely by a militia, inferior to his own; and having conquered and ſubdued that militia, his own militia neceſſarily became, in the courſe of the war, a well-diſciplined and well-exerciſed ſtanding army. That ſtanding army was afterwards tranſported to Africa, where it was oppoſed only by a militia; and in order to defend Carthage, it became neceſſary to recal the ſtanding army of Hannibal. The diſheartened and frequently defeated African militia joined it; and at the battle of Zama, compoſed the greater part of the troops of Hannibal. The event of that day determined the fate of the two rival republics. From the end of the ſecond Carthaginian war, till the fall of the Roman republic, the armies of Rome were in every reſpect ſtanding armies: and to theſe the militias of all the civilized nations of the ancient world, of Greece, of Syria, and of Egypt, made but a feeble reſiſtance. The militias of the barbarous nations defended themſelves much better. The Scythian or Tartar militia, and alſo the Parthian and German militias, were formidable enemies to the Roman armies, and gained conſiderable advantages over them. In general, however, and when the Roman armies were well commanded, they appear to have been very much ſuperior. Many different cauſes contributed to relax the diſcipline of the Roman armies. One of theſe cauſes was its extreme ſeverity. Beſides, under the Roman emperors, the ſtanding armies of Rome, thoſe eſpecially which guarded the German and Pannonian frontiers, became dangerous to their maſters, by ſetting up their own generals againſt them. To remedy this evil, and to render them leſs formidable, Dioclesian, as ſome ſay, or, according to others, Conſtantine, firſt withdrew them from the frontier, and diſperſed them in ſmall bodies through the different provincial towns, where ſome of them became tradeſmen, artificers, and manufacturers: and thus the civil acquired a predominance over the military character, and the ſtanding armies of Rome gradually degenerated into a corrupt, neglected, and undiſciplined militia, incapable of reſiſting the attack of the German and Scythian militias, which ſoon afterwards invaded the Weſtern empire. The fall of this empire, which is the third great revolution in the affairs of mankind, diſtinctly recorded in ancient hiſtory, was brought about by the irreſiſtible ſuperiority which the militia of a barbarous has over that of a civilized nation. But the victories which have been gained by militias have generally been, not over ſtanding armies, but over other militias, in exerciſe and diſcipline inferior to themſelves. Such were the victories which the Greek militia gained over that of the Perſian empire; and ſuch were alſo thoſe which in later times the Swiſs militia gained over that of the Auſtrians and Burgundians. As arts and induſtry advanced, the authority of the chieftains gradually decayed, and the great body of the people had leſs time to ſpare for military exerciſes. Hence, the diſcipline and the exerciſe of the feudal militia gradually declined and ſunk to ruin, and ſtanding armies were at length introduced in order to ſupply its place. When once the expedient of a ſtanding army was adopted by one civilized nation, it became neceſſary that all its neighbours ſhould follow the example. They found that their ſafety depended upon their doing ſo, and that their own militia was altogether incapable of reſiſting the attack of ſuch an army. The ſoldiers of a ſtanding army, though they may have never ſeen an enemy, have nevertheleſs frequently appeared to poſſeſs all the courage of veteran troops, and the very moment in which they have taken the field have been fit to face the hardieſt and moſt experienced veterans. A well-regulated ſtanding army, as it is ſuperior to every militia, and as it can beſt be maintained by an opulent and civilized nation, can alone defend ſuch a nation againſt the invaſion of a poor and barbarous neighbour. Moreover, as a civilized country can only be defended by means of a well-regulated ſtanding army, it is only by means of ſuch an army that a barbarous country can be ſuddenly and tolerably civilized.

The firſt ſtanding army that appeared in Europe, after the fall of the Roman legions, was that eſtabliſhed in France by Charles VII. A. D. 1445. Such an eſtabliſhment, however, was ſo repugnant to the genius of feudal policy, and ſo incompatible with the privileges and pretenſions of the nobility, that during ſeveral centuries no monarch was either ſo bold, or ſo powerful, as to venture on any ſtep towards introducing it. Charles VII. under pretence of keeping always on foot a force ſufficient to defend the kingdom againſt any ſudden invaſion of the Engliſh, when he diſbanded his other troops, retained under arms a body of 9,000 cavalry, and of 16,000 infantry. He alſo appropriated funds for the regular payment of theſe; he ſtationed them in different places of the kingdom, according to his own pleaſure; and appointed the officers who commanded and diſciplined them. By this meaſure he occaſioned an important revolution in the affairs and policy of Europe. By depriving the nobles of that direction of the military force of the ſtate, which had raiſed them to ſuch high authority and importance, a deep wound was given to the feudal ariſtocracy, in that part where its power ſeemed to be moſt complete. The inſtitution of ſtanding armies hath ſince become general; and this can only be attributed to the ſuperiority and ſucceſs which are

every where obſerved to attend it. The truth is, the cloſeneſs, regularity, and quickneſs of their movements; the unreſerved, inſtantaneous, and almoſt mechanical obedience to orders; the ſenſe of perſonal honour, and the familiarity with danger, which belong to a diſciplined, veteran, and embodied ſoldiery, give ſuch firmneſs and intrepidity to their approach, as well as ſuch weight and execution to their attack, as are not to be withſtood by looſe ranks of occaſional and newly-levied troops, who are liable by their inexperience to diſorder and confuſion, and in whom fear is conſtantly augmented by novelty and ſurpriſe. From the acknowledged ſuperiority of ſtanding armies, it follows, not only that it is unſafe for a nation to diſband its regular troops, whilſt neighbouring kingdoms retain theirs, but alſo that regular troops provide for the public ſervice at the leaſt poſſible expence. A ſtanding army adds more than any other force that can be provided to the common ſtrength, and takes leſs from that which compoſes the wealth of a nation, or its ſtock of productive induſtry. Beſides, when the ſtate relies for its defence upon a militia, formed from the maſs of the people, ſuch as huſbandmen, and artiſans, and manufacturers, it is neceſſary that arms be put into the hands of the people at large. Such a militia, inferior indeed in diſcipline and force to a ſtanding army, muſt be ſupplied by rotation, allotment, or ſome mode of ſucceſſion, which replaces freſh draughts from the country; and of courſe a much greater number will be inſtructed in the uſe of arms, and will have been occaſionally embodied together, than are actually employed, or than are ſuppoſed to be wanted at the ſame time. The effect of this diffuſion of the military character upon the civil condition of the country, becomes a ſubject of inquiry, peculiarly delicate and important. "To me," ſays the ingenious archdeacon Paley, "it appears doubtful, whether any government can be long ſecure, where the people are acquainted with the uſe of arms, and accuſtomed to reſort to them. Every faction will find itſelf at the head of an army. Every diſguſt will excite commotion; and every commotion become a civil war. Nothing perhaps can govern a nation of armed citizens, but that which governs an army—deſpotiſm." "I do not mean," continues this writer, "that a regular government would become deſpotic by training up its ſubjects to the knowledge and exerciſe of arms, but that it would ere long be forced to give way to deſpotiſm in ſome other ſhape; and that the country would be liable to what is even worſe than a ſettled and conſtitutional deſpotiſm, to perpetual rebellions, and to perpetual revolutions; to ſhort and violent uſurpations; to the ſucceſſive tyranny of governors, rendered cruel and jealous by the danger and inſtability of their ſituation."

The ſtrength and efficacy of a ſtanding army depend, in mixed governments, on its being ſubmitted to the management and direction of the prince. A popular council, however well qualified for the purpoſes of legiſlation, is altogether unfit for the conduct of war; in which ſucceſs uſually depends upon vigour and enterpriſe, upon ſecrecy, diſpatch, and unanimity, upon a quick perception of opportunities, and the power of ſeizing every opportunity immediately. The obedience of an army ſhould alſo be as prompt and active as poſſible; and it ought, therefore, to be an obedience of will and emulation. Upon this conſideration is founded the expediency of leaving to the prince not only the government and deſtination of the army, but the appointment and promotion of its officers; becauſe a deſign is then alone likely to be executed with zeal and fidelity, when the perſon who iſſues the order, chuſes the inſtruments, and rewards the ſervice. There is, however, a danger to the liberty of a ſtate, that is inſeparable from ſtanding armies, which ought not to be concealed nor diſſembled, and which has been thought by ſome to counterbalance its acknowledged advantages. Theſe properties of their conſtitution, the ſoldiery being ſeparated in a great degree from the reſt of the community, their being cloſely linked among themſelves by habits of ſociety and ſubordination, and the dependency of the whole chain upon the will and favour of the prince, however eſſential they may be to the purpoſes for which armies are kept up, give them an aſpect in no wiſe favourable to public liberty. The ſtanding army of Cæſar deſtroyed the Roman republic. The ſtanding army of Cromwell turned the long parliament out of doors. This danger, however, is diminiſhed by maintaining, upon all occaſions, as much alliance of intereſt, and as much intercourſe of ſentiment, between the military part of the nation and the other orders of the people, as are conſiſtent with the union and diſcipline of an army. For which purpoſe, the officers of the army ſhould be ſelected from the principal families of the country, and be encouraged to eſtabliſh in it families of their own, as well as be admitted to ſeats in the ſenate, to hereditary diſtinctions, and to all the civil honours and privileges that are compatible with this profeſſion; that by ſuch circumſtances of connection and ſituation they may have a ſhare in the general rights of the people, and their inclination may be engaged on the ſide of public liberty, ſo as thus to afford a reaſonable ſecurity that they cannot be brought, by any promiſes of perſonal aggrandiſement, to aſſiſt in the execution of meaſures which might enſlave their poſterity, their kindred, and their country. To prevent the executive power from being able to oppreſs, ſays baron Monteſquieu, it is requiſite that the armies with which it is entruſted ſhould conſiſt of the people, and have the ſame ſpirit with the people; as was the caſe at Rome, till Marius new-modelled the legions, by inliſting the rabble of Italy, and laid the foundation of all the military tyranny that enſued. Nothing then, according to theſe principles, ſays judge Blackſtone, ought to be more guarded againſt in a free ſtate, than making the military power, when ſuch a one is neceſſary to be kept on foot, a body too diſtinct from the people. Like ours, it ſhould be wholly compoſed of natural ſubjects; it ought only to be inliſted for a ſhort and limited time; the ſoldiers alſo ſhould live intermixed with the people; no ſeparate camp, no barracks, no inland fortreſſes ſhould be allowed. And perhaps it might be ſtill better, if, by diſmiſſing a ſtated number, and inliſting others at every renewal of their term, a circulation could be kept up between the army and the people, and the citizen and the ſoldier be more intimately connected together.

Since the general introduction and prevalence of ſtanding armies in Europe, it has alſo for many years paſt been annually judged neceſſary by our legiſlature, for the ſafety of the kingdom, the defence of the poſſeſſions of the crown of Great Britain, and the preſervation of the balance of power in Europe, to maintain even in the time of peace a ſtanding body of troops, under the command of the crown; who are however *ipſo facto* diſbanded at the expiration of every year, unleſs continued by parliament. See MUTINY BILL.

It is probable, ſays Andrews (Hiſt. of Great Britain, vol. i.), that the firſt ſtanding military force in Britain was that garriſon in Dover Caſtle, which, by reſiſting the arms of the Dauphin of France, invited by the barons to their ſuccour in their conteſt with king John, ſaved the kingdom of England from a foreign dynaſty. For, as Camden quotes from an ancient hiſtorian, "Sir Hubert de Burgo, when made conſtable of the caſtle, conſidering that it was not for the ſafety of the fortreſs to have new guards every month, procured, by the aſſent of the king, and of all that held of the caſtle, that every tenant for one month's guard ſhould find his ten ſhillings, out of which certain perſons

perſons elected and ſworn, both of horſe and foot, ſhould receive pay for guarding the caſtle."

If we advert to the ancient hiſtory of this country, we ſhall find, that by the Saxon laws, every freeman of an age capable of bearing arms, and not incapacitated by any bodily infirmity, was obliged, in caſe of a foreign invaſion, internal inſurrection, or other emergency, to join the army: that being one of the three ſervices comprehended under the title of the *trinoda neceſſitas*: and all ſuch as were qualified to bear arms in one family, were led to the field by the head of that family. Every landholder was obliged to keep armour and weapons, according to his rank and poſſeſſions, which he was prohibited from ſelling, lending, or pledging, or even alienating from his heirs. For their inſtruction in the uſe of arms, they had ſtated times for performing military exerciſe, and once in the year there was a general review of arms throughout each county. The greater part of the Anglo-Saxon forces conſiſted of infantry; which ſeems to have been of two ſorts, the heavy and light-armed; and the cavalry was chiefly compoſed of the thanes, ſuch men of property as kept horſes. The Anglo-Saxon mode of drawing up their armies for battle, was in one large denſe body ſurrounding their ſtandard, and placing their foot, with their heavy battle-axes, in the front. The military eſtabliſhment of the nation underwent a conſiderable change, when the feudal ſyſtem was introduced about the year 1086. By this ſyſtem, all the lands of the realm were conſidered as divided into certain portions, each producing an annual revenue, denominated a KNIGHT'S *Fee:* and every tenant *in capite,* or perſon who held from the king land amounting to a knight's fee, was bound to hold himſelf in readineſs, with horſe and arms, to ſerve the king in his wars, either at home or abroad, at his own expence, for a ſtated time, generally forty days in a year. When this ſervice was accompliſhed, they were at liberty to return home; but if they remained with the army, they were paid by the king. Perſons of this deſcription, unable to ſerve, were by proclamation directed to find unexceptionable ſubſtitutes. Soon after the conqueſt, the conſtitutional military force of England conſiſted of ſuch feudal troops, and of the POSSE *Comitatus,* including every freeman above the age of fifteen and under the age of ſixty, who were only liable to be called out in caſe of internal commotions or actual invaſions. That this body of men might be ready to take the field, a law, called the aſſiſe of arms, was enacted by Henry II., A. D. 1181, in the 27th year of his reign; which law was further corroborated and enforced by the 13th of Edw. I., called the ſtatute of Wincheſter, 33 Hen. VIII., c. 5. 2 & 3 Edw. VI. In the reigns of Richard II., Hen. VII., and Henry VIII., four military bodies, ſtill exiſting, were inſtituted, viz. the SERJEANTS *at Arms,* the GENTLEMEN *Penſioners,* the YEOMEN *of the Guard,* and the ARTILLERY *Company.*

During the troubles under Charles I. the royal army conſiſted chiefly of regiments raiſed by the nobility and gentry who adhered to the royal cauſe, from among their tenants and dependants. After the reſtoration of Charles II. when feudal tenures were aboliſhed by act of parliament, a national militia was eſtabliſhed; which was declared, by an act of parliament, to be under the immediate orders of the king. See MILITIA. Beſides theſe conſtitutional forces, there were in the Engliſh armies and garriſons, at all times from the conqueſt downward, ſtipendiary troops, both national and foreigners; the firſt hired by our kings, with the money paid by perſons commuting for their feudal ſervices, and employed in caſtle guards, foreign garriſons, and protecting the marſhes or borders of the kingdom, adjoining to Wales and Scotland; and the latter, paid out of the privy purſe, or living upon free quarters. They were known by the various names of ruptarii, routers, and ruyters, from a German word ſignifying a horſeman or knight; they were alſo denominated Brabançons, Provençales, Coterelli, and Flemings, and were in reality a ſet of freebooters of all nations, ready to be engaged for hire. Theſe were chiefly called in by our kings in their diſputes with the great barons. Since the time of king Edward III., when it became cuſtomary for our kings to engage with their ſubjects, and other perſons by indenture, to furniſh ſoldiers at certain wages, moſt of our armies conſiſted of ſtipendiary troops: ſuch was the army raiſed and commanded by the biſhop of Norwich, A. D. 1382, the 6th of Richard II., and that of the 16th of Henry V. Theſe ſtipendiary forces were, the garriſons and caſtle guards excepted, kept up only in time of war; and though mercenary, were not ſtanding armies. Their ſubſiſtence was drawn from the grants made by parliament, in which their ſpecific numbers were ſometimes ſtipulated. The firſt ſtanding forces employed by our kings were their immediate body-guards, ſuch as the ſerjeants at arms, the yeomen of the guard, and the gentlemen penſioners; and yet theſe were calculated rather for the ſplendour of a court than the operations of the field. Under the troubles of Charles I., a number of troops were levied by both parties, without any regard to law or cuſtom. Two regiments of guards raiſed by Charles II. in 1660, one of horſe and one of foot, formed the two firſt corps of our preſent army; and theſe were afterwards conſiderably increaſed. In 1661, the firſt regiment, or Royal Scots, were brought back from France, jocularly ſtiled from its antiquity, "Pontius Pilate's guards;" and there was alſo, about the ſame time, an Engliſh corps of cavalry in the French ſervice. The revolution cauſed the military part of the conſtitution to be new modelled, and the army to be voted from year to year, by the act ſtiled the MUTINY *Bill.*

The methods of raiſing the ſtipendiary, or mercenary troops, were either by commiſſions, reſembling our preſent beating orders, authorizing perſons to inliſt volunteers; or by indenture, which was a practice that began about the latter end of the reign of king Edward III., and in that of Henry V. became general. By theſe indentures, different perſons engaged to provide a certain number of able men, properly armed, to ſerve the king for a ſtated time, at a ſtipulated pay and bounty, then ſtyled wages and regards: and in theſe agreements it was uſual for the king to advance part of the pay before-hand, afterwards called "Impreſt Money," and alſo to give ſecurity for the regular payment of the remainder. For this purpoſe, king Henry V. pledged all his jewels, which were not redeemed till after his death. Criminals were alſo ſometimes pardoned on condition of ſerving in the royal army abroad, and finding ſecurity to anſwer any proſecution if called upon at their return. Several of our ſovereigns alſo, under the authority of the royal prerogative, obliged diſtricts, cities, towns, and even individuals, to ſend men and horſes, or to pay contributions for that purpoſe.

The preſent mode of recruiting our armies is by engaging volunteers, who are inliſted to ſerve for an indefinite time, that is, till they ſhall be diſcharged, or for a certain time, with an annexed clauſe, "or during the war." See INLISTING. Preſſing for ſoldiers was practiſed much in its preſent form in the time of queen Elizabeth; and it has been ſeveral times occaſionally authorized by acts of parliament. This, however, in itſelf, is but a bad expedient, and in general timidly, partially, and improperly executed.

The army, as it now ſtands, may date its origin from the reſtoration; though ſome of the eſtabliſhments formed by Charles II., were taken from corps raiſed during the

civil wars; ſuch as the firſt regiment of foot, and the Coldſtream regiment of guards, which laſt came with general Monk from Scotland. The royal regiment of horſe guards, commonly called the *Oxford* Blues, is among the firſt in this eſtabliſhment. The two troops of horſe-guards, embodied by Charles about the ſame time, and of which the privates were all gentlemen, have been for ſome years aboliſhed; and in their room have been ſubſtituted two fine regiments of cavalry, ſubject to military diſcipline like the reſt of the army, and called the firſt and ſecond regiments of *Life* Guards.

The regular army eſtabliſhed by Charles II. conſiſted at firſt of little more than 5,000 men, including garriſons abroad. In 1684, the ſtanding army amounted to 8,000 men; that on the Iriſh eſtabliſhment having been at the ſame time augmented to 7,000. During the two ſucceeding reigns the army was much increaſed, as the nation was engaged in continental wars. Under Geo. I., in 1717, the forces voted by parliament amounted to 16,000 men. The ſtanding army was much augmented during the following reign, on account of foreign wars and internal diſturbances. Every ſucceſſive war has augmented the eſtabliſhment of the army in proportion to our acquiſition of foreign territory. At the concluſion of the American conteſt, the forces were reduced to about 40,000 men for Great Britain and Ireland: and the peace eſtabliſhment, in 1802, conſiſted of 128,999 men, including 17,000 cavalry, ſix regiments of colour in the Weſt Indies, amounting to 4,158 men, and the foreign corps of Swiſs, &c. eſtimated at 5,530. For the different kinds of troops, ſee Cavalry, Fencibles, Foot, Grenadiers, Guards, Infantry, Invalids, and Marines, &c. For the arrangement of an army in an engagement, ſee *Order of* Battle.

An army ſometimes acquires different appellations from the ſervices in which it is employed. Thus, a *covering* army is that which covers a place, by lying encamped or in cantonments for the protection of the different paſſes which lead to a principal object of defence. An army is ſaid to *blockade* a place, when, being well provided with heavy ordnance and other warlike means, it is employed to inveſt a town for the direct or immediate purpoſe of reducing it by aſſault or famine. An army *of obſervation*, is ſo called, becauſe by its advanced poſitions and deſultory movements it is conſtantly employed in watching the enemy. Such a body of troops is employed by beſiegers to prevent relief being brought into a place, or the ſiege being raiſed by the enemy. An army *of reſerve* may not improperly be called a general depôt for effective ſervice. In caſes of emergency, the whole, or detached parts of an army of reſerve are generally employed to recover a loſt day, or to ſecure a victory. It is alſo ſometimes uſed for the double purpoſe of ſecretly increaſing the number of active forces, and affording the aid neceſſary according to preſent exigency, and of deceiving the enemy with reſpect to its real ſtrength. A *flying* army is a ſtrong body of horſe and foot, uſually commanded by a lieutenant-general, which is always in motion, both to cover its own garriſons, and to keep the enemy in continual alarm. Smith's Wealth of Nations, vol. iii. ch. 1. part 1. Robertſon's Charles V. vol. i. p. 112. Paley's Princ. of Mor. & Pol. Philoſophy, vol. ii. p. 425. Monteſq. Sp. of Laws, vol. i. p. 229. Blackſt. Com. vol. i. p. 415. De Lolme's Conſt. of Eng. p. 429, &c. Groſe's Milit. Ant. vol. i.

Army, *Naval*, is a number of ſhips of war, equipped and manned with ſailors and marines, under the command of an admiral, with other inferior officers under him.

Army, *Royal*, is an army marching with heavy cannon; capable of beſieging a ſtrong, well-fortified city.

For the diſeaſes incident to armies, ſee Disease, Camp, Garrison, Hospital, Soldier, &c.

ARNA, in *Ancient Geography*, a town of Italy, in the eaſtern part of Umbria, oppoſite to Perouſia and near the Tiber, mentioned by Silius Italicus, l. viii. v. 458.; now known under the name of "La Civitella d'Arno."

Arna, or *Arne*, a ſmall territory of Greece, in Theſſaly, ſo called from its metropolis. Pliny places it in Phthiotis, a diſtrict of Theſſaly. Strabo ſays, that Homer gives the name of Arna, or Arne, to Aræphium in Bœotia, annexing to it the epithet πολυσταφιλον, on account of its abundance of grapes. It is ſaid to have derived its name from Arne, the daughter of Æolus, by whoſe ſon Bœotius it was built.—*Arna* was alſo a town of Aſia Minor, in Lycia, called by ſome authors Xanthus.—Alſo, a town of Spain, on the right of Bœtis, between Hiſpalis to the ſouth-weſt, and Corduba to the north-eaſt.—Alſo, a town of the iſland of Andros, in the Archipelago.

ARNAB, in *Zoology*, the name of the hare (Lepus) among the Arabs.

ARNÆA, in *Entomology*, a ſpecies of Papilio (*Nymph. gem.*), found in Surinam. The wings are ſlightly indented and brown; poſterior pair bluiſh, with five-ocellated ſpots beneath. Fabricius. *Obſ.* This author ſuſpects that the inſect figured by Cramer, under the ſpecific name *Lea*, may belong to this ſpecies.

ARNAK, in *Ichthyology*, one of the Arabian fiſhes of the Raja genus, deſcribed by Forſkael in his Faun. Arab. p. 9. n. 13. The body is roundiſh and ſilvery; tail without fins, and armed with two ſpines. Forſk. Gmelin. The teeth are granulate.

ARNALDIA, in *Phyſic*, a ſlow malignant kind of diſeaſe, frequent formerly in England; the moſt diſtinguiſhing ſymptom whereof was a falling of the hair.

Authors are much at a loſs for the nature and kind of this diſeaſe, which appears to have been peculiar to our country. From the deſcription given of it in an ancient chronicle, Mollerus concludes it to have been a ſpecies of the venereal diſeaſe, as that diſtemper appeared in thoſe days in this country.

ARNAU, in *Geography*, a town of Bohemia, in the circle of Konigingratz, on the Elbe.

ARNAUD de Villa Nova, ſo called from Villeneuve, the place of his birth, in *Biography*, a philoſopher and phyſician of extraordinary talents, born about the middle of the thirteenth century, ſtudied at Paris and Montpelier, and further improved himſelf by viſiting the different ſchools in Italy. He then travelled to Spain, where he acquired a knowledge of medicine, and of their language, from the Arabian phyſicians. He here acquired ſo much reputation, that a ſect was formed in the country, called from him "Arnoldiſtæ." He is ſaid to have had ſuch faith in aſtrology, as to predict from the aſpect of the ſtars the termination of the world, which he ſuppoſed would happen by the year 1376. He was a great chymiſt, and wrote ſeveral treatiſes on the ſubject. While in Spain, he became acquainted with Raymond Lully, who call's him his maſter. At Paris, he had given his opinion ſo freely on theological matters, particularly of the monks, and of the maſs, that the faculty of theology there condemned fifteen of his poſitions, one of which was, "that the works of mercy and of medicine were more acceptable to God than the ſacrifice of the altar." To avoid the conſequences of their cenſures, and finding the Inquiſition were proceeding againſt Apono, for taking ſimilar liberties with religion, he retired to the court of Frederic of Arragon, who had formerly been his friend, and there wrote his treatiſe concerning the government of health, and his commentaries on the Schola Salernitana. He is ſuppoſed to have died about the year 1312. In 1313, pope Clement

wrote

wrote a circular letter, adjuring every one under their apoſtolical obedience, to diſcover and ſend to him a treatiſe on the practice of phyſic written by Arnaud which he had promiſed to give his holineſs, but was prevented, he ſuppoſed, by his death. Friend's Hiſt. of Phyſ. vol. ii. p. 251. —His works, which were numerous, were collected and printed at Lyons in folio, 1520; and again at Baſle, 1585, with notes by Nicolas Tolerus. Eloy has given a catalogue of the treatiſes in his Dict. Hiſt. among them we find, "Expoſitiones viſionum quæ fiunt in ſomniis, ad utilitatem medicinæ;" "Remedia contra maleficia;" "De conſervanda juventute, et retardanda ſenectute;" and others "ejuſdem farinæ;" but many of them are on more familiar and uſeful ſubjects. He complains in ſeveral parts of his works, of the interference of the clergy in the practice of phyſic, to the great detriment of the profeſſors of the art, as well as of the art itſelf. The evil however continued to increaſe, notwithſtanding the attempts of the popes to check it, until after the revival of letters.

ARNAUL, in *Geography*, a fortified iſland on the weſtern coaſt of the hither peninſula of India, commanding the entrance of the Angaſſyah or Mandavee river, between Bombay and Surat.

ARNAULD, Antony, in *Biography*, an eminent lawyer, was born at Paris in 1560. As advocate to the parliament of Paris, he was diſtinguiſhed for his eloquence and probity, and conſulted by perſons of diſtinction on the moſt important affairs. His pleadings againſt the Jeſuits in favour of the univerſity of Paris, in 1594, which are famous, were publiſhed in 8vo. at Paris in 1594, and in 12mo. in 1717. He alſo publiſhed another work againſt the Society, in 1602, and "Advice to Louis XIII." in 8vo. in 1615. He died in 1619; and ſeveral of his ſons acquired great celebrity. Nouv. Dict. Hiſt.

Arnauld, D'Andilly, the eldeſt ſon of the preceding, was born at Paris in 1588. In ſeveral poſts of diſtinction which he occupied at court, he employed his influence in ſupport of juſtice and virtue; and ſuch was his character, that Balzac ſaid of him; "he was neither aſhamed of the Chriſtian graces, nor vain of the moral virtues." At the age of fifty-five, he retired to Port Royal, and devoted himſelf to religious ſtudies. He died at the age of eighty-five, having retained the full vigour both of his body and mind. Beſides other works, his "Tranſlation of Joſephus," ſaid to be more elegant than faithful, was printed at Paris in folio, in 1667, and in five volumes 12mo. in 1672; and at Amſterdam, in two volumes folio, in 1681. His "Apologetic memoir for the houſe of Port Royal," was written in 1654; "Memoirs of his life by himſelf," were printed in two volumes 12mo.; and "A Poem on the life of Chriſt," was printed in 1685, 12mo. Nouv. Dict. Hiſt.

Arnauld, Henry, brother of the preceding, abbot of St. Nicholas, and afterwards biſhop of Angers, was born at Paris in 1597. For his ſervices to the family of the Barbarini, in 1645, on occaſion of their diſputes with pope Innocent X., they ſtruck a medal in honour of him, and erected his ſtatue in their palace at Rome. From the time of his appointment to the ſee of Angers, in 1649, to his death in 1692, he left his dioceſe only once, which was for the purpoſe of reconciling the duke of Tremouille to his ſon. He is ſaid to have appeaſed the queen mother when ſhe was about to puniſh the inhabitants of Angers for their revolt in 1652, by ſaying to her at the communion, "Receive your God, who, when he was dying on the croſs, pardoned his enemies." It is reported concerning him, that the ſureſt title to his favour was to have offended him. His whole time was devoted to ſtudy, religious exerciſes, and the affairs of his dioceſe; and being exhorted by a friend to allow himſelf one day for relaxation, he replied, "I ſhall willingly do it, if you can find a day in which I am not a biſhop." Although he attained the advanced age of 95, his death was conſidered as premature, and he was lamented as the father of the poor, the comforter of the afflicted, and the beſt of biſhops. His "Negotiations" at the court of Rome, and in other courts of Italy, containing many curious remarks, were publiſhed at Paris, in 1748. Nouv. Dict. Hiſt.

Arnauld, Anthony, an eminent Janſeniſt, was the twentieth child of the advocate of the ſame name, and born at Paris in 1612. Having firſt ſtudied the languages and philoſophy in the college of Calvi, and afterwards theology in the college of Sorbonne, he was, in the year 1643, admitted a member of the Sorbonne. In the diſpute between the Jeſuits and Janſeniſts, concerning frequent communion, Arnauld took an active part; and in 1643 publiſhed his famous book on "The Practice of communicating frequently—Traite de la frequente communion." The frequent celebration of the Lord's Supper was ſtrenuouſly recommended by the Jeſuits as the moſt certain and infallible method of appeaſing the deity, and obtaining plenary remiſſion; but the Janſeniſts, and alſo many other learned and pious doctors of the Romiſh communion, cenſured and condemned this mode of proceeding, whilſt they rejected the intrinſic virtue and efficient operation, called the "opus operatum," attributed to the ſacraments; and maintained that the act of receiving the ſacrament of the Lord's Supper can be profitable only to thoſe whoſe minds are prepared by faith, repentance, and the love of God, for that ſolemn ſervice. Arnauld's treatiſe on that ſubject gave great offence to the Jeſuits; and their enmity againſt him was increaſed by the books written by him in defence of the Janſeniſts, on the ſubject of grace. In 1656, he was excluded from the faculty of divinity of Sorbonne, againſt the judgment of ſeventy-two doctors of this faculty; and from this time he withdrew into ſolitude, where he remained twelve years, and employed himſelf in writing curious treatiſes in various branches of ſcience. When the perſecution of the Janſeniſts was ſuſpended by pope Clement IX. in 1669, Arnauld returned to Paris, and was reſpectfully received both by the pope's nuncio, and by Louis XIV. At their requeſt he defended the Catholic faith againſt the Calviniſts; but his enemies ſucceeding in bringing him into ſuſpicion with the king, he thought it prudent to retire. Accordingly he left the kingdom in 1679, and took up his reſidence in the Netherlands, where he eſſentially ſerved the cauſe of the Janſeniſts, and gained over by his eloquence and ſagacity the Romiſh congregations in Holland to their party. In this retreat he alſo wrote "An Apology for the Clergy of France, and the Catholics of England," in reply to the "Politics of the Clergy of France," written by Jurieu, a Proteſtant miniſter, and publiſhed at the Hague; and this reply produced from the pen of Jurieu, a piece of keen ſatire, entitled "L'Eſprit de M. Arnauld." His "Reflections philoſophical and theological," were produced by Malbranche's treatiſe "On Nature and Grace;" and in a work, "On true and falſe Ideas," he attacked the philoſophical doctrine advanced by this author in his "Search after Truth." His "Practical Morality of the Jeſuits," was levelled againſt this fraternity; and he alſo attacked father Simon on the inſpiration of the ſcriptures, and wrote in defence of the propriety of tranſlating the ſcriptures into the vulgar tongue. Notwithſtanding all the zeal of Arnauld in vindication of the Catholic faith, his orthodoxy was ſuſpected; and in 1690, a canonical warrant was iſſued againſt him, under the contemptuous and illiberal deſcription of "One Arnauld," by the ſuperiors of the ſeveral monaſtic fraternities at Liege. Arnauld, however, perſevered in his attachment to the church, notwithſtanding the charges of hereſy with which he was reproached; and in his laſt moments he received the ſacrament from the hands of his

prieſt, though he had only two days before celebrated maſs. He retained his faculties to the advanced age of 82 years, and died at Bruſſels, on the 8th of Auguſt, 1694. His heart was carried, at his particular requeſt, to Port Royal, and there it was honorably depoſited. Arnauld poſſeſſed a vigorous and active mind; his memory was tenacious, his literature various and extenſive: he excelled as a logician; and in theology and eccleſiaſtical hiſtory he was deeply read; and he was well acquainted with polite literature. His genius was original and inventive; and he is ſaid to have taught in philoſophy, opinions ſimilar to thoſe of Des Cartes, before his writings appeared, and to have maintained the doctrines of Janſenius ſeveral years previous to the publication of that prelate's book on grace. Although Arnauld ſuffered perſecution with the Janſeniſts whilſt he lived, it has been a problem of no eaſy ſolution ever ſince his death, whether he was not an heretic. His writings are chiefly controverſial, and bear evident marks of a ſtrong intellect and lively fancy. In polite literature and philoſophy, he publiſhed "A general and rational Grammar," illuſtrating the univerſal principles of language, reprinted with notes by M. Duclos in 1756; "Elements of Geometry;" "The art of Thinking;" "Reflections on the Eloquence of Preachers;" "Objections to the Meditations of Des Cartes;" and "A treatiſe on true and falſe Ideas." On the ſubject of grace, his principal works are "Reflections philoſophical and theological," and tranſlations of ſeveral pieces of Auguſtine. In the controverſy againſt the Proteſtants, he wrote "The perpetuity of Faith;" "The overthrow of Chriſtian Morality by the Calviniſts;" "The impiety of Calviniſtic Morality;" "An apology for the Catholics;" "The Calviniſts convicted of impious tenets in Morals;" and "The Prince of Orange, a new Abſalom, a new Herod, a new Cromwell," which was extenſively circulated through various courts of Europe by Louis XIV. Againſt the Jeſuits, his moſt famous work is "The practical morality of the Jeſuits," in eight volumes, to which ſeveral learned Janſeniſts are ſuppoſed to have contributed; it was republiſhed at Amſterdam in 1742. His writings upon the holy ſcriptures are "Difficulties propoſed to M. Steyaert;" "Defence of the New Teſtament of Mons;" "The tranſlation of the Miſſal into the vulgar tongue, authoriſed by Scripture and the Fathers;" and an "Hiſtory and Harmony of the Evangeliſts." After his death M. Queſnel publiſhed, in nine volumes, his "Letters" and ſeveral "Poſthumous Pieces," among which is the "Diſſertation on the method of Mathematicians," vindicating his mode of writing, and juſtifying, in certain diſputes, the uſe of terms commonly thought harſh.

Arnauld was at the head of that learned body of Janſeniſt writers, known by the denomination of "Meſſieurs de Port Royal," who paſſed their days in literary purſuits, and pious exerciſes, in the retreat of Port Royal, a manſion ſituate at the diſtance of ſix leagues from Paris, originally a monaſtery, and afterwards a ſanctuary of letters. Gen. Dict. Nouv. Dict. Hiſt. Moſheim's Eccl. Hiſt. vol. iv. p. 232. vol. v. p. 181. 208. 219. 251.

ARNAULD, GEORGE, ſon of an eminent ſurgeon at Paris, applied himſelf, during the latter part of his life, almoſt excluſively to the cure of ruptures, in which he acquired conſiderable knowledge. On account of ſome accident occurring while he practiſed midwifery, occaſioned, as it was ſuppoſed, by miſmanagement, he removed from Paris to London, where he continued to reſide the remainder of his life. In 1748, he publiſhed "Diſſertations on Hernias, or Ruptures, in two parts," in 8vo. In theſe he gives directions for enabling perſons afflicted with ruptures, to avert the danger uſually conſequent to that accident. He ſuppoſes that one eighth part of our ſpecies ſuffer from this complaint, which, though perhaps an exaggerated account, ſhews its frequency, and how neceſſary it is to direct the attention of ſurgeons towards making improvements in its treatment. He gives the ſigns by which the different kinds of ruptures may be diſtinguiſhed, and clear and diſtinct directions for managing them. He relates caſes of cures effected by him after a gangrene had taken place, by cutting out the mortified part of the inteſtine. In 1763, he publiſhed "Plain and eaſy Inſtructions on the Diſeaſes of the Bladder and Urethra," in 12mo. in which he highly commends the uſe of bougies. In his "Memoires de Chirurgia," publiſhed in 1768, in 2 vols. 4to. he gives the whole of Dr. Hunter's treatiſe on the "Hernia congenita," with additional obſervations, from inſpection of a caſe that fell under his notice; alſo further obſervations on ruptures, and obſervations on aneuriſms. We have, by the ſame writer, "Remarks on the compoſition, uſe, and effects of the extract of lead of Goulard, and of his vegeto-mineral water," 1770, 12mo. Biblioth. Chirur. Haller.

ARNAUT BELIGRAD, in *Geography*, a town of European Turkey, in the province of Albania, 40 miles north-eaſt of Valona.

ARNAUTS, in *Military Language*, denote Turkiſh light cavalry, whoſe only weapon is a very crooked ſabre. Some ſuch are in the Ruſſian ſervice.

ARNAY LE DUC, in *Geography*, a town of France, and principal place of a diſtrict, in the department of the Coté d'Or, and chief place of a canton in the diſtrict of Beaune, 25 miles ſouth-weſt of Dijon, and 24 ſouth of Semur en Auxois. The place contains 2543, and the canton 11,550 inhabitants: the territory includes 267½ kilometres and 20 communes. N. lat. 47° 7'. E. long. 4° 26'.

ARNDAL, a ſmall town of Norway, in the dioceſe of Chriſtianſand, and diſtrict of Nidanaſſahn, ſeated on a rock in the middle of the river Nid, and remarkable for a good wharf or landing-place. The houſes ſtand moſtly on the declivity of the rock, and the others are built on piles in the water. The inhabitants paſs from houſe to houſe by means of bridges of boats. The town is commodiouſly ſituated for trade; and many ſhips are employed in the tranſportation of timber. The church ſtands near the ſummit of the rock, and there is an aſcent to it from the houſes by ſteps hewn in the rock. In the neighbourhood of this place are many iron mines.

ARNDORF, a town of Germany, in the circle of Bavaria, and principality of Saltzbach, four miles eaſt of Kemnat.

ARNDT, JOHN, in *Biography*, an eminent Proteſtant divine, was born at Ballenſtadt, in the principality of Deſſau in Germany, in 1555. In conſequence of a vow which he made when he was ſick, whilſt he was proſecuting the ſtudy of medicine, he devoted himſelf to divinity; and was ſucceſſively miniſter of Quedlinburg, and at Brunſwick. His fame, as a preacher, excited jealouſy among his brethren; and being charged with errors, he eſcaped perſecution by retiring to Iſleben; and in 1611, the duke of Lunenburg gave him the church of Zell, and appointed him ſuperintendant of all the churches in his duchy. The charge againſt him was occaſioned by a book which he publiſhed at Jena, in 1605 and 1608, intitled "True Chriſtianity;" aſſerting that many of the irregularities ſubſiſting among Proteſtants were owing to a miſtaken notion of the efficacy of a ſpeculative faith, unproductive of good works: he laid great ſtreſs on the contrary doctrine; and intermixed ſome myſtical ideas and expreſſions, borrowed from the writings of Bernard, Thomas a' Kempis, and other aſcetics. He thus gave offence to ſeveral of his brethren, and particularly to Oſiander, a divine of Tubingen, who attacked him in a treatiſe, intitled "Judicium Theologicum." By Oſiander, and others, it was alleged againſt him, that his ſtyle was infected with the jargon of Paracelſus, Weigelius, and other myſtical

chemists, who pretended, by the power and ministry of fire, to unfold the secrets of nature and the mysteries of religion. Although he seems to have manifested his inclination towards the opinions of these fantastical philosophers, he was declared by many grave and pious divines exempt from any errors of moment, and universally allowed to be a man of exemplary integrity and piety. Arndt died in 1621; and his works have been translated into several modern languages. Gen. Dict. Mosheim's Eccl. Hist. vol. v. p. 337.

Arndt, Joshua, a German divine, was born at Gustrow in 1626, and became professor of logic at Rostock, and preacher, and also ecclesiastical counsellor to the duke of Mecklenburg. He died in 1687, and left several works, particularly "Miscellanea Sacra," 8vo.; "Clavis antiquitatum Judaicarum," 4to.; and "Tractatus de Superstitione." His life, written by his son, was printed at Gustrow in 1697. Nouv. Dict. Histor.

ARNE, Thomas Augustine, was the son of Arne, the celebrated upholsterer of King-street, Covent-garden, at whose house the Indian kings lodged in the reign of queen Anne, as mentioned in the Spectator, N° 50. Arne had a good school education, having been sent to Eton by his father, who intended him for the law. But we have been assured by several of his school-fellows, that his love for music operated upon him too powerfully for his own peace, or that of his companions; for, with a miserable cracked common flute, he used to torment them night and day, when not obliged to attend the school. And he told us himself, that when he left Eton, such was his passion for music, that he used to avail himself of the privilege of a servant, by borrowing a livery, and going into the upper gallery of the opera, which was then appropriated to domestics. At home he had contrived to secrete a spinet in his room, upon which, after muffling the strings with a handkerchief, he used to practise in the night while the rest of the family were asleep; for had his father discovered how he spent his time, he would, probably, have thrown the instrument out of the window, if not the player. This young votary of Apollo was at length obliged to serve a three years clerkship to the law, without ever intending to make it his profession; but even during this servitude, he dedicated every moment he could obtain fairly, or otherwise, to the study of music. Besides practising on the spinet and studying composition by himself, he contrived, during his clerkship, to acquire some instruction on the violin, of Festing, upon which instrument he had made so considerable a progress, that soon after he had quitted his legal master, his father accidentally calling at a gentleman's house in the neighbourhood upon business, found him engaged with company; but sending in his name, he was invited up stairs, where there was a large company and a concert, in which, to his great astonishment, he caught his son in the very act of playing the first fiddle! Finding him more admired for his musical talents than knowledge in the law, he was soon prevailed upon to forgive his unruly passion, and to let him try to turn it to some account. No sooner was the young musician able to practise aloud in his father's house, than he bewitched the whole family. On discovering that his sister was not only fond of music, but had a very sweet toned and touching voice, he gave her such instruction as soon enabled her to sing for Lampe, in his opera of Amelia. And finding her so well received in that performance, he soon prepared a new character for her, by setting Addison's opera of Rosamond, in which he employed his younger brother likewise in the character of the page. This musical drama was first performed March 7, 1733, at Lincoln's-inn Fields, where Mrs. Barbier performed the part of the King; Leveridge, Sir Trusty; Page, Master Arne, who had never appeared in public; Messenger, Mr. Corse; Queen, Mrs. Jones; Grideline, Miss Chambers; and the part of Rosamond by Miss Arne. The opera was performed ten nights successively, and with great applause; the last time, for the benefit of Mr. Arne, jun. the composer. Having succeeded so well in a serious opera, our young musician tried his powers at a burletta, and fixed upon Fielding's *Tom Thumb* for that purpose; which, under the title of the *Tragedy of Tragedies*, having met with great success in 1731, he now got it transformed into the *Opera of Operas*, and setting it to music after the Italian manner, had it performed May 31st, at the new theatre in the Haymarket; the part of Tom Thumb by Master Arne, his brother. Princess Amelia and the duke of Cumberland honoured the second representation with their presence; the prince of Wales, the sixth; the youngest princesses, the eighth; and afterwards it had a considerable run.

In 1736, Miss Arne, his sister, now Mrs. Cibber, who had captivated every hearer of sensibility by her native sweetness of voice and power of expression as a singer, first appeared as a tragic actress, in the part of *Zara*, at Drury-lane, where her brother was engaged as composer; and it is difficult to say which of the two received the greatest applause, the actress for her truly interesting person, and pathetic voice and manner, or the musician for his natural and pleasing strains, particularly the March, which was encored every night, and remained in great favour throughout the kingdom during many years.

In 1738, Arne established his reputation as a lyric and dramatic composer, by the admirable manner in which he set Milton's Comus. In this masque he introduced a light, airy, original, and pleasing melody, wholly different from that of Purcell or Handel, whom all English composers had hitherto either pillaged or imitated. Indeed, the melody of Arne at this time, and of his Vauxhall songs afterwards, forms an æra in English music; it was so easy, natural, and agreeable to the whole kingdom, that it had an effect upon our national taste; and till a more modern Italian style was introduced in the pasticcio English operas of Messrs. Bickerstaff and Cumberland, it was the standard of all perfection at our theatres and public gardens.

In 1742, Mr. and Mrs. Arne went to Ireland, where they remained till 1744; in the autumn of which year he was again engaged as composer at Drury-lane; and on the death of Gordon, the first violin, who was successor to Charke, he accepted of the station in the orchestra of that theatre of leader of the band. His hand was enfeebled by rheumatism, but his skill surpassed that of any performer on the violin who had preceded him.

Mr. Arne and Mr. Boyce were frequently concurrents at the theatres, and in each other's way, particularly at Drury-lane. Arne was aspiring, and always regarded Handel as a tyrant and usurper, against whom he frequently rebelled; but with little effect, except upon his own purse, for he was always a loser when he had oratorios performed in Lent on the same night as Handel. But in his songs for the theatres and public gardens, he was ever triumphant over all competitors. At Vauxhall, particularly, where his ballads, dialogues, duets, and trios, were performed during many years with great applause, and were afterwards circulated all over the kingdom. In the summer of 1745, when vocal music was first added to instrumental, by Mr. Tyers, the proprietor of Vauxhall, Arne's little dialogue of Colin and Phœbe, written by the late Mr. Moore, author of fables for the female sex, was constantly encored every night for more than three months successively.

In 1759, this ingenious and popular composer had the degree of doctor in music conferred upon him at Oxford.

And

And in 1762, quitted his former ſtyle of melody, in which he had ſo well ſet Comus, and furniſhed Vauxhall and the whole kingdom with ſuch ſongs as had improved and poliſhed our national taſte; and when he ſet the bald tranſlation of Metaſtaſio's opera of *Artaxerxes*, he crowded the airs, particularly in the part of Mandane for Miſs Brent, with all the Italian diviſions and difficulties which had ever been heard at the opera. This drama, by the novelty of the muſic to Engliſh ears, with the talents of Tenducci, Peretti, and the doctor's ſcholar Miſs Brent, had very great ſucceſs; and ſtill continues to be repreſented whenever ſingers can be found who are poſſeſſed of ſufficient abilities for its performance. But in ſetting Artaxerxes, though the melody is leſs original than that of Comus, Arne had the merit of firſt adapting many of the beſt paſſages of Italy, which all Europe admired, to our own language, and of incorporating them with his own property, and with what was ſtill in favour of former Engliſh compoſers.

The general melody of our countryman, if analiſed, would perhaps appear to be neither Italian nor Engliſh, but an agreeable mixture of Italian, Engliſh, and Scots. Many of his ballads, indeed, were profeſſed imitations of the Scots ſtyle; but in his other ſongs he frequently dropped into it, perhaps without deſign.

Arne never was a cloſe imitator of Handel; and was almoſt the only Engliſh compoſer of the laſt century, who did not build his fame on imitations of his works, and who was not proud to hear his admirers ſay of his compoſitions—*'tis all Handel!* On which account Arne was never thought by the votaries of their great model to be a ſound contrapuntiſt. However, he had an inward and ſecret reverence for his abilities, and for thoſe of Geminiani, as well as for the ſcience of Pepuſch; but except when he attempted oratorios, theirs was not the merit requiſite for him, a popular compoſer who had different performers and different hearers to write for. In the ſcience of harmony, though he was chiefly ſelf-taught, yet being a man of genius, quick parts, and great penetration in his art, he betrayed no ignorance or want of ſtudy in his ſcores.

The oratorios he produced were ſo unfortunate, that he was always a loſer whenever they were performed. And yet it would be unjuſt to ſay that they did not merit a better fate; for though the choruſes were much inferior in force to thoſe of Handel, yet the airs were frequently admirable. But beſides the great reputation of Handel, with whom he had to contend, Arne never was able to have his muſic ſo well performed; as his competitor had always a more numerous and ſelect band, a better organ, which he played himſelf, and better ſingers.

None of this ingenious and pleaſing compoſer's capital productions had full and unequivocal ſucceſs but Comus and Artaxerxes, at the diſtance of twenty-four years from each other. Roſamond, his firſt muſical drama, had a few ſongs in it that were long in favour, and the Judgment of Paris many: but except when his ſiſter, Miſs Arne, afterwards Mrs. Cibber, ſung in them, he never gained any thing by either. Thomas and Sally, indeed, as a farce, with very little muſical merit, was often acted; and previous to that, Eliza was a little while in favour; but the number of his unfortunate pieces for the ſtage was prodigious! yet none of them were condemned or neglected for want of merit in the muſic, but words, of which the doctor was too frequently guilty of being the author. Upon the whole, though this compoſer, who died March 5th, 1778, had formed a new ſtyle of his own, there did not appear that fertility of ideas, original grandeur of thought, or thoſe reſources upon all occaſions, which are diſcoverable in the works of his predeceſſor Purcell, both for the church and ſtage; yet, in ſecular muſic, he muſt be allowed to have ſurpaſſed him in eaſe, grace, and variety; which is no inconſiderable praiſe, when it is remembered, that from the death of Purcell to that of Arne, a period of more than fourſcore years, no candidate for muſical fame among our countrymen had appeared, who was equally admired by the nation at large.

Of near a hundred and fifty muſical pieces that were brought on the ſtage at the two theatres, from the time of his compoſing Roſamond, to his deceaſe, a period of little more than forty years, thirty of them, at leaſt, were ſet by Arne.

Arne, Michael, the natural ſon of Dr. Arne, was brought at an early age on the ſtage by his aunt Mrs. Cibber, who took great pains in qualifying him for the part of the page in the Orphan, and his father alſo tried to make him a ſinger; but he was naturally idle, and not very quick. However, he acquired a powerful hand on the harpſichord, and played with neatneſs and preciſion ſome of Scarlatti's moſt difficult leſſons. It is recorded with reluctance as a beacon, that his moral character was leſs deſerving of praiſe than his profeſſional. Always in debt, and often in priſon, he ſung his firſt wife to death and ſtarved the ſecond, leaving her in abſolute beggary.

Arne, in *Ancient Geography*, a town of Aſia, in Meſopotamia.—Alſo, a town of the territory of the Eraſbinians, in the vicinity of Thrace.—Alſo, a fountain of Peloponneſus, in Arcadia.

Arne, in *Geography*, a river of Swiſſerland, deſcends from the lofty Alps in the vicinity of Mont Blanc, and forms a junction with the Rhone about a quarter of a league from Geneva; and the two rivers run together for more than half a league before their waters are blended: the ſtream is broad, and on one ſide is the brown and muddy Arne, while on the other are diſtinctly ſeen the clear, blue, and untainted waters of the Rhone. This river, or rather torrent, is ſubject to ſudden and conſiderable ſwellings; and its waters have flowed back on the bed of the river, and in their reverted courſe turned the mills that are conſtructed on its banks. The waters of the Arne, when it has depoſited the ſlime with which it is charged, is of the pureſt quality. Sauſſure, Voy. des Alpes, tom. i. § 13, &c.

ARNEBURG, a ſmall town of Germany, in the circle of Upper Saxony, and old mark of Brandenburg, ſeated on the Elbe. The principal ſubſiſtence of its inhabitants is derived from navigation and traffic in corn, and alſo in agriculture. From the town of Arneburg are denominated a circle and provincial riding. It is 50 miles weſt of Berlin. N. lat. 52° 45′. E. long. 11° 59′.

ARNEDO, a ſea-port town of Peru, with a good harbour, in the Pacific ocean, 23 miles north of Lima. S. lat. 11° 38′. W. long. 76° 54′.

ARNEE, a town of Hindoſtan, in the Carnatic, 14 miles S. of Arcot, and 52 N. W. of Pondicherry.

Arnee, in *Zoology*, a quadruped of the Bos or Ox tribe, a native of India, and which appears to have been firſt deſcribed by Mr. Kerr, in his work on the Animal Kingdom. To Gmelin it was very probably unknown. In the General Zoology by Dr. Shaw it is ſpecifically deſcribed in theſe terms: Bos Arnee. B. Cornibus erectis lunatis ſupra planiuſculis rugoſis.—Ox with upright lunated horns, flat and wrinkled on their upper ſurface. The latter writer obſerves that this Indian ſpecies is known chiefly from its vaſt horns, which are ſometimes ſeen in muſeums; and from Indian paintings, in which it is occaſionally repreſented.

In the work of Mr. Kerr, it is ſaid to have been met with by a Britiſh officer, in the woods above Bengal; and to have been fourteen feet high, meaſuring from the hoofs to the top of the horns. It partakes of the form of the horſe, the bull, and the deer; and is repreſented as a bold and daring animal. The figure of this ſpecies in the work of

Mr.

Mr. Kerr, is copied from an Indian painting, and the ſame figure is again introduced into Dr. Shaw's Zoology. The animal is of a black colour, quite ſmooth, and without either protuberance or mane.

ARNEMUDEN. See ARMUYDEN.

ARNEN, or ARNEM, in *Geography*, a town of Swiſſerland, in the Valais, thirty-five miles eaſt of Sion.

ARNESEIO, a town of Italy, in the kingdom of Naples, and country of Bari, ſeven miles W. S. W. of Andria.

ARNE-SYSSEL, a diſtrict of Iceland, in which is ſituated the epiſcopal ſee of Skaalholt.

ARNEVEL, a town of France, in the department of Sarre; and chief place of a canton, in the diſtrict of Sarrebrued. The place contains 502, and the canton 8514 inhabitants: the territory includes 31 communes.

ARNFELS, a town of Germany, in the duchy of Stiria, ten miles ſouth-eaſt of Landſpurg.

ARNGITZES, a town of Walachia, forty-two miles S. S. E. of Hermanſtadt.

ARNHAUSEN, a town of Germany, in the circle of Upper Saxony and duchy of Pomerania, twenty-four miles eaſt of New Stettin.

ARNHEIM, or ARNEM, *Arnoldi-villa* or *Arenacum*, a large, ſtrong, and populous town of the United Netherlands, the capital of Arnhem or the Veluwe quarter of Guelderland, lies on the north ſide of the Rhine, at the foot of the Veluwe hills, near the place where the Yſſel and the Rhine ſeparate their ſtreams. The ſtreets are regular, the houſes well built, the walls are delightfully planted with elm and lime trees, and the town is the uſual winter reſidence of many families, who ſpend the ſummer on their eſtates in the Veluwe, where they enjoy a much more ſalubrious air than that of the maritime provinces of Holland. The church of St. Walburg is a fine edifice; and that of Euſebius has an excellent chime of bells. Arnheim is fortified with a rampart of earth, paved with brick, and waſhed on one ſide by the Rhine, and on the other by a deep foſſe, dug by Druſus Nero. This city was founded before the time of Tacitus, who mentions it under the name of Arenacum; and it was fortified and inveſted with the privileges of a city by Otho III. duke of Guelderland, A. D. 1233. It is thirty miles eaſt of Utrecht, and forty-five ſouth-eaſt of Amſterdam. N. lat. 52° 2′. E. long. 5° 54′.

ARNIBERG, a mountain of Swiſſerland, in the diſtrict of Engelberg.

ARNICA, in *Botany*. Lin. g. 958. Schreb. 1296. Juſſ. 182. Gærtn. t. 173. Claſs, *ſyngeneſia polygamia ſuperflua*. Nat. Ord. *Compoſitæ diſcoideæ. Corymbiferæ*. Juſſ. Gen. Char. *Calyx*, common, ſhorter than the ray of the corolla; leaflets lanceolate, the length of the calyx, erect. *Cor.* compound, radiate; corollules hermaphrodite in the diſk, very numerous; females in the ray about twenty; proper of the hermaphrodite, tubular, erect, five-cleft, equal; female lanceolate, very long, three-toothed, ſpreading. *Stam.* to the hermaphrodites, filaments very ſhort; anther cylindric; to the females, filaments ſubulate, erect; anthers none. *Piſt.* germen oblong; ſtyle ſimple, the length of the ſtamens; ſtigma bifid. *Per.* none; calyx unchanged. *Seeds*, ſolitary, oblong; down ſimple, in the hermaphrodites pubeſcent, long. *Rec.* naked. *Obſ.* Corollules of the diſk often trifid, with the outer diviſion twice as broad as the others.

Eſſ. Gen. Char. *Rec.* naked; down ſimple; corollules of the ray have five filaments, without anthers.

Species, 1. A. *montana*, mountain arnica. Gærtn. fr. 2. 451. Flor. Dan. t. 63. Woodv. Med. Bot. t. 10. "Leaves ovate, entire, ſtem-leaves twin, oppoſite:" the root is woody; ſtem above a foot high, and not more than half this height in alpine ſituations, ſimple, obſcurely angular; flowers two inches in diameter, of a deep yellow, and placed on upright terminal peduncles; calyx cylindric, compoſed of rough hairy ſcales; ligulate florets about fourteen, three-toothed, ſtriated, twice as long as the calyx, hairy at the baſe; ſeeds oblong, blackiſh, hairy, crowned with a ſtraw-coloured down. A native of moſt parts of the continent of Europe, and of Siberia, flowering in July; cultivated by Miller in 1759. 2. A. *piloſelloides*, mouſe-ear arnica; "leaves perfectly entire, elliptic, villoſe; ſcape one-flowered, woolly; calyx equalling the ray:" the ſtem and leaves covered with down; leaves two or three inches long, and about half this breadth, hairy, eſpecially on the back, pointed; ſcape twice as long as the leaves, very woolly towards the top; flower large; calyx tomentoſe, of the length of the ray; florets of the ray very narrow, of a dark red or purple colour, and male. A native of the Cape of Good Hope. 3. A. *ſcorpioides*, alternate-leaved arnica. Jacq. Flor. Auſt. 4. t. 349. "leaves alternate, toothed." The roots are contorted, and thus ſuppoſed to have ſome reſemblance to a ſcorpion; ſtems ſeveral, from ſix inches to a foot in height, terminated by a deep yellow flower, of two inches diameter; root-leaves roundiſh or oval, deeply ſerrate, on long foot-ſtalks; ſtem-leaves few, nearly ſeſſile, viſcid, ſoft, ſhaggy. The whole plant has a diſagreeable ſmell. A native of Swiſſerland, Savoy, Dauphiné, &c. Cultivated by Miller in 1759. 4. A. *doronicum*, Jacq. Flor. Auſt. 1. t. 92. A cluſii allion. ped. A. ſtiriaca. Villars Dauph. 210. "leaves alternate, ſubſerrate, oblong, rough." The leaves are hairy; ſtem from four to eight inches high, and never bears more than one flower. A native of the high Alps of the Griſons, Dauphiné, Piedmont, and Auſtria. 5. A. *maritima*, ſea arnica. After, helenium maritimum, &c. Gmel. lib. ii. p. 175. "leaves lanceolate, the lower ones ſerrate; ſtem leafy, many flowered." A native of Kamtſchatka and North America. 6. A. *crocea*, ſaffron-flowered arnica; "leaves ovate; repand toothletted, tomentoſe underneath;" ſcape one-flowered, with a few linear bractes; root-leaves oval, often heart-ſhaped, rigid, petioled; florets of the ray furniſhed with ſtamens. A native of the Cape of Good Hope. 7. A. *ciliata*, ciliate-leaved arnica; "leaves ſtem-claſping, ovate, toothed, ciliate, ſmooth; ſtem ſimple, one-flowered." The ſtem is erect, a foot high, angular, hiſpid, with white briſtles; leaves alternate, lower attenuated at the baſe, obovate, gaſh-toothed, ciliate; upper roundiſh, ſcarcely toothed, ſmaller ciliate; flower terminating, red, the ſize of a ſmall pear. A native of Japan. 8. A. *japonica*, japoneſe arnica. Thunb. j. 319. "Leaves gaſh-palmated, toothletted; flowers terminal, ſub-binate;" the ſtem is hollow, round, ſtriated, erect, more than a foot high; leaves petioled, alternate, ſmooth, lobes gaſh-pinnatifid, toothed; petioles of the lower leaves long, of the branches broad; ſtem-claſping, ſtriated, ſhort; flowers peduncled, red, few. A native of Japan. 9. A. *palmata*, palmate-leaved arnica. Thunb. l. c. "Leaves gaſh-palmated, toothed; flowers panicled:" the ſtem is two feet high, ſtreaked, erect, ſmooth; leaves alternate, petioled; lobes of the lower leaves unequal, toothed, the upper undivided, ſerrate; flowers terminating, ſmall, yellow. A native of Japan. 10. A. *gerbera*. "Leaves pinnatifid; lobes rounded;" the lobes of the leaves are imbricated backwards, and, when young, tomentoſe underneath; the ſcape is furrounded with very ſlender leaves, and ſupports one large flower, with a dark purple diſk, and a yellow ray, purple underneath. A native of the Cape of Good Hope. 11. A. *coronopifolia*. "Leaves pinnate; diviſions linear." This very much reſembles the *gerbera*, and is alſo a native of the Cape. 12. A. *opzrina*. Forſt. Auſtr. n. 299. "Shrubby; leaves lanceolate, callous-crenate, tomentoſe beneath; peduncles one-flowered, ſolitary, terminating, ſcaly." A native of New Zealand.

Medicinal Properties. The only ſpecies ſuppoſed to poſſeſs

thefe in any confiderable degree is the *arnica montana*, the virtues of which have been moft extravagantly extolled in Germany. It was firft recommended as peculiarly efficacious in bruifes, and hence obtained the appellation of *panacea lapforum*; and to this refolvent power its utility in various difeafes has been afcribed, particularly in pulmonic complaints, fuppreffio menfium, hepatic obftructions, &c. Of its ufe in paralytic and other affections of a fimilar nature, many teftimonies are adduced: nor have its good effects been lefs praifed in rheumatifm and dropfy; but it is the extraordinary febrifuge and antifeptic powers of the arnica which have been peculiarly celebrated by Dr. Collin of Vienna. With the flowers of this plant made into an electuary with honey, he informs us, that he cured more than one thoufand patients labouring under the different fpecies of intermittent fevers, in the Pazman hofpital, from December 1771 to July 1774, and with the watery extract of the flowers he cured thirty quotidians, forty-fix tertians, and fifty-eight quartans. In putrid fevers the Doctor employed an infufion of the flowers, with which many hundreds of patients were fnatched from the very jaws of death. There are fome cafes, however, in which the Doctor recommends the roots in preference to the flowers, believing the former to poffefs more cordial, tonic, and antifeptic qualities; he therefore prefcribes it where putridity and debility are more prevalent than fever. It was alfo found very efficacious in a malignant dyfentery, in which he adduces many hundred inftances of its fuccefsful employment, confirmed by the practice of Dr. Dietl. In thirteen cafes of gangrenes, this medicine proved its antifeptic virtue in a ftill more evident manner. The Doctor gave nine drams of the powder of the flowers of arnica, mixed with a fufficient quantity of honey, in the courfe of forty-eight hours. Of the infufion in the proportion of one ounce of the flowers to a quart of water, two ounces every two hours. When he employed the root, it was in double this proportion. At firft this plant is apt to occafion vomiting or uneafinefs at the ftomach, fo that it is neceffary to begin with fmall dofes. See Woodv. Med. Bot. vol. i.

Propagation and Culture. 1, 2, 3, 4, 5, the European fpecies, are hardy, and require a moift fituation. They may be propagated by parting the roots in autumn when the ftalks begin to decay, or by the feeds fown in autumn foon after they are ripe, for thofe fown in the fpring often fail; but if the feeds are permitted to fcatter, the plants will often come up of themfelves, and require no other care than keeping them clean from weeds. The other fpecies muft be kept in pots under a frame, or in a dry ftove. They may be increafed by feeds, cuttings, or parting the roots, and muft be treated as other plants from the Cape of Good Hope. See Martyn's Miller's Dict.

ARNICA. See DORONICUM.

ARNICÆ, in *Entomology*, a fpecies of STAPHYLINUS, found on the *Arnica*, and defcribed by Scopoli. It is black, the thorax and antennæ ferruginous; legs teftaceous. Inhabits Europe.

ARNICÆ is alfo a fpecies of MUSCA that inhabits Europe, and is faid to be found chiefly on the difk of radiate flowers, and efpecially on that of *Arnica montana*. It is defcribed by Linnæus in his *Fauna Suecica*; and by Scopoli. The wings are hooked, grey, and fpotted with black.

ARNIS, in *Geography*, a fmall ifland of Denmark, in the duchy of Slefwick, in the gulf of Schely.

ARNISÆUS, HENINGUS, in *Biography*, a celebrated philofopher and phyfician, born at Halberftadt in Lower Saxony, taught medicine at Helmftadt the beginning of the feventeenth century, where he acquired fuch reputation that he was invited to Denmark, and made phyfician and counfellor (archiater) to the king. In 1610, he publifhed "Obfervationes aliquot Anatomicæ," in 4to. In diffecting a woman who died the fixth day after being delivered of her firft child, he faw, he fays, the offa pubis feparated from each other, and the offa ilia from the facrum, and hence accounts for the greater difficulty with which women part with their firft, than with their fubfequent children: "quia articulatio tum primum folvitur." Later obfervations have however fhewn us, that this feparation of the bones of the pelvis is of very rare occurrence, and when it does happen to any conficerable degree, occafions incurable lamenefs. The following year he publifhed, "De partus humani legitimis terminis." This he fixes at the end of the ninth, or the beginning of the tenth month, though he admits a certain latitude, that is, that as the fœtus may be perfect and fit for exclufion fome weeks earlier, fo it may fometimes be detained in the uterus beyond that period.

He wrote alfo feveral political works, which are ftill efteemed. His book "De authoritate principum in populum femper inviolabili," was printed in 1612; and his "Reflectiones politicæ," in 1715. To this work he intended making additions, which were never completed. He was induftrious in his endeavours to acquire information, and for this purpofe travelled over France and England. Haller. Bib. Chir. Gen. Dict.

ARNISSA, in *Ancient Geography*, a town of Greece, in Macedonia.

ARNO, anciently *Arnus*, a river of Italy, rifes in the Apennine mountains, in the duchy of Tufcany; paffes by Florence, divides Pifa into two parts, and enters the Mediterranean, in the gulph of Genoa, twelve miles north of Leghorn, and four below Pifa, to which it is navigable for fmall veffels. It receives in its courfe the Sieva, the Pefa, and the Elfa.

ARNO is alfo a river of Abyffinia, which falls below Emfras, into the lake Tzana.

ARNOBIUS *of Africa*, in *Biography*, a Chriftian divine, flourifhed about the beginning of the fourth century, and taught rhetoric, in the reign of Diocletian, at Sicca in Africa, with great reputation. At this time, he was a blind and zealous idolater; but he afterwards became a convert to Chriftianity, and a diftinguifhed advocate in its defence. The manner of his converfion is thus related by Jerom in his chronicle, at the twentieth year of Conftantine, or the year of Chrift 326. "Arnobius, a rhetorician, is famous in Africa; who, while he taught the youth rhetoric at Sicca, and was yet a heathen, was admonifhed in his dreams to embrace Chriftianity. But when he applied to the bifhop of the place for baptifm, he rejected him, becaufe he had been wont to oppofe the Chriftian doctrine. Whereupon he compofed an excellent work againft his old religion, and thus at length, as by hoftages of his piety, he obtained the feal of the covenant." Dr. Lardner queftions the genuinenefs of this paffage; and he alleges, that Arnobius himfelf doth not any where afcribe his converfion to dreams; that Jerom does not elfewhere mention or even hint at this circumftance; that in Jerom's catalogue, Arnobius is faid to have flourifhed in the time of Diocletian; and that Arnobius fays of himfelf, that he wrote 300 years, more or lefs, fince the rife of Chriftianity, and about 1050 years fince the foundation of Rome, or according to the common computation, in the year of our Lord 297 or 298. Befides, it is improbable, that Arnobius, if he wrote his work when he was a catechumen, as Jerom in the above cited paffage intimates, fhould fpeak of himfelf as a Chriftian, which he does, and that a catechumen fhould undertake the defence of a religion, of which he was at the fame time learning the rudiments. Upon the whole, we may conclude, with Cave and others, that Arnobius became a convert to Chriftianity in the time of the Diocletian perfecution, and in confequence

of obſerving the fortitude with which the Chriſtians endured their ſufferings.

Arnobius's work "Adverſus Gentes," or "Againſt the Gentiles," was probably written ſome time after the commencement of Diocleſian's perſecution, about the year 305 or 306; for he ſpeaks in it of the afflictions endured by the Chriſtians, as if they were actually ſuffering at the time of his writing. This work, which conſiſts of ſeven books, is a valuable defence of Chriſtianity. It ſhews that he was acquainted with the Jewiſh ſcriptures, and with the books of the New Teſtament; though he did not think fit to quote them expreſsly in writing againſt the Gentiles. It evinces the learning and piety of the author; and though it contains a mixture of Pagan errors with Chriſtian doctrines, and though ſome paſſages are obſcure, and the ſtyle, which is ſtrong and nervous, is harſh and unpoliſhed, it may be read with pleaſure and advantage. It is much to the honour of this rhetorician, who poſſeſſed a very conſiderable ſhare of the learning of Greece and Rome, that he embraced the Chriſtian religion in a ſtate of perſecution, and that he employed his talents in its defence. His ſummary of the Chriſtian religion is as follows: "We Chriſtians are men that worſhip the great Lord of the univerſe, according to the direction of Jeſus Chriſt. If you examine it, you will find nothing elſe in this religion: this is the ſum of the whole affair: this is the ſcope and deſign of all our religious offices: to this ſupreme Lord we all bow down; him we worſhip with united prayers; to him we preſent holy, and innocent, and honourable requeſts, fit to be heard by him." The arguments, by which he proves the truth and divine original of Chriſtianity, are deduced from its excellence; from the amiable and perfect character of its author; from the miracles of our Lord himſelf and thoſe of his diſciples; from the great effect of the Chriſtian religion in ſoftening the temper and amending the manners of its votaries, and ſowing the ſeeds and principles of benevolence, peace, and friendſhip among mankind, and in reſcuing them from idolatry and a falſe worſhip; from the extenſive progreſs and influence of the Chriſtian doctrine, inſomuch that there were then Chriſtians, in all countries, as Syria, Perſia, Scythia, Africa, Spain, Gaul, &c.; from its having been embraced under the greateſt difficulties and diſcouragements by men of all ranks, as by orators, grammarians, rhetoricians, lawyers, phyſicians, philoſophers, and the greateſt wits, as well as by men of low condition and inferior attainments; from the abſurdity of ſuppoſing that ſo many people ſhould on a ſudden, without any good reaſon, change their former opinions and cuſtoms, and forſake the religion of their anceſtors, and thus expoſe themſelves to ſingular danger and ſevere ſuffering; and from the character and ſituation of the firſt witneſſes of Chriſtianity, who had no intereſt to induce them to falſify, and who, by withholding their teſtimony, might have avoided many ſufferings, and lived quietly and comfortably among their neighbours: ſo that they muſt have been fully perſuaded of the truth of the things which they related. By ſuch ſolid and convincing arguments did this Chriſtian rhetorician and apologiſt vindicate the truth of our holy religion more than 1500 years ago. He has likewiſe examined and well refuted ſome of the principal objections againſt Chriſtianity. To the Chriſtian religion he bears this honourable teſtimony: "It truſts to its own evidence, and ſtands firm upon its own foundations, whether any man embrace it, or not." Of the time and manner of Arnobius's death we have no account. Among his diſciples we may reckon the learned Lactantius. His treatiſe "Adverſus Gentes," was firſt printed at Rome, in fol. in 1542; at Baſil, in 1546 and 1560; at Paris, in 1580; at Antwerp, with Canter's notes, in 1582, 8vo.; at Cologn, in 1604; at Leyden, with various notes, in 1651, 4to.; and at the end of Cyprian's works, at Paris, in 1666. Lardner's Works, vol. iv. p. 1—22. Cave Hiſt. Lit. t. i. p. 161. Fabr. Bib. Lat. l. iv. c. 3. t. ii. p. 289.

Arnobius *the Younger*, or *of Gaul*, a Chriſtian divine, lived about the year 461, and publiſhed Commentaries upon the 150 Pſalms. He took part with the Pelagians in the diſputes on predeſtination, againſt the followers of Auguſtine. His work was dedicated to Leontius, biſhop of Arles, and Ruſticus, biſhop of Narbonne; and printed at Baſil, in 1522; by Eraſmus, at Cologn, in 1532; and by Laurentius de Barré, at Paris, in 1699; and in the Bibl. Patrum of Paris and Leyden. Fabr. Bib. Lat. t. ii. p. 292.

ARNODI, in *Antiquity*, the ſame with Rhapsodi. The word is compounded of ἀρνὸς, *a lamb*, which was their uſual reward; and ᾠδὴ, *ſong* or *ſinging*.

ARNOLD *of Breſcia*, in *Biography*, an Italian monk, was a native of Breſcia, but in his youth travelled to France, where he became a diſciple of Abelard, and probably imbibed ſome of his notions concerning the Trinity and the Sacraments, that were repugnant to the orthodox creed. On his return to Italy, he aſſumed the monaſtic habit, and taught ſome doctrines that were deemed heretical. His hereſy, however, was chiefly of a political kind. Having perceived the diſcords and animoſities, the calamities and diſorders, that ſprung from the overgrown opulence of the pontiffs and biſhops, he was perſuaded that the intereſt of the church and the happineſs of nations in general required, that the clergy ſhould be diveſted of all their worldly poſſeſſions, and of all their temporal rights and prerogatives. He, therefore, maintained publicly, that the treaſures and revenues of popes, biſhops, and monaſteries, ought to be ſolemnly reſigned and transferred to the ſupreme rulers of each ſtate; and that nothing was to be left to the miniſters of the goſpel but a ſpiritual authority, and a ſubſiſtence drawn from tithes, and from the voluntary oblations and contributions of the people. This doctrine was eagerly embraced by the laity; and it was recommended by the extenſive erudition, irreproachable character, ſingular authority, and vehement zeal of the propoſer. Arnold was honoured as a patriot, and the inhabitants of the dioceſe of Breſcia revolted againſt their biſhop. The church was alarmed, and the reforming monk and his doctrine were condemned in the council of Lateran, A. D. 1139, by Innocent II. Arnold fled from perſecution to Swiſſerland, and found an aſylum at Zurich, where his doctrine was at firſt received with applauſe; but at length he was obliged to leave Swiſſerland, and after the death of Innocent II. in 1151, he returned to Italy, and ſet up the ſtandard of eccleſiaſtical reform and of civil freedom at Rome. His bold harangues on the inalienable rights of men and Chriſtians, rouzed the populace, and produced tumults and ſeditions, which terminated in the emancipation of the inferior clergy from the deſpotic yoke of the cardinals, and in a change of the civil government of the city. Arnold, in fact, poſſeſſed the chief power in Rome during ten years, while the Popes "either trembled in the Vatican, or wandered as exiles in the adjacent cities." On the acceſſion of Adrian IV., Arnold and his followers were driven from Rome, and found protection at Otricoli in Tuſcany. After the coronation of Frederic Barbaroſſa, pope Adrian preferred complaints to the emperor againſt Arnold; and he was ſeized by cardinal Gerard, brought to Rome, and condemned by the prefect of the city to ſuffer death. Accordingly, in 1155, he was burnt alive; or, as Moſheim ſays, crucified, and afterwards burnt; and his aſhes were thrown into the Tiber, leſt the people ſhould worſhip them as ſacred relics. Arnold was undoubtedly of an impetuous and turbulent ſpirit, and his proceedings were imprudent and violent: but one of his

biographers has not untruly obſerved, "that he lived in an age which provoked reform." "With his aſhes," ſays Gibbon, "his ſect was diſperſed," though "his memory ſtill lived in the minds of the Romans." But Moſheim ſays, that "this violent reformer, in whoſe character and manners there were ſeveral things worthy of eſteem, drew after him a great number of diſciples, who derived from him the denomination of *Arnoldiſts*; and, in ſucceeding times, diſcovered the ſpirit and intrepidity of their leader, as often as any favourable opportunities of reforming the church were offered to their zeal." Moſheim's Eccl. Hiſt. vol. iii. p. 119. Gibbon's Hiſt. vol. xii. p. 291, &c.

ARNOLD, NICHOLAS, was born at Leſna in Poland, in 1618; and after having ſtudied in ſeveral univerſities, and viſited England in 1644, was choſen profeſſor of divinity at Franeker in Friſland, in 1652; which poſt he occupied till his death in 1680. He is the author of ſeveral tracts againſt the Socinians; particularly, "A Refutation of the Catechiſm of the Socinians;" "A Commentary on the Epiſtle to the Hebrews;" and "Lux in Tenebris," printed at Leipſic in 1698, 8vo., and explaining paſſages adduced by the Socinians in favour of their ſyſtem. Gen. Dict.

ARNOLD, GODFREY, a German divine, and celebrated eccleſiaſtical hiſtorian, was born at Annaberg, in the mountains of Miſnia in Saxony, in 1666, and ſtudied in the univerſity of Wittemberg, where he acquired reputation by his perſonal conduct and literary improvement. In 1697, he was appointed profeſſor of hiſtory at Gieſſen, but diſapproving of the forms of admiſſion required in the German univerſities, he reſigned his office, and in 1698 retired to Quedlinburg. In 1700, he removed to Altſtedt, where he became chaplain to the ducheſs dowager of Eiſenach. Being obliged to leave this city, in 1705, he was invited to Brandenburg by the king of Pruſſia, and preferred to the office of paſtor of the church of Werben; and in 1707, his Pruſſian majeſty appointed him paſtor and inſpector of the churches of Perleberg, and afterwards hiſtoriographer to that court. Here he died in 1714. He was conſidered as the patriarch of a ſect of German myſtics, called "Pietiſts." Beſides many other works, he wrote in German, "A Hiſtory of the Church, and of Hereſies;" "Hiſtoria Eccleſiaſtica et Hereticа," printed at Leipſic in 1700, 8vo. which incurred the reproach of his being a defender of heretics; and in Latin, "The Hiſtory of Myſtic Theology." The rigid Lutherans have treated him with peculiar ſeverity; and Moſheim repreſents his hiſtory, "as the production of a violent ſpirit, and dictated by a vehement antipathy againſt the doctrines and inſtitutions of the Lutheran church:" he acknowledges, however, that "he became at laſt a lover of truth, and a pattern of moderation." Gen. Dict. Moſheim's Eccl. Hiſt. vol. v. p. 325.

ARNOLD *of Hildeſheim*, an hiſtorian of the thirteenth century, flouriſhed under the emperors Philip and Otho IV. His "Continuation of the Chronicles of the Sclavonians by Helmeldus," is chiefly valuable in its relation to Sclavonia. It was publiſhed at Lubeck in 1659; and by Meibomius in the "Opuſcula Hiſtorica," printed at Helmſtadt in 1660. Dupin.

ARNOLD *of Villanova*. See ARNAUD.

ARNOLD, SAMUEL, Muſ. D. an eminent muſical compoſer, received his muſical education at the Chapel Royal, St. James's, partly under Mr. Gates, and partly under his ſucceſſor, Dr. Nares. He manifeſted early indications of thoſe talents by the cultivation and exerciſe of which he acquired celebrity in the ſcience to which he was devoted; and his application, as well as ſubſequent attainments, fully juſtified the expectations which were formed concerning him both by his parents and preceptors. It is hardly neceſſary to mention that little lively air, "If 'tis joy to wound a lover," which firſt excited popular attention, as it was ſoon ſucceeded by various compoſitions of a ſuperior kind, which evinced the genius and taſte, and eſtabliſhed the profeſſional reputation, of Mr. Arnold. About the year 1760, Mr. Beard, one of the managers of Covent Garden theatre, duly apprized of his extraordinary merit, introduced him to the notice of the public, as compoſer to that houſe; and in the year 1776, he was engaged by Mr. George Colman, to conduct the muſical department at the theatre in the Haymarket. The chief muſical pieces that were produced for many years at this theatre, were compoſed by Mr. Arnold. Having in early life enjoyed the benefit of Handel's direction and ſuperintendance, and having derived from this ſublime compoſer, a taſte for ſacred muſic, he diverted his attention from thoſe lighter pieces in which he had gained reputation, to the compoſition of oratorios; and his performances of this kind ſerved to augment the fame which he had already acquired. In the year 1767, he made choice of the "Cure of Saul," written by the late Rev. Dr. Brown, for the ſubject of his firſt effort in the higher ſtyle of muſical compoſition. Such was his ſucceſs, that this production is generally allowed to be the beſt of its kind ſince the time of Handel. It was generouſly preſented by the author to the ſociety inſtituted for decayed muſicians and their families; and to that ſociety it proved a very valuable acquiſition. The approbation of the public encouraged Dr. Arnold to proceed; and the "Cure of Saul" was ſoon followed by the oratorios of "Abimelech, the "Reſurrection," and the "Prodigal Son;" which were performed during ſeveral ſucceſſive Lents at the theatre-royal in the Haymarket, and Covent-garden theatre, under his own management and direction. About the time of his compoſing the "Reſurrection," he publiſhed in ſcore, four ſets of Vauxhall ſongs, moſt of which are ſingularly ſweet in their melodies, and diſplay in their accompaniments a thorough acquaintance with the characters and powers of the various inſtruments. Of all his oratorios, ſays an anonymous writer, the "Prodigal Son" reflects the greateſt honour on his talents and judgment. So high, indeed, was the fame of this ſacred drama, that in 1773 it was performed with his permiſſion, at the inſtalment of the late lord North, as chancellor of the univerſity of Oxford. In conſequence of his ready compliance with the requeſt made to him for this purpoſe, he was offered an honorary degree in the theatre, but he preferred obtaining it in the academical mode; and, agreeably to the ſtatutes of the univerſity, he received it in the ſchool-room; where he performed, as an exerciſe, "Hughes's poem on the power of Muſic." On this occaſion it is cuſtomary for the muſical profeſſor of the univerſity to examine the exerciſe of the candidate; but Dr. Hayes, then profeſſor of Oxford, returned Mr. Arnold's ſcore unopened, ſaying to him, "Sir, it is quite unneceſſary to ſcrutinize the exerciſe of the author of the Prodigal Son." In 1771, Mr. Arnold married a lady of good family and fortune; and about the ſame year he purchaſed "Marybone gardens," which were then a much frequented ſcene of gaiety and faſhion. Here he provided for the entertainment of the public, ſeveral excellent burlettas, which were very favourably received.

On the death of the late Dr. Nares, in 1783, Dr. Arnold was appointed his ſucceſſor as organiſt and compoſer to his majeſty's chapel at St. James's; and at the grand performances of the commemoration of Handel, in Weſtminſter abbey, the firſt of which took place in 1784, he was one of the ſubdirectors, and preſented with a medal, which his majeſty permitted the ſubdirectors always to wear, as a teſtimony of his approbation of their conduct on that occaſion. In 1786, Dr. Arnold projected the plan of publiſhing

liſhing an uniform edition of all the works of Handel; and he proceeded as far as the 118th number, enriching his edition with beautiful engravings. He alſo publiſhed, about the ſame time, four volumes of cathedral muſic, intended as a continuation of Dr. Boyce's well-known work; three of the volumes are in ſcore for the voices, and one for the organ. In 1789, the Academy of Ancient Muſic choſe Dr. Arnold for the director and manager of this inſtitution; and he conducted it with honour to himſelf, and with ſatisfaction to the academicians and ſubſcribers. In 1796, he ſucceeded Dr. Hayes, as conductor of the annual performances at St. Paul's for the feaſt of the ſons of the clergy; and in this ſituation he uniformly maintained his diſtinguiſhed character as a muſical profeſſor. Dr. Arnold cloſed his life, after a gradual decay, in the ſixty-third year of his age, on the 22d of October, 1802; and his remains were interred, with every mark of reſpect, in Weſtminſter abbey. He had five children, of whom two daughters and one ſon ſurvived him. His ſon, Mr. Samuel Arnold, is the author of ſeveral muſical dramas, which have been well received, and of a novel, entitled, "The Creole;" and he is now making rapid progreſs in the profeſſion of a portrait painter.

Of the abilities of Dr. Arnold as a muſical compoſer, it is needleſs to add any thing by way of eulogium; the public approbation has anticipated the tribute of applauſe which the biographer might be diſpoſed to pay to his memory. His oratorios are not unworthy of the diſciple of ſo great a maſter as Handel: and ſuch was the verſatility of his talents, that he not only acquitted himſelf with high credit in thoſe ſolemn and auguſt ſubjects which relate to our religious duties, but in thoſe tender, playful, and humorous compoſitions which belong to the beſt of our public amuſements. The "Maid of the Mill," the "Agreeable Surpriſe," "Incle and Yarico," the "Surrender of Calais," the "Shipwreck," and "Peeping Tom," will continue to delight as long as a ſenſe of harmony ſubſiſts. Arnold's "Shunamite Woman," one of his lateſt productions, poſſeſſes the genius of his earlier compoſitions, with that additional ſcience which he had derived from ſtudy and experience.

It may be further mentioned to the honour of Dr. Arnold's character and memory, that the exerciſe of his profeſſional talents was not confined either to the amuſement of the public, or to his own private emolument. Many charitable inſtitutions have derived great benefit from his voluntary and gratuitous aſſiſtance. Beſides his profeſſional excellencies, and the general benevolence of his diſpoſition, Dr. Arnold poſſeſſed many qualities which entitled him to the eſteem of thoſe who knew him. "His genius and ſcience," ſays an anonymous writer, who ſeems to have known him well, and to have juſtly appreciated his merit, "procured him a numerous circle of friends, and his ſocial and amiable diſpoſition conſtantly preſerved them. His converſation was pleaſant and unaffected; his heart was framed to feel for the diſtreſs of others; and his friendſhip was zealous and ſincere."

ARNOLDSGRUN, in *Geography*, a town of Germany, in the circle of Upper Saxony, 4 miles eaſt of Oelſnitz.

ARNOLDSTEIN, or Arlstein, a town of Germany, in Carinthia, 7 miles S.W. of Willach.

ARNON, in *Ancient Geography*, a river, or rather torrent of Paleſtine, had its ſource among the mountains of Gilead, in Arabia, traverſed the deſert, running at firſt from north to ſouth, and then from eaſt to weſt, and diſcharged itſelf into the lake Aſphaltites, or the Dead Sea. By its courſe it divided the Amorites from the Moabites. This river gave name to a canton of Paleſtine, ſituate along its banks, on the other ſide of Jordan.

Arnon, in *Geography*, a river of France, which runs into the Cher, near Vierzon.

ARNOSERIS, in *Botany*. See Lapsana.

ARNOSORA, in *Geography*, a town of Italy, in the kingdom of Naples, and province of Principato Citra, 12 miles S.E. of Salerno.

ARNOTA, a town of Wallachia, 18 miles weſt of Kimnick.

ARNOTTA, in *Botany*, a name given by the peaſants of Burgundy, and many other places, to certain roots which they frequently turn up, from five or ſix inches depth, in plowing the ground. They carefully collect theſe, and eat them, after roaſting in the aſhes, or otherwiſe; by which ſort of cooking they acquire the taſte of a chefnut, and are found to be a very wholeſome and nouriſhing food. They are blackiſh on the outſide, and white within, and are of the ſize of a ſmall walnut. They are common in the north of Scotland, and called *arnots*. See Bunium.

ARNOTTO. See Bixa.

ARNOYA, in *Geography*, a river of Spain, which runs into the Minho, near Rivadavia, in Gallicia.

ARNSBURGH, a town of Germany, in the circle of Upper Saxony, and country of Schwartzburgh Rudolſtadt. 3 miles S. E. of Sonderſhauſen.

Arnsburg, is alſo a town of Germany, in the circle and county of Solms-Braunfels, 3 miles N.E. of Muntzenberg, and 6 S.S.E. of Gieſſen.

ARNSFELD, a town of Germany, in the circle of Upper Saxony, and country of Erzgebirg, 5 miles ſouth of Wolkenſtein.

ARNSHAUG, a town of Germany, in the circle of Upper Saxony and diſtrict of Neuſtadt, 1 mile ſouth of Neuſtadt.

ARNSHEIM, a town of Germany, in the circle of the Lower Rhine, and palatinate of the Rhine, 20 miles N.W. of Worms, and 14 S.W. of Mentz.

ARNSTADT, a town of Germany, in the circle of Upper Saxony, and country of Schwartzburg, on the Gera, 12 miles ſouth of Erfurt. N. lat. 50° 40'. E. long. 11° 3'.

ARNSTEIN, a town of Germany, in Thuringia, and county of Mansfeld, between Mansfeld and Quedlinburg.

ARNSTORF, a town of Germany, in the archduchy of Auſtria, 6 miles weſt of Maultern.

ARNTSEE, a town of Germany, in the circle of Upper Saxony, and old mark of Brandenburg, on the ſide of a deep lake formed by an earthquake in the year 811.

ARNULPH, or Ernulph, in *Biography*, biſhop of Rocheſter in the reign of Henry I., was born at Beauvais in France, about the year 1040. Having ſtudied at the abbey of Bec, under Lanfranc, archbiſhop of Canterbury, he came over to England at his ſolicitation; and paſſed through the gradations of prior of the monaſtery of Canterbury, and of abbot of Peterborough, to the ſee of Rocheſter. He held this ſee nine years, and died in 1124, at the age of 84 years. His mind was tinctured in a very conſiderable degree with the ſuperſtition of the age in which he lived. His works are a hiſtory of the church of Rocheſter, known by the title of "Textus Roffenſis;" "An epiſtle on inceſtuous marriages;" and "An epiſtle containing anſwers to divers queſtions of Lambert, abbot of Munſter, eſpecially concerning the body and blood of our Lord." Biog. Brit.

ARNULPHIN, *Arnulphinus*, a coin of the value of a ducat and a half, current in ſome parts of France in the fifteenth century. Du-Cange.

ARNULPHUS, in *Biography*, an Egyptian by birth, and a magician by profeſſion, lived in the reign of Marcus Antoninus, and deluded the Roman people by his pretended miracles

miracles and incantations. Dion the hiſtorian (l. 55.) relates, that in 174, he obtained, by the invocation of Mars and other gods of the air, a ſhower, which ſecured to the Roman army the victory in an engagement with the Germans.

ARNWAY, John, a divine of the Engliſh church, was born of a good family in Shropſhire, in 1601, educated at Oxford, and preferred to the rectories of Hodnot and Ightfield, in his native county, where he was diſtinguiſhed by his learning and his charity. Upon the breaking out of the civil war, he manifeſted his loyalty by cloathing ſoldiers for the king's ſervice, and preaching againſt rebellion. His zeal in the royal cauſe expoſed him to a variety of misfortunes; his houſe was plundered, his eſtate ſequeſtered, and his perſon impriſoned. After the king's death, he was releaſed from priſon, but compelled to leave the kingdom. He continued ſome time at the Hague; but the penury of his circumſtances obliged him to avail himſelf of an offer to remove to Virginia, where he died in 1653. During his reſidence at the Hague, he publiſhed "The Tablet, or the moderation of Charles I. the martyr;" and "An alarm to the ſubjects of England."

ARO, in *Geography*, a river of Spain, which runs into the Mediterranean, 2 leagues ſouth from Palamos in Catalonia.

AROANII, in *Ancient Geography*, mountains of Arcadia, north-weſt of Amilos, inhabited by the Phœnæates.

AROBE, by ſome ſpelt and pronounced *arrole*; in Spaniſh, *arroba*; in the language of Peru, *arrou*: a weight uſed in Spain, Portugal, Goa, Brazil, and throughout all Spaniſh America. All theſe *arobes* are ſcarcely like each other but in name, being very different in weight, and in their proportion to the weights of other countries. The *arobe* of Madrid, and almoſt all over Spain, weighs twenty-five Spaniſh pounds.

AROCELIS, in *Ancient Geography*, a town of Spain, in the county of the Vaſconi, north-weſt of Pompelo.

AROCHA, a river of Italy, in Brutium, the courſe of which is placed by M. D'Anville from north to ſouth into the gulf of Squilace, between Semirlus to the weſt and Targines to the eaſt.

AROCHE, in *Geography*, a town of Spain, in the province of Andaluſia, and country of Seville, on the frontiers of Eſtremadura, near a chain of mountains to which it gives name, extending along Spaniſh Eſtremadura to the frontiers of Portugal, forty-ſix miles north weſt of Seville.

AROE, in *Ancient Geography*, a town of Achaia, now called Patras.

AROER, a town of Paleſtine, on the north bank of the river Arnon, which had belonged to Sihon, king of the Amorites, upon the confines of the country of the Moabites. In the general diſtribution, it pertained to the tribe of Gad; Numb. xxxii. 34. This was probably the Aroer beyond Jordan, mentioned 1 Sam. xxx. 28. There were other towns of this name, ſo called from *Aroer* in Hebrew denoting heath, on account of their ſituation. Reland (t. 1. p. 583.) thinks there was a city of this name near Rabbah of the Ammonites, otherwiſe called Philadelphia, and that it is the Aroer referred to in Joſh. xiii. 25. Judg. iii. 33.

AROKHAGE, in *Geography*, the capital city of a country in Aſia, to which it gives name, correſponding to the ancient Arachoſia, and lying about 100 miles to the ſouth of Candahar. N. lat. 31° 28′. E. lon. 65° 29′.

AROLEC, the name of a weight, in uſe in ſome parts of America, and in quantity equal to twenty-five pounds of our weight.

AROLSEN, in *Geography*, a town of Germany, in the circle of the Upper Rhine, and county of Waldeck, near the river Aar, twenty-nine miles S. S. E. of Paderborne, and thirty-eight W. S. W. of Gottingen. N. lat. 51° 15′. E. long. 8° 30′.

AROMA, in *Modern Chemical Language*, is applied to a certain ſubtle attenuated principle, in which the ſmell of all odoriferous bodies is ſuppoſed peculiarly to reſide.

The term aroma has ſuperſeded that of *ſpiritus rector*, uſed by the older chemiſts down to the time of the modern alterations in chemical nomenclature; but the latter appellation has had a more extended ſenſe; of which, as a part of chemical hiſtory, it may be proper to ſay a few words.

The ancient chemiſts, who united in a rare degree the oppoſite qualities of ardent imagination and patient inquiry, ſuppoſed that in every animal or vegetable there is a certain *aura*, or ſpirit peculiar to that ſingle body, and ſo ſubtle as only to be perceived by the ſenſes of ſmell and taſte, or by particular effects upon the nervous ſyſtem of the animal body. This *aura* then exhibits the proper character of that body, and from its great penetrability, exquiſite ſubtlety, and extraordinary volatility, it was termed the *ſpiritus rector*, or preſiding ſpirit.

If we conſider the appropriate and often intenſe odour poſſeſſed by the fragrant or the fœtid vegetables, by muſk and other animal juices; the *notus odor* whereby living animals diſtinguiſh each other, whereby the hound ſelects his game or recognizes his maſter; the narcotic aura of opium; and the ſickening and often deleterious effluvia of ſeveral of the moſt formidable poiſonous vegetables found in tropical regions; and laſtly the ſubtle matter of contagion which is ſcarcely evident to any ſenſe, and only known by its terrible effects: when all theſe circumſtances are taken in view, we cannot conſider it as a very wild conjecture to ſuppoſe ſomething peculiar in the nature and eſſence of odour independent of all other natural bodies.

The ancient chemiſts, however, have not limited themſelves to general conjecture, but have attempted to analyſe the properties of this odorous principle, to give it "a local habitation and a name;" and in ſo doing they have been carried beyond the ſober bounds of rational inquiry, and have advanced opinions which have long been conſigned to merited oblivion.

We ſhall not attempt the unprofitable taſk of unravelling the myſteries of Paracelſus and other chemiſts of the ſame ſtandard, in order to purſue this inquiry; but ſhall avail ourſelves of the learning and admirable judgment of the excellent Boerhaave, to ſelect juſt ſo much of theſe opinions as is neceſſary to ſhew how the idea of a *ſpiritus rector*, which is very general in its nature, has come to be confined almoſt excluſively to the aroma of vegetables. This ſpirit, as Boerhaave obſerves, was ſuppoſed "to be lodged by the Creator in a tenacious durable matter, not eaſily to be diſperſed either by air, water, or fire, and called *oil*, by whoſe *lentor* it is as it were inviſcated and prevented from flying off and deſerting the body for whoſe direction it was appointed." This oil, however, is more volatile than the common groſs oils, and contains the *ſpiritus rector* in a very ſparing quantity.

The idea and name of *eſſence* and *quinteſſence* have a ſimilar origin. The ancient chemiſts conceived that the four elementary ſubſtances of fire, air, earth, and water, contributed to the compoſition of bodies, and to this was added a *fifth eſſence* (quinta eſſentia) extremely ſmall in quantity, but rich in efficacy, which by its own particular virtue imparted odour, colour, taſte, and inherent characteriſtic qualities.

Having formed this theory, an appoſite illuſtration was requiſite,

requiſite, and none appeared ſo much to the purpoſe as the products obtained by the diſtillation of ſome of the aromatic vegetables. The following example which Boerhaave gives is very clear and intelligible: ſuppoſe cinnamon "which is an aromatic of a moſt fragrant ſmell and pleaſant taſte; on diſtilling a pound of this with boiling water, there will ariſe a milky odorous ſavoury liquor, to the bottom of which ſettles a little ruddy fragrant oil, ſtrong of the virtue of the cinnamon, and ſuch the firſt liquor was. After ſeparating the liquors, let the remaining bark be diſtilled with a ſecond water, upon this will ariſe a limpid watery juice of an acid taſte, a faint ſmell, and affording none of the marks of cinnamon, &c." The inference which the author would draw from this is obvious; the *ſpiritus rector*, or diſtinguiſhing characteriſtic of the cinnamon, reſides in the water and oil, the products of the firſt diſtillation; and the remaining ſubſtance of the bark conſiſts only of the common vegetable principles, is inert in its nature, inodorous, inſipid, and incapable of producing thoſe effects upon the nervous ſyſtem of living animals which it exhibited before diſtillation. Again, if the diſtilled water ſeparated from the oil be expoſed to the air, the whole place will ſmell of cinnamon, and the water will after a while become inſipid, and loſe all its aromatic virtue, yet without ſuffering a greater loſs of weight than common water would have done under ſimilar circumſtances; and alſo if the fragrant oil be expoſed to the air, it will gradually loſe its odour, but will remain nearly of the original weight: and from theſe facts it is inferred, that the *ſpiritus rector* is extremely ſmall in quantity, when ſeparated from thoſe ſubſtances with which it is naturally combined.

The example of the aromatic vegetables correſponding ſo well in theſe important particulars with the theory of a peculiar aroma or eſſential ſpirit, we ought not to be ſurpriſed to find the opinion of Paracelſus and the older chemiſts, diveſted of its myſticiſm and extravagance, ſupported by ſuch reſpectable authorities as Boerhaave, Macquer, Beaumé, and many other excellent chemiſts; and the proceſſes for obtaining the ſpiritus rector have long formed a regular part of the practice of chemiſtry.

As the extraction of the aroma of vegetables makes an intereſting branch of vegetable chemiſtry, we ſhall give the proceſs and the remarks of the celebrated Beaumé, whoſe long experience as a pharmaceutical chemiſt entitles him to the higheſt attention.

"To prepare the ſpiritus rector of thyme, take any quantity of this plant freſh gathered and flowering, put it in an alembic, and moiſten it with a very ſmall quantity of water (which addition however is not requiſite where a ſucculent plant is employed). Diſtil with a water bath in a very gentle heat, not equal to that of boiling water, and a perfectly clear odorous water will ariſe. When about half an ounce of this liquor to the proportion of a pound of the plant has diſtilled over, ſtop the operation, and this liquor is the *ſpiritus rector of thyme*. If however the proceſs be continued till the plants be perfectly dry, a larger quantity of liquor comes over, and this is called *eſſential water of thyme*.

In like manner may be prepared the ſpiritus rector of all other aromatic or acrid plants. This preparation is not uſed however in medicine, probably from being too expenſive, and from not differing very materially in properties from the diſtilled eſſential water, which is yielded in much larger quantities, and prepared by the addition of more water to the plants before diſtillation.

If the liquid ſpiritus rector be kept even in well cloſed bottles, it becomes mouldy and viſcid in a year or two, but the ſame effect takes place much more rapidly when expoſed to the air.

The quantity of aroma furniſhed by the ſeveral odorous plants differs greatly: thoſe that have a high and penetrating ſcent, but yield little eſſential oil in diſtillation, ſuch as the tuberoſe, jaſmine, jonquil, &c. are ſaid to give the greateſt proportion of ſpiritus rector, but in ſo volatile a ſtate that it cannot be procured in union with water in the uſual way. The intermede of alcohol or fixed oil, is required in this caſe.

If the aroma be conſidered as a ſeparate principle, there can be no plea for denying its production when the pungent acrid vegetables are ſubmitted to diſtillation. Thus, muſtard-ſeed, diſtilled with the precautions above mentioned, yields an intenſely pungent aqueous liquid, in which the ſenſible qualities of muſtard are certainly very much condenſed, and it would be called by the older chemiſts the ſpiritus rector of muſtard.

We ſhall treat more fully of theſe proceſſes under the articles *Diſtilled* WATERS *of Pharmacy*, *Diſtilled* SPIRITS, and OIL *Eſſential*.

Even the inodorous plants, ſuch as lettuce or borrage, when diſtilled with care by a very gentle heat, may be made to yield a liquor in which an odour peculiar to each plant may be ſelected, and this may be termed the aroma of theſe vegetables.

By the proceſs of *cohobation*, or re-diſtilling the firſt liquor over freſh materials, the aroma appears to be condenſed in a much ſmaller bulk of watery menſtruum, and at the ſame time the liquor becomes ſuperſaturated with the aromatic eſſential oil of the plant. This is ſhewn in a ſtriking manner in the preparation of that exquiſite oriental perfume, the *Attar of* ROSES. That moſt ſpeedily fatal of all known poiſons, the LAUREL *Water*, is another example of the ſame; the aroma of the laurel has a ſudden and violent operation on the nervous ſyſtem of living animals; now if laurel leaves are diſtilled in a gentle heat with a ſmall quantity of water, the firſt product is a clear liquor holding all the aroma in ſolution, ſmelling powerfully of the plant, and poſſeſſed of a poiſonous quality, whilſt the remaining leaves are inſipid and inert: but if the ſame liquor be again diſtilled with freſh leaves, it receives all the aroma of this ſecond quantity, becomes proportionably ſtronger, and acts with more energy on the living body; and thus by repeating the proceſs, ſo much of the aroma is condenſed into a ſmall bulk of water, that the peculiar qualities of laurel may be exhibited in the moſt ſtriking manner, unincumbered with the common vegetable materials of which the leaf itſelf is compoſed.

The extraction of the aroma of plants is the baſis of the art of perfumery, an art in which there is much room for the exerciſe of ſkill and ingenuity, and to the ſenſes at leaſt it is one of the moſt agreeable branches of technical chemiſtry. We have mentioned that the aroma of ſome exquiſitely ſcented flowers, ſuch as the tuberoſe, jaſmine, or honey-ſuckle, though moſt potent to the ſenſes, is of ſo extremely volatile a nature that it cannot be prepared by common diſtillation with water; and if it does reſide in an eſſential oil, the quantity of that oil is ſo minute as not to be extracted in the uſual proceſſes. The perfumers have therefore adopted a very ingenious method of fixing the aroma in expreſſed oils without the aſſiſtance of any but the gentleſt heat. The oil which is uſed is either oil of ben or the pureſt olive oil, both of which are entirely ſcentleſs. The proceſs is the following: the flowers whoſe aroma is to be extracted, the jaſmine flowers for example, are thickly ſpread upon flakes of wool, previouſly ſoaked

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in the fixed oil, then are inclofed in tin boxes, and fuffered to remain till the flowers begin to decay and lofe their texture and colour. They are then removed, freſh flowers are added, and the maceration repeated till the fixed oil becomes richly impregnated with the jaſmine ſcent. The wool is then preſſed, and the fragrant oil ſeparated from the flowers is put in clofely-ſtopped bottles, and ſold under the name of *eſſence* of jaſmine, or whatever other flower was employed. Care is taken during the operation to pick the flowers carefully. Theſe eſſences therefore conſiſt of a fixed oil ſaturated with the aroma of the plant, and if theſe eſſences are digeſted in pure alcohol, the oil remains inſoluble in this liquid, but yields to it the aroma; and thus the ſcent alone is transferred to the ſpirit. By this method a ſpirituous water is prepared for the toilette, ſcented with theſe delicate and exquiſite perfumes.

The chemical nature of aroma may be conſidered as ſtill unknown to us; that is to ſay, we are ſtill ignorant whether the powerful ſcent of a plant reſides in ſome ſubſtance of ſo delicate a nature as to have eluded our reſearch, or whether it is only an inherent quality in ſome known part of the plant (and if this is the caſe, probably it is the eſſential oil), which by being volatilized in the air is able to reach our olfactory organs.

Moſt chemical writers have brought the inſtance of the inflammable gas, which, in ſultry evenings, is often found to hover round the fraxinella when in full blow, as an example of aroma in the pureſt form in which it is ever procured. This would certainly be an intereſting ſubject for chemical examination, if we could flatter ourſelves that the means which chemiſtry affords were at all equal to the taſk; but what chemiſt could yet flatter himſelf with the hopes of diſcovering the nature and compoſition of ſcented air, of finding a means of ſeparating the odorous principle of the ſyringa that ſickens with its fragrance, from the breeze that conveys it to his ſenſes; or of diſtinguiſhing by chemical teſts the inconceivably minute portion of the aroma of muſk that loads with its oppreſſive ſcent an extenſive chamber, from the dreadfully active effluvia which ſpreads diſeaſe and peſtilence?

The moſt powerful argument in favour of the peculiar nature of aroma diſtinct from that of eſſential oil, ſeems to be the circumſtance which we have juſt mentioned, namely, that the quantity of aroma emitted by ſeveral of the moſt fragrant flowers, and which is indicated by the extent of atmoſphere ſaturated as it were with perfume, is not in the leaſt degree commenſurate with the quantity of eſſential oil which any proceſs of art can extract from them. We ſhall forbear, however, to enter further into this inquiry, but as we may ſurely infer from the examples of effluvia, of galvaniſm, and of contagion, that the organs of ſenſation in the living animal are more delicate analyſts than the teſts and re-agents of the chemiſts, they certainly ought to be conſidered as at leaſt equally concluſive.

A very few words will be ſufficient on the ſubject of the different ſpecies of aroma which have been ſuppoſed to be detected by various chemiſts. So many of the parts and products of living vegetables are in a certain degree volatile in an atmoſphere of moderate warmth, that the aroma which is equally volatile may readily combine with all or any of them. The gas of the fraxinella has been already mentioned as one example of gaſeous aroma; the pungent vapour of the cruciform plants has been found by late experiments to contain ſulphurated hydrogen, which probably aſſiſts the volatilization of the aroma, and furniſhes another example of the gaſeous. The watery aromas and the eſſential or oily aromas are almoſt indiſtinguiſhably intermixed in the products of the diſtillation of plants, in the old methods of obtaining the ſpiritus rector which have been already deſcribed. All the pure eſſential oils alſo contain aroma as a characteriſtic ingredient, though the intenſity of this principle varies not only in different oils, but in the ſame ſpecies at different ſeaſons; and, as we have mentioned, is almoſt entirely loſt by long expoſure to the air; but whether this change takes place by an actual loſs of the aromatic principle, or by ſome internal chemical change, has not yet been aſcertained. Laſtly, various odorous plants yield an aromatic liquor which is ſlightly acid; the nature of this acid is not ſufficiently known, but it has been ſuſpected to be ſimilar to the benzoic. Some further notice will be taken of this ſubject under the other articles belonging to vegetable matter, and that of VEGETABLE *Analyſis*.

Aroma is by ſome particularly applied to denote myrrh.

AROMA *Germanicum*, is a denomination given by Platerus to elecampane. Some writers give the title *aroma Germanicum* to juniper berries, on account of the great eſteem they are in among that people, for their ſpicy, warm qualities; in which reſpect they are by many preferred to ginger itſelf. *Aroma philoſophorum* is uſed by ſome for ſaffron. Others give the appellation of *aroma philoſophorum* to Paracelſus's aroph.

AROMATA, in *Ancient Geography*, a mountain of Aſia Minor, in Lydia. Strabo.

AROMATA, *Gardefan*, a promontory and town of Ethiopia. It was, according to Ptolemy, the moſt eaſtern point of Africa. Here terminates the kingdom of Adel and the Barbaria of the Periplus; and here the coaſt of Ajam or Azaria commences.

AROMATIC, AROMATICUS, is underſtood of a drug, plant, or the like, which yields a briſk fragrant ſmell, and a warm ſpicy taſte.

The word is formed of αρωμα, which is compounded of αει, *very*, and οδμη or οσμη, *ſmell*.

AROMATIC *Plants*, in *Gardening*, are ſuch as poſſeſs a fragrant aromatic flavour, combined with a ſtrong odoriferous ſmell in many of the kinds. Many of theſe plants are proper to the kitchen-garden, being employed as ſavoury ſweet herbs for various culinary purpoſes; and ſome of them are likewiſe employed for medicinal and domeſtic uſes. The principal ſorts neceſſary to be cultivated in the garden, as aromatics, are the following, being ſpecies of ſeveral different genera. They conſiſt, according to the authors of the General Dictionary of Gardening, of under-ſhrubby and herbaceous perennia's of many years duration, and of annuals and biennials of only one or two years continuance, which of courſe require to be raiſed every year or two from ſeed.

Theſe are of the firſt kind: *thymus*, or thyme; *ſalvia*, or ſage; *ſaturega*, or winter ſavory; *origanum*, or pot marjoram; *origanum*, or winter ſweet marjoram; *hyſſopus*, or hyſſop; *ruta*, or rue; *roſmarinus*, or roſemary; *lavendula*, or lavender. The above have abiding tops, and continue furniſhed with leaves, in moſt caſes, all the year round. But the following are herbaceous, and renew their ſtalks, and ſome of the other parts, every ſpring and ſummer: *mentha*, or mint; *mentha*, or penny-royal; *meliſſa*, or baum; *anethum*, or fennel; *tanacetum*, or tanſey; *artemiſia*, or tarragon; *anthemis*, or chamomile; *mentha*, or peppermint; *liguſticum*, or lovage.

Theſe are of the latter kind: *origanum*, or ſweet marjoram; *ſatureja*, or ſummer ſavory; *ſcandix*, or chervil; *anethum*, or dill; *calendula*, or marygold; *ocimum*, or baſil; *apium*, or parſley; biennial, *carum*, or caraway; *pimpinella*, or aniſe; *angelica*, angelica, biennial-perennial.

Among the perennial kinds, the principal culinary or pot-herb

pot-herb aromatics are thyme, ſage, winter ſavory, marjorams, mint, penny-royal, tanſey, tarragon, and fennel. The others are not uſed as kitchen or culinary aromatics, but moſtly for domeſtic occaſions, as hyſſop, balm, chamomile flowers, lovage, rue, and roſemary. And for ſimple medicinal purpoſes in a family; the peppermint for diſtilling; alſo the lovage and penny-royal occaſionally for the ſame purpoſe; and the lavender for its flowers, both to diſtil for lavender water, and to lay among clothes to give them a ſweet and agreeable ſcent; ſome ſorts of ſage, common mint, and balm, are alſo uſed occaſionally by way of tea; and young green mint and tarragon often in ſallads. But among the annual and biennial aromatics, the ſweet marjoram, ſummer ſavory, chervil, dill, marigold, baſil, parſley, and coriander, are the principal ſorts to cultivate for culinary uſes, &c. The caraway and aniſe are cultivated in ſome inſtances for ſeeds, both to uſe in the kitchen, and for diſtilling; alſo ſometimes the coriander ſeed, but more generally the two former; and the angelica, principally for the young tender ſhoots of its ſtalks which are uſed in confectionary, to candy as a vegetable ſweetmeat, and the ſeeds for medicine; ſome of theſe annual aromatics are alſo in ſome caſes uſed to give flavour to ſallads, as chervil, coriander, baſil, &c.; the young leaves being uſed in ſmall quantities to mix with ſome principal ſallad herbs. See the deſcription of each under its reſpective genus.

All of them, except the baſil, are moſtly of hardy growth, ſo as to ſucceed in any common ſoil and ſituation. The perennial ſorts continue ſeveral years in the ſame plants, among which ſome are durable, both in root and top, and remain green for uſe all the year, as thyme, ſage, winter-ſavory, marjoram, hyſſop, rue, roſemary, &c.: the others are perennial only in root, and annual in ſtalk, as the mints, penny-royal, tanſey, tarragon, fennel, chamomile, &c. and furniſh their reſpective produce for uſe only in the ſpring, ſummer, and autumn.

All the perennial aromatics are eaſily raiſed, either by ſlips, off-ſets, parting the roots, or by ſeed, and may be planted in ſpring, ſummer, or autumn, in beds or borders at from ſix to ten or twelve inches aſunder; but the annual and biennial kinds, continuing in the former only one ſeaſon, and in the latter only till the ſecond year, muſt be raiſed every year or two, from ſeed in the ſpring, in any compartment of common earth in the open ground, except the baſil, which being tender, muſt be raiſed in hot-beds, in order to be tranſplanted in May or June; moſt of the others generally remain where ſown in the natural ground, but may be occaſionally tranſplanted, the ſweet marjoram and ſummer-ſavory in June, &c. and likewiſe the angelica, as being of large growth, in ſummer. As ſome of theſe only afford their uſeful parts at particular ſeaſons, as mint, balm, penny-royal, tarragon, ſweet marjoram, &c., they ſhould be cut and preſerved at ſuch times for winter uſe, as about July and Auguſt. But for the marigold, chamomile flowers, and thoſe of lavender, as well as ſage-tops, marjoram, hyſſop, and ſuch like, which often ſtand the winter, autumn may be better, as they will then be ready in caſe of a ſevere winter. Parſley generally furniſhes proper ſupplies of green leaves all the year; baſil and dill only in ſummer; chervil and coriander, principally in ſummer and autumn, of the ſpring and ſummer ſowings; or if ſome of each be alſo ſown in Auguſt, they will continue green all winter, but the coriander will require a little protection in that ſeaſon; and the caraway, aniſe, and angelica continue only in ſummer and autumn.

In regard to the general culture of theſe plants, the perennial ſorts being planted in beds or borders, continue there, as has been obſerved, ſeveral years, and only require to be kept clean from weeds in the ſummer and autumn, and to be cut down and the decayed ſtalks removed at the latter ſeaſon; and in ſpring to give the beds, &c. a neat dreſſing by clearing off all weeds and litter, and then looſening the ground a little between the plants; and in ſome cloſe running kinds, as mint, &c. to ſpread ſome earth thinly over the general ſurface; and when any particular ſorts appear in a declining ſtate, to make a freſh plantation in the proper ſeaſon: as to the annual ſorts, they only require to be kept clear from weeds during their growth and continuance, and that freſh ſupplies be raiſed every year from ſeed.

AROMATIC *Confection*. See CONFECTIO *Aromatica*.

AROMATIC *Powder*. See PULVIS *Aromaticus*.

AROMATIC *Spirit*. See AMMONIACAL *Preparations*.

AROMATIC *Tincture*. See TINCTURA *Aromatica*.

AROMATICUS CALAMUS. See CALAMUS.

AROMATICS, in *Pharmacy*. The Materia Medica contains a number of vegetable ſubſtances which poſſeſs a fragrant penetrating ſmell, a ſtrong pungent taſte, and a conſiderable ſtimulating power on the ſyſtem in general. Theſe are called *aromatics*, and their characteriſtic properties apper to depend chiefly, if not entirely, on an eſſential oil, which, when extracted from the vegetable, exhibits all its aromatic power in a very concentrated form.

The aromatic property is found in combination with a variety of other vegetable principles, many of which modify its effects on the conſtitution. The ſimple operation of the aromatic principle appears to be ſtimulant in a conſiderable degree; but the effect of ſeveral of the eſſential oils differs ſo entirely from that produced by common ſtimulants, that we cannot include theſe ſubſtances under a ſingle claſs without very great limitation.

As the claſs of *aromatici* is diſtinguiſhed entirely by certain properties of ſmell and taſte, in each of theſe circumſtances it approaches by inſenſible gradations upon the limits of other claſſes.

The aromatic or fragrant ſmell of nutmeg, peppermint, or roſemary, would be denied by none; but the ſtrongly odorous or graveolent ſcent of wormwood or rue would be claſſed by many organs with the fœtid; the odorous principle, however, in each of theſe ſubſtances appears to reſide in the eſſential oil. In taſte, likewiſe, the aromatic, when powerful, proceeds to the acrid, and all the eſſential aromatic oils, when uncombined, produce very acrid, and ſometimes even cauſtic or corroſive effects on the tongue, ſo as to deſtroy the ſurface of the part which they touch, even by a very ſhort application. The vegetables, or parts of vegetables, that contain the aromatic principle, are chiefly the following.

1. *The Spices*, thoſe exquiſite productions of the tropical regions, which, beſides being highly uſeful in medicine, form the moſt grateful condiments for the table. The power of habit in accuſtoming the conſtitution to exceſſive quantities of the hotteſt ſtimulants, and to ſubſtances that produce powerful local effects, is in few inſtances more ſtriking than in the manner in which theſe valuable vegetable productions are employed by the inhabitants of the countries to which they are indigenous. In many of the ſpice-bearing plants various parts of the ſame vegetable are richly impregnated with the aromatic principle, as in the inſtance of the mace and nutmeg, productions of the ſame plant, or the leaves and bark of the cinnamon.

2. *The aromatic barks and woods*, ſuch as the canella, orange peel, ſaſſafras, and many trees of the fir tribe. In many of theſe the aromatic is combined with the aſtringent and the bitter principles, and this union is often of ſingular

ſervice in the formidable bowel complaints ſo common in tropical climates.

3. *The fragrant herbaceous plants*, ſuch as the lavender, mint, thyme, &c. Among this very extenſive claſs of aromatic vegetables are included all the fragrant pot-herbs employed for culinary purpoſes in climates not bleſſed with the ſpices that require a burning ſun. From this claſs alſo are procured ſeveral of the perfumes and other agreeable ſcents for the toilette.

4. *The reſinous aromatics*, ſuch as the Mecca balſam, myrrh, capivi balſam, frankincenſe, Chio turpentine, and many others. The ſtrong ſmelling raiſins and balſams, when ſubmitted to diſtillation, yield a very large quantity of eſſential oil in which their characteriſtic properties of ſmell and taſte reſide, whilſt the reſidue is hard, brittle, almoſt without odour, and inſipid. The graveolent and fœtid gums have the ſame character.

The aromatics are uſed very largely in pharmacy in a great number of forms and combinations, both on account of their proper ſtimulating cordial properties, and as powerful auxiliaries in a variety of inſtances. Their ſtrong and agreeable ſmell and taſte render them peculiarly proper for concealing and correcting thoſe of the more naufeous and unpalatable medicines. As the eſſential oil to which the aromatics appear to owe their properties is ſoluble largely in ſpirit of wine, and partially in water, they are very conveniently employed under the forms of *Diſtilled* Spirits and *Diſtilled* Waters.

AROMATICA, in *Ornithology*, the Gmelinian name of the ſpecies of Columba, or pigeon, called by Briſſon, Columba viridis Amboinenſis; le pigeon verd d'Amboine, by Buffon; and aromatic pigeon, by Latham; from the latter of which Gmelin adopts the name *aromatica*. It is, as the ſynonyms imply, a native of the iſland of Amboyna; and is about ten inches and a half in length, or the ſize of the common turtle. The general colour is olive-green; back bay or cheſnut; on the wing a double bar of black, edged with pale yellow; quill feathers black, with yellowiſh margins. Gmel. &c. The bill of this bird is greeniſh; the upper part of the head is grey, darkeſt behind; the ſides, throat, neck, breaſt, belly, rump, upper tail coverts, and tail, olive-green, but inclining to yellow on the neck and breaſt; the under parts of the tail black at the baſe, and dirty white at the end; the under tail coverts dirty yellowiſh white; wing coverts, like the back, cheſnut; and the legs and claws either grey or red; for Dr. Latham deſcribes them of a grey colour, and in Les Planches eluminées of Buffon, they are painted red.

AROMAZ, in *Geography*, a town of France, in the department of Jura, and chief place of a canton in the diſtrict of Orgelet, ſourteen miles ſouth of Orgelet.

ARON, Peter, in *Biography*, a voluminous writer of muſic in the ſixteenth century, was a native of Florence, of the order of Jeruſalem, and a canon of Rimini. He appears to have ſtudied muſic as a profeſſion under the patronage of Leo X., in whoſe pontificate he was admitted into the papal chapel at Rome. His moſt conſiderable work, in which there is little that is new, was intitled, "Toſcanello della Muſica," and firſt printed at Venice in 1523, and with additions in 1539. This is divided into two books: the firſt containing a penagyric on muſic, an account of its inventors, definitions of terms, &c.; the ſecond, an impartial account of the genera of the ancients, a decalogue or ten precepts concerning counterpoint, an explanation of proper terms, and directions for dividing the monochord, upon the principles of Guido Aretino. Burney's Hiſt. of Muſ. vol. iii.

ARON, in *Geography*, a town of Perſia, in the province of Irak, two leagues from Cachan.

ARONA, a ſmall town of Italy, in the Milaneſe, belonging to Piedmont; ſeated on the ſide of a hill, near the weſt coaſt of lake Maggiore, the environs of which are exceedingly fertile, and ſupply wines that are much valued. Above it riſes a ruined caſtle: two promontories project into the lake at this ſpot; the eaſtern is crowned with the caſtle of Anghiera, and gives name to this valuable province, which, in 1397, was erected into a county by the emperor Wenceſlaus, and has ſince been transferred to the king of Sardinia. In doubling the promontory of Arona, the lake again enlarges, and forms a bay.

ARONABABAD, a town of Perſia, in the province of Irak, twenty leagues ſouth of Iſpahan.

ARONCHES, a town of Portugal, in the province of Alentejo, walled and defended by a caſtle, and containing about 600 inhabitants; 95 miles eaſt of Liſbon. N. lat. 38° 58′. W. long. 6° 14′.

ARONDE, a river of France, which runs into the Oiſe, oppoſite to Compeigne.

ARONDE, in *Fortification*. See Dove-tail, and Queue *d'Aronde*.

ARONDELLE, and Harondelle, in *Ornithology*, the French ſynonymous names of the Sterna tribe; *terns* or *ſea-ſwallows* of Engliſh writers. See Sterna. The term *Arondelle* is alſo applied in a general manner to the ſpecies of Trigla deſcribed by Linnæus under the name of *volitans*. This is one of the flying-fiſhes of our naturaliſts; and in the claſſification of Natural Hiſtory by Lacépède, forms a new genus, which he called *Dactyloptere*. See Trigla *Volitans*.

ARONIA, in *Botany*. See Orontium.

ARO *Orchis*. See Galengal.

AROOL, in *Geography*, a town of the Ruſſian empire, in the Ukraine, on the river Occa, eighty leagues north of Moſcow. N. lat. 51° 48′. E. long. 38° 13′.

AROOSSI, a territory of Abyſſinia, being the ſouthernmoſt diviſion of Maitſha, on the weſt ſide of the Nile, inhabited by the Abyſſinians, a kindred of the Agow. It is bounded on the north by the river Kelti, and on the ſouth by the Aſſar; the Arooſſi running through the middle of that diſtrict. This little territory is deſcribed by Bruce (vol. iii. p. 560), as by far the moſt pleaſant which he had ſeen in Abyſſinia, and perhaps, he ſays, it is equal to any thing which the eaſt can produce. The whole is finely ſhaded with the acacia vera, or Egyptian thorn, that yields the Gum Arabic, which ſeldom riſes above fifteen or ſixteen feet high, and then ſpreads wide at the top, ſo that the branches of different trees touch each other, and under a vertical ſun afford a cool, delicious ſhade. Below theſe trees the ground is chiefly covered with lupines; and wild oats grow up ſpontaneouſly to a prodigious height and ſize, and have, when ripe, the appearance of canes. The inhabitants make no uſe of the grain, though the taſte of the meal, when made into cakes, is very good. The ſoil of this country is a fine black mould, like that of our gardens. Arooſſi is finely watered with ſmall ſtreams.

AROPH, a term uſed by Paracelſus, to denote a medicine endued with a power of breaking or diſſolving the ſtone in the human body. In which ſenſe, *aroph* amounts to the ſame with *lithontriptic*. Van Helmont aſſures us, that he was poſſeſſed of the *aroph*; and from his account, it ſeems to have been a preparation of ſaffron and rye-bread, digeſted with ſpirit of wine, in a horſe-dung heat, and at length diſtilled. Vide Cnoeffel. in Ephem. Acad. N. C. dec. 1. an. 4. obſ. 109.

Aroph *Paracelſi*, is alſo a name given to a kind of chemical flowers, elegantly prepared by ſublimation, from equal quantities of *lapis hæmatitis* and *ſal ammoniac*; ſaid to be of great efficacy in quartan agues, the *plica polonica*, and hypochondriac diſeaſes. This is alſo called *aroma philoſophorum*.

Aroph is alſo uſed to denote Mandragora

AROSBAY, in *Geography*, a town of the Eaſt Indies, on the coaſt of the iſland of Madura, near Java. S. lat. 9° 30′. E. long. 114° 30′.

AROSIA, *Weſtern*. See Wisteros.

Arosia, *Eaſtern*, or *Oſtra Aros*, the ancient name of Upſala.

AROSIS, a river of Perſia, which bounded Perſis on the weſt, and ſeparated that province from Suſiana.

AROUANS, one of the iſlands which are near the mouth of the river of the Amazons in South America.

AROU-HARISI, in *Zoology*, according to Thévenot, the name of the Rhinoceros in the Eaſt Indies.

AROUKORTEKEN, in *Geography*, a country of Tartary, near the great wall of China.

AROURA, a Grecian meaſure, of fifty feet.

Aroura was more frequently uſed for a ſquare meaſure, the half of the plethron. The Egyptian *aroura* was the ſquare of a hundred cubits. Arbuth. tab. 9.

AROW, Islands of, in *Geography*, a cluſter of ſmall iſlands in the Indian ocean, ſituate north-eaſt of Timorland, and nearly ſouth of the coaſt of New Guinea. South lat. from 5° to 7°. E. long. 137°.

AROY, a river of South America, flowing from the lake Caſſipe in the province of Paria, and diſcharging itſelf into a river of this name.

ARPAD, Aradus, or *Rouwadde*, in *Ancient Geography*, an iſland ſituate on the coaſt of Syria. See Aradus and Rouwadde.

ARPAGIUS, or rather Harpagius, formed from ἁρπάζω, *rapio*, *I ſnatch*, in ſome *ancient inſcriptions*, ſignifies a perſon who died in the cradle, at leaſt in early youth. The Romans made no funerals for their arpagii.—They neither burnt their bodies, nor made tombs, monuments, or epitaphs for them, which occaſioned Juvenal to ſay,

" ——Terra clauditur infans,
Et minor igne rogi."

In after-times it became the cuſtom to burn ſuch as had lived to the age of forty days, and had cut any teeth; though theſe they alſo called ἁρπακτοι, or ἁρπαγμενοι, q. d. *rapti*, *raviſhed*. The uſage ſeems to have been borrowed from the Greeks; among whom, Euſtathius aſſures us, it was the cuſtom never to bury their children either by night or full day, but at the firſt appearance of the morning; and that they did not call their departure by the name of death, but by a ſofter appellation, ἡμερας ἁρπαγη; importing that they were raviſhed by Aurora, or taken away to her embraces.

ARPAIA, in *Geography*, a town or village of Italy, in the kingdom of Naples; and Principato Ultra, ſix miles weſt-ſouth-weſt of Benevento; ſuppoſed to be the ancient *Caudium*.

ARPAION, or Arpajou, a town of France, in the department of the Seine and Oiſe, and chief place of a canton, in the diſtrict of Corbeil; 16 miles ſouth of Paris. The place contains 2,093, and the canton 13,826 inhabitants: the territory includes 147½ kiliometres and 19 communes.

ARPA-SOU, a river of Perſia, between Erivan and Tauris.

ARPEGGIO, Arpeggiatura, in *Muſic*, is playing the ſounds of a chord in a rapid manner upwards and downwards, after each other, inſtead of ſtriking them together. In doing this on keyed inſtruments, the fingers of each hand muſt be kept on to preſerve each ſound, till its turn comes for the key to be ſtruck again. The word arpeggio is derived from *Arpa*, the harp; upon which inſtrument the ſounds of a chord are uſually ſtruck in ſucceſſion, by beginning at the loweſt. There are as many kinds of arpeggio as ſounds in a chord, or changes in their ſucceſſion. The violin family having but four ſtrings, and the viol family ſix, can only arpeggio four or ſix ſounds; and from the convexity of the bridges of theſe inſtruments, there is no other way of playing chords with a bow, but in arpeggio.

The abbé Feyton ſays very truly, that the harmonies ariſing from a ſingle ſtring or ſound, when firſt diſcovered, gave birth to arpeggio; or perhaps long before that, it was ſuggeſted by the ſection of the canon, or diviſion of the monochord. The muſical reader will find the examples of ſeveral kinds of arpeggio in the *Muſic Plates*.

ARPENBURG, in *Geography*, a town of Germany, in the circle of Upper Saxony, and old mark of Brandenburg, nine miles ſouth of Saltzwedel.

ARPENT. See Acre.

ARPHAXAD, in *Scripture Hiſtory*, the third ſon of Shem, and father of Salah, was born in the ſecond year after the flood, A. M. 1658, and died A. M. 2096, aged 438 years. Gen. xi. 12. &c. He was diſtinguiſhed above the reſt of his brethren, by having the patriarchal line continued through him. Arphaxad is placed by ſome in Arrapachitis, a province of Syria, towards the north part of the country; but others fix him, with his family, in Chaldæa, where we find his deſcendants till the time of Abraham. Some, who conſider as one and the ſame perſon Arphaxad and Cainan, who is inſerted between him and Salah in the Septuagint verſion, ſuppoſe him to be the founder of the monarchy of China. Some Mahometan authors make Arphaxad both a prophet and an apoſtle, and lodge the chief ſovereignty over the nations of the world in his deſcendants.

ARPI, in *Ancient Geography*, a town of Italy, in Apulia, between Luceria and Sipontum. It was anciently called *Argos Hippium*, and afterwards Argyrippa, the capital of a kingdom founded by Diomedes after the ſiege of Troy; in the time of Livy it was large and populous, and furniſhed Hannibal with 3000 armed men. It is now in ruins, about fourteen miles weſt of Manfredonia, in the province of Capitanata, and kingdom of Naples.

ARPII, a people placed by Ptolemy in Lower Myſia. They inhabited the coaſt at the northern mouth of the Iſter, at the entrance of the Boſphorus. Their capital was called Arpis.

ARPINAS, Joseph Cæsar D', in *Biography*, commonly called *Joſepin*, a famous painter, was born at the caſtle of Arpinas in Naples, in 1560. After receiving ſome inſtruction from his father, who was an artiſt, he was ſent, at the age of thirteen, to Rome, where he waited upon the painters in the Vatican, and at intervals ſketched figures on the pilaſters, which aſtoniſhed the other artiſts. Under the patronage of Gregory XIII. he enjoyed the means of further improvement, by being employed firſt in the ornaments of the Vatican, and afterwards in hiſtory painting; and his bold and free manner was much admired. At Naples he painted the cupola of the Chartreux; and returning to Rome in 1560, he began to paint the great hall of the capitol in freſco. Clement VIII. diſtinguiſhed him by his protection, and made him a knight of the order of Chriſt; and in a journey to France with cardinal Aldobrandini, in 1600, he was created knight of the order of St. Michael, by Henry IV. Arpinas, notwithſtanding the honours that were conferred upon him, was of a diſcontented and querulous temper; and fell out both with Caravaggio his rival, and with Anibal

Carachio. He declined a duel with the former, becauſe he was not a knight; and wiſhing to meaſure ſwords with the latter, Carachio preſented his pencil, and ſaid to him, "With this I defy you." He died at Rome, at the advanced age of eighty years. Notwithſtanding the fire and elevation which diſtinguiſhed ſome of his compoſitions, his colouring was cold, and his attitudes ſtiff and forced, to that his name now ſcarcely exiſts, in the liſt of great artiſts. Although his ſchool was much frequented, he ſeems to have left no eminent diſciples. His beſt performances are the pieces of Roman hiſtory in the capitol; and one of his capital works is his "Battle between the Romans and the Sabines." Arpinas alſo engraved in aqua fortis. Nouv. Dict. Hiſt.

ARPINO, in *Geography*, a town of Italy, in the kingdom of Naples, and country of Lavora, ten miles north of Cafano. This was the ancient *Arpinum*, ſituate to the left of the river Liris, and ſouth of Sora, and famous for being the birth-place of C. Marius and Cicero, two citizens, who, as Pompey ſaid in a public ſpeech, each in his turn preſerved Rome from ruin. It was a city of the Samnites, which, upon its ſubmiſſion to Rome, acquired the freedom of the city, and was inſerted into the Cornelian tribe. The territory of Arpinum was rude and mountainous, and Cicero (Ad Attic. ii. 11.) applies to it Homer's deſcription of Ithaca, Odyſſ. ix 27:

——τραχὺ, ἀλλ' ἀγαθὴ κουροτρόφος, &c.

"'Tis rough indeed, yet breeds a generous race."

Cicero's family ſeat was about three miles from the town, in a ſituation extremely pleaſant, and well adapted to the nature of the climate. It was ſurrounded with groves and ſhady walks, leading from the houſe to a river, called *Fibrenus*, which was divided into two equal ſtreams, by a little iſland, covered with trees, and a portico, contrived both for ſtudy and exerciſe, whither Cicero uſed to retire, when he had any particular work on his hands. "The clearneſs and rapidity of the ſtream, murmuring through a rocky channel; the ſhade and verdure of its banks, planted with tall poplars; the remarkable coldneſs of the water; and above all, its falling by a caſcade into the nobler river Liris, a little below the iſland," give us the idea of a moſt beautiful ſcene, as Cicero himſelf has deſcribed it. The houſe, Cicero ſays, was ſmall and humble in his grandfather's time, according to the ancient frugality, like the Sabine farm of old Curius; but his father beautified and enlarged it into a ſpacious and handſome habitation. It is now poſſeſſed by a convent of monks, and called "the villa of St. Dominic." The villa of Marius was about twelve miles diſtant from Arpino; and on the ſpot now ſtands the only convent of the auſtere order of La Trappe in Italy. Its preſent name is "Caſa Mari."

ARPIS. See ARPII.

ARPONIUM, in *Ancient Geography*, a town of Italy, in Magna Græcia, which, as Diodorus Siculus informs us, was pillaged by the Brutians, during the war of the ſlaves.

ARQUA, or ARQUATO, in *Geography*, a village of Italy, in the Paduan territory, about three miles from Bataglia, famous for having been the reſidence and burial-place of Petrarch. N. lat. 45° 43'. E. long. 11° 43'. There are two other places of this name; one in the March of Ancona, on the frontiers of Abruzzo, and another in the duchy of Milan, ſituate on the Scrivia.

ARQUE, a town of France, in the department of the ſtraits of Calais, and chief place of a canton in the diſtrict of St. Omer, half a league ſouth-eaſt of St. Omer.

ARQUEBUSADE WATER. See AQUA *Vulneraria*.

ARQUEBUSS. See HARQUEBUSS.

ARQUENON, in *Geography*, a river of France, which paſſes by Jugon, in the department of the north coaſts, and runs into the Engliſh channel about 13 miles north of that town.

ARQUES, a town of France, in the department of the Lower Seine, and chief place of a canton, in the diſtrict of Dieppe, one league ſouth-eaſt of Dieppe. It is ſeated on a river of the ſame name, which runs into the Engliſh channel near Dieppe.

ARQUES is alſo a town of France, in the department of the Aude, and chief place of a canton, in the diſtrict of Limoux, three leagues ſouth-eaſt of Limoux. The place contains 488 and the canton 3743 inhabitants: the territory includes 275 kiliometres and 19 communes.

ARRA, in *Ancient Geography*, now called *Maara*, a town of Aſia, in Syria, which was formerly large and well-peopled, but is now reduced to a ſmall place under the government of Aleppo; the territory of which is very fertile in grain and good fruit.

ARRA-BIDA, in *Geography*, a high mountain of Portugal, in Alentejo, on the frontiers of Algarva, forming part of the Sierra or mountain of Calderaon, and ſeeming to be a branch or continuation of the Spaniſh chain to the north of Madrid, called by ſome the mountains of Idubeda, which enters Portugal near the town of Guarda, and purſues its former courſe to the ſouth-weſt. It is chiefly calcareous, and affords beautiful marble.

ARRACAN, ARACAN, or ARRAKAN, a maritime country of the vaſt peninſula which ſeparates the gulf of Bengal from the Chineſe ſea, borders on the ſouth-eaſt province of Britiſh India, is ſeparated on the eaſt from the Birman empire by a range of lofty mountains called Anoupec, and bounded on the north by Meckley, or the country of the Muggaloos, the Caſſay of major Rennell, on the ſouth by the flat lands of Pegu, and on the weſt by the bay of Bengal. This country is called by the Bengal Hindoos, who have ſettled in it, Roſſaun, whence, probably, Rennell has derived the name Roſhaun which he has given to it. The Mahometans ſettled in Arracan call it Rovingaw; and by the Perſians it is denominated Rekan. The proper natives of the country, who uſe a dialect of the Birmah language, call their country Yee-Kein; and by the people of Pegu, the inhabitants are named Takain. From Iſlamabad, N. lat. 22° 20'. E. long. 91° 55'. the coaſts of Arracan and Pegu take a ſouth-ſouth-eaſt courſe to Cape Negrais, the extreme point of Pegu to the ſouth-weſt, in N. lat. 16° and E. long. 94° 27'. Pennant (Outlines of the Globe, vol. iii.) ſays, that the kingdom of Arracan ſtretches along the coaſt to an extent of 200 miles; others make its length above 500 miles, and its breadth from 20 to 200 miles. Its topography, however, is ſtill obſcure. According to Symes (Embaſſy to Ava, vol. i. p. 243, &c.), Arracan, or Yee-Kein, ſtretches ſouth-ſouth-eaſt from the river Naff, the boundary that divides it from the territories of the India company, as far as Cape Negrais, where the ancient Pegu empire commenced. The range of lofty mountains called Anoupectoumiou, or the great weſtern hilly country, nearly encircles it. From the quarter of Baſſien and Negrais, Arracan can only be invaded by water, through the many rivers that interſect the country adjacent to the ſea. From the ſide of Chittagong, entrance into Arracan muſt be effected by a march along the ſea-beach, which is interrupted by ſeveral channels, that chiefly owe their waters to the action of the tide. Arracan thus diſplays a great ſpace of coaſt, very diſproportionate to the internal extent. Cheduba and Ramree, called by the Birmans Magou Kioun and Yamgee Kioun, are extenſive and highly cultivated iſlands, which, with Arracan and Sandowy, form four diſtinct provinces, and comprehend the whole of the Arracan empire. The ancient government

government of Arracan has never been ſo completely conquered as to acknowledge vaſſalage to a foreign prince. It experienced, however, in the two laſt centuries, the uſual convulſions to which all ſtates, and thoſe of the eaſtern world in particular, are liable. The Moguls on the weſt, and the Peguers on the eaſt, had, at different periods, carried their arms into the heart of the country. The Portugueſe, ſometimes as allies, and at other times as open enemies, gained an eſtabliſhment in Arracan, which decayed only with the general ruin of their intereſts in Aſia. Arracan, however, though often exhauſted, was never wholly conſumed; it always roſe from its own aſhes, a free and independent nation

In 1783, Minderagee, who filled the throne of the Birman empire, ſubdued the country, and annexed it to the conqueſts of his father Alompra, conſiſting of Pegu, and the coaſt of Siam, as far as the port of Merghi, in N. lat. 12° 20′. In this conqueſt, the booty moſt highly valued was an image of Gaudma, the Boodh of the Hindoos, made of burniſhed braſs. There were alſo five images of Rakuſs, the demon of the Hindoos, of the ſame metal, and of gigantic ſtature; theſe were accounted valuable, as they were guardians to the ſanctuary of the idol. All the ſpoils taken at Arracan were of braſs, among which was a large gun, thirty feet long, two and a half in diameter at the muzzle, and the calibre ten inches; it was mounted on a low truck carriage, ſupported by ſix wheels, and had ſeveral ſhot of hewn ſtone fitted to the calibre. The ſurrender of Cheduba, Ramree, and the Broken Iſles, followed the conqueſt of Arracan. Many of the Mughs, or ancient inhabitants of Arracan, ſo called from being ſubjects of the Great Mogo, preferred flight to ſervitude, and took refuge in the Dumbuck hills, on the borders of the province of Chittagong, and in the deep foreſts and jungles that ſkirt the frontier, where they formed themſelves into independent tribes of robbers, that have ſince created infinite vexation to the Birmans, and to this day commit mercileſs depredations on the perſons and property of their conquerors. Many ſettled in the diſtricts of Dacca and Chittagong, under the protection of the Britiſh flag; whilſt others accepted the oath of allegiance, and bowed their necks to ſlavery, rather than abandon their country and their houſehold god, to whom the ſectaries of Budhoo are much attached. Arracan, with its dependencies, was afterwards conſtituted a province of the Birman empire; and a Maywoon, or viceroy, appointed to govern it. The reduction of Arracan was completed in the ſhort ſpace of a few months. The country is fertile, abounding with well-watered meadows and paſture lands; the ſoil luxuriant; the mountains are green through the year, though in winter, that is from Auguſt to October, the weather is for the moſt part wet and ſtormy; and the contiguous iſlands uncommonly fruitful. The population is eſtimated at between two and three millions. It produces great quantities of rice, cocoa-nuts, bananas, oranges, and many other kinds of excellent fruit. The rice is produced in ſuch abundance, that it might be improved by proper policy into a lucrative branch of commerce. The trade of Arracan has never been very conſiderable; it is confined to ſalt, bees'-wax, elephants' teeth, and rice. Articles of foreign importation are introduced into other parts of the Birman empire by way of Arracan, and carried over the mountains on the heads of coolies, or labourers: ſuch as European broadcloth, hard-ware, coarſe Bengal muſlins, Coſſembuzar ſilk handkerchiefs, china ware, and glaſs; cocoa-nuts are alſo brought from the Nicobar iſlands, and bear a very high price; and merchants carry down ſilver lace, precious ſtones, and ſome other articles, to no great amount. Poſſeſſion of Arracan and the adjacent iſlands was a very deſirable acquiſition to the Birmans, as it afforded protection to their boats, which, navigating in the north-weſt monſoon through the channel and along the coaſt, make an annual voyage from Baſſien, Rangoon, and Martaban, to Chittagong and Calcutta, where they diſpoſe of the produce of their countries, and in return bring back cloth and commodities of India. Elephants and buffaloes are very numerous, and are uſed inſtead of horſes. The foreſts are infeſted with tigers. The natives of Arracan do not differ from thoſe of China and Siam, except in their colour, which is ſomewhat blacker. They are fond of large flat foreheads, and, in order to obtain them, they apply a plate of lead to the foreheads of their children immediately after their birth. They have large open noſtrils, ſmall ſparkling eyes, and ears ſo long that they reſt upon their ſhoulders. They eat without diſguſt mice, rats, ſerpents, and putrefied fiſh. Their women are tolerably fair, and their ears equally long with thoſe of the men. Buffon's Nat. Hiſt. vol. iii. p. 81. See BIRMAN *Empire*.

ARRACAN, the capital of the above country, is ſeated moſt ſingularly in a valley, ſurrounded with vaſt and craggy mountains; and theſe are aſſiſted by art, ſo as to be made the moſt ſubſtantial fortifications. The entrances are cut through the ſolid rock, as are alſo the gates of the city. The precipitous face of the mountains ſerves for walls; beſides which, it has a citadel and other artificial defences. The city is ſaid to be fifteen miles in circumference, and to contain 160,000 inhabitants. The royal palace is very magnificent, and highly adorned and enriched with works of maſſy gold. Pennant.

ARRACAN is alſo the name of a river, which divides the above country by ſeveral canals, and diſcharges itſelf into the bay of Bengal, about fifty miles below the capital. Its banks are bounded by woods and plantations, that are animated, ſays Pennant, by the gambols of the monkey tribe, or the gay flights of numbers of peacocks. Dr. Buchanan ſays (Symes's Embaſſy to Ava, vol. ii. p. 413), that the Arracan river is not ſo conſiderable as has been ſuppoſed, but takes its riſe in hills at no great diſtance to the north. He adds, that the river coming from Thibet, which is ſuppoſed to be that of Arracan, is in fact the Keenduem, or great weſtern branch of the Ava river. Pennant (Outlines of the Globe, vol. iii.) ſays, that this river is the Tocoſannæ of Ptolemy, and that it is faintly traced beyond the capital. A few miles below Tellakee, at the weſtern foot, ſays Symes (Emb. to Ava, vol. i. p. 244.), the river, till then a ſtreamlet that riſes in the hills, becomes navigable from the influx of the ſea; in two tides a boat reaches the fort of Arracan. From the fort to the ſea, the river expands into a noble ſheet of water, well adapted for trade and the reception of ſhipping.

ARRACHEE, in *Heraldry*, is underſtood of repreſentations of plants forcibly torn up by the roots, with their roots hanging at them.

In this ſenſe, *arrachee* amounts to the ſame with what is otherwiſe called *eradicate*, or *eraſed*. Niſb. Her.

ARRACIFES, *Cape of*, in *Geography*, is ſituated on the coaſt of the Cafres in Africa, about ſixty leagues from the Cape of Good Hope.

ARRACIFFE, a port-town of Brazil, in the captainſhip of Pernambuco, eſteemed the ſtrongeſt in Brazil. The port conſiſts of a ſuburb, in which are ſome large houſes, and repoſitories for ſtores: and it is built upon a narrow paſſage, with a caſtle to defend the entrance. Nevertheleſs, James Lancaſter, with ſeven Engliſh veſſels, made himſelf maſter of the town and caſtle in 1595, and obtained immenſe plunder:

plunder: but ſince that time the Portugueſe have rendered it almoſt inacceſſible to enemies. S. lat. 8° 20. W. long. 36° 10'.

ARRACK. See Arac.

ARRACOURT, in *Geography*, a town of France, in the department of the Meurthe, and chief place of a canton, in the diſtrict of Chateau Salins, five miles ſouth of Chateau Salins.

ARRADEZ, a town of Africa, in the kingdom of Tunis, famous for its baths. See Rhades.

ARRADON, a town of France, in the department of Morbihan, and chief place of a canton, in the diſtrict of Vannes, three miles ſouth-weſt of Vannes.

ARRAGON, derived either by corruption from Tarraconenſis, the name of the Roman province of which it formed a part, or from the little ſtream called Arragon, which falls from the Pyrenées into the Ebro, is a province of Spain, bounded on the north by the Pyrenean mountains, on the weſt by Navarre and the two Caſtiles, on the ſouth by Valencia, and on the eaſt by part of Valencia and Catalonia. Its extent from north to ſouth is about 210 miles, and in breadth about 120. The country is, in general, mountainous, dry and ſandy, badly cultivated, and thinly peopled; but it is interſperſed with delightful fertile vallies, which are well watered, and produce corn, wine, oil, flax, fruits of different ſorts, and ſome ſaffron. Arragon breeds a great number of ſheep and cattle; its rivers abound with fiſh, and its foreſts with game. The mountains are ſaid to have formerly yielded gold, ſilver, and other metals; but they now afford, probably on account of the indolence of the inhabitants, little beſides iron. The principal rivers, beſides the Ebro, which traverſes the province from north-weſt to ſouth-eaſt, are the Cinca, anciently Cinga, the Gallego, Iſuela, Xalon, and Xiloca. The metropolis is Saragoſſa; and the other chief towns are Balbaſtro, Jaca, Hueſca, Calatayd, Daroca, and Alcanitz. The principal inhabitants of this country, in ancient times, were the Celtiberians, and they have been always deemed active, hardy, enterpriſing, courageous, and fond of liberty, but proud and poſitive, and bigotted in their religion. Marcellus, after a ſhort war, taxed them at 600 talents of gold. When they fell under the dominion of the Goths, they frequently revolted, and made valiant and repeated ſtruggles for the preſervation of their liberty. On the irruption of the Moors, theſe people retired into their inacceſſible mountains for the enjoyment of their freedom and independence; and there they erected, for their own ſecurity, a form of government, to which they ſubmitted by common conſent. Arragon was firſt erected into a kingdom by Don Sancho the Great, king of Navarre, who died in the year 1035, in favour of his ſon, Don Ramiro. He was ſucceeded by his ſon, Don Sancho Ramirez, who added to his own dominions part of Navarre, and obtained ſeveral advantages againſt the Moors of Saragoſſa and Hueſca; but was at length mortally wounded at the ſiege of the latter of theſe places, in 1094. The kingdom devolved on his ſon, Don Pedro, who, after defeating the Moors in the plain of Alcaraz, took poſſeſſion of Hueſca, A.D. 1096. He was ſucceeded in the year 1104 by his brother, Don Alonſo, who, by the diſplay of his martial virtues, obtained the ſurname of "the Warrior." Having reduced Tudela, and obtained a ſignal victory over the Moors, he laid ſiege to Saragoſſa, and compelled it to capitulate, after a long and obſtinate defence, A. D. 1118. He diſpoſſeſſed the Moors of ſeveral other ſtrong places, and defeated them in ſeveral battles; but in his attempt to reduce Fraga, the capital of a Moorith government, he provoked an engagement, in which he was overpowered with great ſlaughter; and this defeat affected him ſo much that within eight days he died of grief. After his death the monarchies of Arragon and Navarre were ſeparated; and Don Ramiro, brother to the late king, aſcended the throne of the former kingdom. But in 1137, after a ſhort reign, he abdicated the government in favour of Don Raymond, count of Barcelona, to whom he married his daughter and heireſs, Petronilla. Don Raymond dying in Piedmont, in 1162, was ſucceeded by his eldeſt ſon, Don Alonſo, who enjoyed the ſovereignty of Catalonia, in conjunction with the realm of Arragon. Alonſo having, in 1166, confirmed the liberties of the clergy and nobility in an aſſembly of the ſtates at Saragoſſa, ſoon after, viz. in 1168, collected a powerful army, commenced a war with the Moors, and drove them out of all the places which they held in that territory, which is now called Arragon. Alonſo cloſed a reign, rendered illuſtrious by many military exploits, at Perpignan, in 1196; and the crown of Arragon devolved on his ſon, Don Pedro II.; who, in 1203, paid a viſit to the pope at Rome, acknowledged himſelf a vaſſal to the holy ſee, and continued to pay an annual tribute of 250 double piſtoles. His premature death, in an action with the papal troops before Muret, A. D. 1213, was followed by great confuſion and tumult, both in Arragon and Catalonia; but at length his ſon, Don Jayme, was proclaimed and acknowledged as his ſucceſſor. This prince, being threatened by the pope with excommunication for his vices, aſſumed the croſs, and actually embarked at Barcelona for the Holy Land, A.D. 1268; but he was driven back by a tempeſt, and returned to his own dominions. After a defeat by the rebellious Moors of Valencia, he fell ſick, reſigned the crown, took the habit of a Ciſtercian monk, and penitently bewailing the ill example he had given to his family and ſubjects, expired in 1276; upon which the crown deſcended to his ſon, Don Pedro III. Pedro, having ſubdued the Moors of Valencia, and compoſed the tumults of Catalonia, engaged in an expedition againſt the iſle of Sicily, which he conducted with great ſpirit and ſucceſs, and in conſequence of which he was, with univerſal applauſe, proclaimed king of Sicily. The pope, Martin IV. who took part with his competitor, Charles, excommunicated Don Pedro, and proceeded to give away his kingdom, as a fief of the holy ſee, to Charles de Valois, ſon of king Philip the Hardy, and to publiſh a croiſade againſt the depoſed king of Arragon. In 1284, the king of France took the croſs, and aſſembled a very large army in order to ſeize and ſecure the poſſeſſion. During this conteſt, Don Pedro died, in 1285, and left the crown of Arragon to his ſon Don Alonſo, and that of Sicily to his ſecond ſon, Don Jayme. Alonſo, having entered into a treaty for the marriage of princeſs Eleanor, daughter of Edward I. of England, was ſuddenly taken ill during the magnificent preparations that were made for this purpoſe at Barcelona, and died in 1291. His brother, Don Jayme II. ſucceeded him; and after having conciliated the affection of his ſubjects by many popular acts, he died much regretted, A. D. 1326. His ſon and ſucceſſor, Alonſo IV., purſued the conduct of his father, and cloſed his life and reign, in the year 1336, much beloved and lamented; and on account of the gentleneſs of his adminiſtration, he was ſurnamed "The Kind." His ſon, Don Pedro IV. commenced his reign with all the anxieties of royalty; but protracted it to a very advanced period, and died in the year 1386, with the character of having been in many reſpects the wiſeſt, and in many more the worſt king that ever ſat upon the throne; and of having been better obeyed, and much leſs beloved, than any of his predeceſſors. He was ſucceeded by his ſon, Don Juan, whoſe death, in 1395, occaſioned great confuſion in the

the kingdom of Arragon. After the death of his ſucceſſor, Don Martin, duke of Montalban, there occurred an interregnum, occaſioned by diſputes about the ſucceſſion of the crown. The titles of ſeveral claimants were examined by nine judges appointed for this purpoſe; and at length the majority determined in favour of Don Ferdinand of Caſtile, who was the ſon of Donna Leonora, the eldeſt ſiſter of the two laſt kings; and the reſt alſo acquieſced. Accordingly, he was proclaimed king, A.D. 1412, and in 1413 ſolemnly crowned at Saragoſſa. At his death, in 1416, he was ſucceeded by his ſon. Don Alonſo V., who, in 1443, became ſole and abſolute maſter of the kingdom of Naples; and was afterwards eſteemed the great arbiter of peace and war through all Italy. He died in 1468, reſpected as the greateſt prince that ever ſat upon the throne of Arragon (See ALPHONSO V.). Don Juan II. ſucceeded to his hereditary dominions; and after a reign of 21 years, Arragon, with its dependent dominions, was united to the crown of CASTILE, A. D. 1479, under his ſon Don Ferdinand, who confirmed the laws and privileges of the kingdom of Arragon, in Saragoſſa, Barcelona, and Valencia. Mod. Un. Hiſt. vol. xvii. p. 83—268.'

ARRAGONITE, in *Mineralogy*, *Arragon ſpar*, Kirwan. *Arragonit*, Werner. The colour of this mineral is either greyiſh, or greeniſh white, or pale mountain green; in the center it is often of a violet blue, or browniſh red. It occurs only cryſtalized; and its varieties may be referred to the following forms.

1. A perfect equiangular, ſix-ſided priſm (Arragonite priſmatique of Hauy).

2. A ſix-ſided priſm, two oppoſite faces of which are the largeſt, and correſpond with the two ſides of a dihedral ſummit that terminates the priſm (Arragonite cuneolaire of Hauy).

3. A rounded maſs, deeply ſtriated (Arragonite cylindroide of Hauy).

The cryſtals are ſmall, or of moderate ſize, often grouped in croſſes; their faces are very rarely even and ſmooth, being generally ſtriated longitudinally, and ſometimes concave.

The luſtre is vitreous, and varies from little ſhining to very brilliant.

The fracture is lamellar, but often ſo indeterminate as to paſs into the imperfect conchoidal. The inſide of the cryſtals often preſents diſtinct, minute, wedge-ſhaped concretions, which give that fibrous appearance by which this mineral is characteriſed.

It is almoſt ſemi-tranſparent, and poſſeſſes a double refraction like calcareous ſpar; is conſiderably hard, brittle, eaſily broken: ſp. gr. 2. 94.

Arragonite is entirely ſoluble with effervescence in nitrous or muriatic acid. Before the blowpipe, it ſplits and crackles, and at length is calcined like calcareous ſpar; when pulverized and ſprinkled on a hot coal, it gives out a reddiſh phoſphoreſcent light.

This mineral was named by the celebrated Werner, becauſe it was firſt diſcovered in Spain, on the borders of Arragon and Valencia, where it is imbedded in lamellar and fibrous gypſum; it has ſince been found in the Pyrenées, and at Leogang in the country of Salzburg, in a ſhattery argillaceous rock, or in quartz, accompanied by calcareous ſpar and pyrites.

The cryſtals belonging to the firſt variety, preſent occaſionally a ſingular kind of compoſition, being found to contain internally a ſecond priſm, the axis of which croſſes that of the former nearly at right angles, and is engaged in its very ſubſtance in ſuch a manner as to produce no alteration in its external figure. This arrangement appears in the fracture of the cryſtal, at the croſſings of the ſtriæ; or in a kind of moſaic, repreſenting four triangles united round a common point, upon making a vertical ſection of the whole priſm; of theſe triangles, two oppoſite ones are nearly colourleſs, and the other two are violet.

The repeated analyſes of Klaproth, Vauquelin, and Thenard, have diſcovered nothing in the arragonite but lime and carbonic acid, in the ſame proportions as calcareous ſpar; yet the cryſtalline ſtructure of theſe two ſubſtances is wholly diſſimilar. The primitive form of calcareous ſpar is a rhomboid; the arragonite is diviſible only in two directions; the inclination alſo of the joints in the latter is about 116°, but in the former only 104° 28'; a circumſtance worthy of ſpecial attention, as it is the only inſtance known in which the geometrical and chemical analyſes of chryſtallized bodies are at variance. Mineralogie de Brochant, v. i. p. 576. Hauy Traité, &c. v. iv. p. 337.

ARRAI, in *Geography*, a town of Japan, in the province of Tootomi or Jenſiju.

ARRAIATIO *peditum*, the ranging or arraying of foot-ſoldiers.

ARRAIGN, or ARAIGN, in *Law*, ſignifies to ſet a thing in order, or in its place.

It is derived from the French *arraiſoner*, i. e. "ad rationem ponere, to call a man to anſwer in form of law;" which comes from the barbarous Latin *adrationare*, i. e. *placitare*. —In which ſenſe, to arraign a criminal, is *ponere eum ad rationem*. Thus he is ſaid to arraign a writ of novel diſſeiſin, who prepares and fits it for trial before the juſtices of the circuit. To arraign the aſſize, is to cauſe the demandant to be called to make the plaint, and to ſet the cauſe in ſuch order as the tenant may be forced to anſwer to it. A priſoner is alſo ſaid to be *arraigned*, when he is indicted, and called to the bar of the court, to anſwer the matter charged upon him in the indictment.

But no man is properly arraigned, except at the ſuit of the king, upon an indictment found againſt him, or other record, wherewith he is to be charged: and this arraignment requires, that the priſoner appears to be tried, and holds up his hand at the bar, for the certainty of the perſon, and makes a ſufficient plea to the indictment. 1 Inſt. 262, 263. The priſoner is to hold up his hand only in treaſon and felony; but this is only a ceremony: if he own that he is the perſon, it is ſufficient without it.

It was laid down in the ancient books, that the priſoner, though under an indictment of the higheſt nature, muſt be brought to the bar without irons, or any manner of ſhackles or bonds; unleſs there be an evident danger of an eſcape, and then he may be ſecured with irons. But in Layer's caſe, A D. 1722, a difference was taken between the time of arraignment, and the time of trial; and accordingly, the priſoner ſtood at the bar in chains during the time of arraignment. Priſoners are now generally tried in their irons, becauſe taking them off is uſually attended with great pain and trouble. When the priſoner is at the bar, and confeſſes that he is the perſon named, the indictment is to be read to him diſtinctly in the Engliſh tongue, that he may fully underſtand his charge. After which it is to be demanded of him, whether he be guilty of the crime, of which he ſtands indicted, or not guilty. By the old common law, the acceſſory could not be arraigned, till the principal was attainted, unleſs he choſe it, and waived the benefit of the law; in which caſe, principal and acceſſory might, and may ſtill, be arraigned, and plead, and alſo be tried together. But if the principal had never been indicted at all, had ſtood mute, had challenged above 35 jurors peremptorily, had claimed the benefit of clergy, had obtained a pardon, or had

had died before attainder, the acceſſory, in any of theſe caſes, could not be arraigned; for "non conſtitit," whether any felony was committed or not till the principal was attainted; and it might ſo happen, that the acceſſory ſhould be convicted one day, and the principal acquitted the next, which would be abſurd. The law ſtill continues, that the acceſſory ſhall not be tried, ſo long as the principal remains to be tried hereafter. But by ſtat. 1 Ann. c. 9. if the principal be once convicted, and before attainder, i. e. before he receives judgment of death or outlawry, he is delivered by pardon, the benefit of clergy, or otherwiſe, or if the principal ſtands mute, or challenges peremptorily above the legal number of jurors, ſo as never to be convicted at all; in any of theſe caſes, in which no ſubſequent trial can be had of the principal, the acceſſory may be proceeded againſt as if the principal felon had been attainted; for there is no danger of future contradiction. And upon the trial of the acceſſory, as well after as before the conviction of the principal, it ſeems to be the better opinion, and founded on the true ſpirit of juſtice (Foſter, 365), that the acceſſory is at liberty (if he can) to controvert the guilt of his ſuppoſed principal, and to prove him innocent of the charge, as well in point of fact, as in point of law.

When a criminal is arraigned, he either ſtands *mute*, or *confeſſes* the fact; which circumſtances may be called "incidents" to the arraignment; or elſe he *pleads* to the indictment. For the law, as it formerly exiſted, and now ſubſiſts with regard to ſtanding mute, ſee MUTE. Upon the priſoner's ſimple and plain *confeſſion* of the indictment, the court hath nothing to do but to award judgment; but it is uſually very backward in receiving and recording ſuch confeſſion, out of tenderneſs to the life of the ſubject; and will generally adviſe the priſoner to retract it, and plead to the indictment. For another ſpecies of confeſſion, ſee APPROVEMENT. For the plea of the priſoner, or defenſive matter alleged by him on his arraignment, if he does not confeſs, or ſtand mute, ſee PLEA. For the ſolemnity of the arraignment, and trial of a priſoner, ſee Dalt. c. 185. p. 515. An attainder of high treaſon has been reverſed for the omiſſion of an arraignment. In an action of ſlander, for calling one thief, the defendant juſtifies that the plaintiff ſtole goods, and iſſue is taken thereon; if it be found for the defendant, in B. R. and for felony in the ſame county where the court ſits, or before juſtices of aſſize, &c. he ſhall be forthwith arraigned upon this verdict of 12 men as on an indictment. 2 Hale's Hiſt. P. C. 151.

AR-RAKIN, in *Geography*, a ſmall town of Aſia, in Arabia Petræa, in the diſtrict of Al-Bkaa, probably the antient Petra, the capital of a country called Sela in the bible, and Adriana by the emperor Adrian. Moſt of the houſes are cut in a rock, whence the name, *rakin* denoting to *cut*, and *ar* a *town*.

ARRAN, a province of Perſia, ſituated between Georgia, Aiderbeitzan, and Shirwan, and ſurrounded by mountains.

ARRAN, or *Arr-inn*, i. e. the iſland of mountains, one of the Scottiſh iſlands, ſituated in the Firth of Clyde, between the main land of Airſhire and the coaſt of Kintyre, and forming part of the county of Bute. This iſland is about twenty-three miles long and nine broad, and contains about 7000 inhabitants, who chiefly occupy the parts near the coaſts: the interior mountainous part being for the greateſt part uninhabited. The chief place is the village of Ranza; and the pariſhes are two, viz. Kilbride and Killmore. The principal mountains are Goatfell, Goatfield, Gaoilbheinn, or the mountain of the winds, nearly 3000 feet high, compoſed of immenſe piles of moorſtone, cloathed with lichens and moſſes, and inhabited by eagles and ptarmigans; Bein-bharrin, or the ſharp-pointed; Ceum-na-Caillich, or the ſtep of the Carline or old hag; and Grianan-Athol, inferior to none in ruggedneſs. The lakes are loch Jorſa, where ſalmon come to ſpawn; loch Tana; loch Na-Jura, on the top of a high hill; loch Machrai and loch Knoc-a-charbai, abounding with large eels. The chief rivers are Abhan-mhor, Moina-mhor, Slondrai-machrei, and Jorſa, of which the two laſt are remarkable for abundance of ſalmon. From the mineralogy of this iſland, publiſhed by Mr. Jameſon in 1798, 8vo., it appears to be a mountainous region; the ſouthern parts, however, preſent low and cultivated grounds: the baſe is chiefly ſand-ſtone and granite, the former traverſed by veins of baſalt. Near Lamlaſh, and alſo near to Brodic wood, there is an extenſive vein of pitchſtone, of a greenish colour, and the black alſo occurs. There is alſo granitine, compoſed of quartz, felſpar, and hornblende; micaceous ſchiſtus likewiſe abounds: but there is little coal. The bays of this iſland are thoſe of Lamlaſh, Brodic, and Ranza, where ſhips of any burthen may ſafely ride in all weathers; and it is ſurrounded with fiſheries of various denominations. The climate is ſevere; nevertheleſs in ſummer the air is ſalubrious, and many invalids reſort hither on that account, and for the purpoſe of drinking the whey of goats' milk. The men are ſtrong, tall, and well made; they ſpeak the Erſe language; but have laid aſide the ancient habit. Their diet conſiſts chiefly of potatoes and meal, with an occaſional addition, in winter, of the dried fleſh of ſheep or goats. Their farms are leaſed for nineteen years; and each farm is commonly poſſeſſed by a number of ſmall tenants, who are jointly and ſeverally bound for payment of the rent. The arable land is portioned out by lot, and to each portion or ridge the occupier annexes his mark; and this ſpecies of farm is called "run-rig," i. e. ridge. All the tenants join in ploughing. The paſture and moor-land annexed to each farm are common to all the occupiers. All the farms are open, and incloſures are unknown. The produce of the iſland is chiefly oats and barley; its live ſtock milch-cows and other cattle, horſes, ſheep, and goats. Hogs have been lately introduced. The herring-fiſhery is beneficial. The exports are black cattle, horſes, and barley, herring nets, and thread formed of the flax that is ſown here. The women manufacture the wool for the cloathing of their families, dreſs and ſpin the flax, ſet the potatoes, make butter, ſome of which is exported, and cheeſe for their own uſe. The inhabitants are ſober, religious, and induſtrious; in ſummer they prepare peat for fuel; before and after harveſt, they are employed in the herring fiſhery; during winter the men make herring nets, and the women ſpin their linen and woollen yarn. In ſpring they till their ground; and in autumn they collect and burn fern for making kelp. Among the quadrupeds of this iſland, ſuch as otters, wild cats, ſhrew mice, rabbits, and bats, ſtags, which were formerly numerous, are now reduced to few; and among the ſeveral ſpecies of birds, ſuch as eagles, hooded crows, wild pigeons, black game, grous, ptarmigans, ſtares, daws, green plovers and curlews, are partridges, which now inhabit the iſland, and prove the advancement of agriculture. The government of the iſland is the ſame with that of the county of Bute; and beſides, juſtice is adminiſtered at the baron's baily court, who may fine as high as 20s. decide in matters of property not exceeding 40s. impriſon for a month, and put delinquents in the ſtocks for three hours, but only in the day-time. From the immenſe cairns, monumental ſtones, and many relics of Druidiſm, this iſland muſt have been very conſiderable in ancient times. Little is known concerning this iſland, till the time of Magnus, the Barefooted, the Norwegian victor, who probably included

Arran in his conqueſts of Kintyre. Acho, one of his ſucceſſors, laid claim to it 1263, together with Bute and the Cumrays, and having ſubdued the firſt, was defeated in a bloody engagement at the village of Largs, facing the iſland of Bute, and obliged, after the loſs of 16,000 men, to give up his conqueſts. Arran was the property of the clan. Robert Bruce, with ſeveral of his followers, found an aſylum here in their diſtreſs. About the year 1334, this iſland ſeems to have formed part of the eſtate of Robert Stewart, afterwards Robert II. In 1456, it was ravaged by Donald, earl of Roſs, and lord of the iſles. It was ſtill the property of James II. and was given by his ſucceſſor James III. as a portion to his ſiſter, who married Thomas lord Boyd, created earl of Arran. On the diſgrace of that family, the counteſs was divorced; and both the lady and iſland were beſtowed on ſir James Hamilton, in whoſe family, with the exception of a few farms, it now continues. Pennant's Journey through Scotland, vol. ii. 172. 184.

Arran, or *Arrin*, the name of two cluſters of iſlands near the weſt coaſt of Ireland, the largeſt of each of which is called Arranmore, i. e. the great Arran. The north iſles of Arran are near Donegal, in W. long. 8° 25′. N. lat. 55°. and in one of them a town called Rutland has been built for the herring fiſhery. The ſouth iſles are on the coaſt of Galway, between W. long. 9° 30′, and 9° 43′. N. lat. between 53° 1′, and 53° 7′ 30″. They are three in number, and ſhelter the entrance of Galway bay. They are very fruitful, and produce a ſmall kind of oats without any huſk. They are alſo remarkable for the ſtouteſt calves in the county. Mr. Young mentions that they are ſet for 2000l. per ann. In Arranmore ſeveral Iriſh ſaints were buried, and it is ſtill held in veneration by the neighbouring peaſantry. In this iſland alſo, on a high cliff over the ſea, is Dun Aengus, a circle of monſtrous ſtones without cement, capable of containing 200 cows. This is ſuppoſed to have been one of the Mandræ or incloſures of monaſtic buildings, common in the ſeventh and eighth centuries. Dr. Beaufort's Memoir. Young's Collect. Ledwiche's Antiquities of Ireland.

ARRANGEMENT, or Rangement, the diſpoſition of the parts of a whole, in a certain order. The modern philoſophy ſhews us, that the diverſity of colours of bodies depends entirely on the ſituation and arrangement of the parts, which reflect the light differently; the diverſity of taſtes and ſmells on the different arrangement of the pores, which render them differently ſenſible; and the general diverſity of bodies on the different arrangement of their parts. The happy arrangement of words makes one of the greateſt beauties of diſcourſe.

Arrangements, *Philoſophical*, a title given by the ingenious J. Harris, eſq. to an excellent commentary on the *Categories* of Ariſtotle: it is juſt as happy a ſimplification of *Logic*, as his *Hermes* is of *Grammar*. Both theſe valuable books, ſo well calculated to convey ſenſible and preciſe notions of logic and grammar, might be very uſefully and compendiouſly exhibited in the forms of a logical and grammatical tree, after the manner of genealogical tables.

ARRAPACHITIS, in *Ancient Geography*, the moſt northern province of Aſſyria, according to the diſtribution of Ptolemy. It was watered by the Gyndas. The towns are unknown.

ARRAS, in *Geography*, a city of France, and capital of the department of the ſtraits of Calais, ſituate on the Scarp; before the revolution, the metropolis of the province of Artois. It was taken by the French king Louis XIII.; and annexed to France, in 1640, by the peace of the Pyrenées. Being ſeated on a mountain, it is ſurrounded by quarries, which ſupply ſtone for building. It is divided by a ſtrong wall, a large foſſe, and the brook Chinchron, into two parts, called the town and the city, each of which is well fortified. It has four gates, and a ſtrong citadel with five baſtions. The great ſquare, in which is kept the principal market, is full of fine buildings, ſurrounded with piazzas. The leſſer market contains the town-houſe, the tower of which is covered with a crown, with a brazen lion on the top ſerving for a vane; in the middle of this market is the chapel of the Holy Candle, reported to have been brought by the Virgin Mary above 600 years ago for cure of the diſeaſed inhabitants, and kept in a ſilver ſhrine. The cathedral church of Notre Dame is a large Gothic building, with a high tower, in which is a fine clock, embelliſhed with ſmall figures in bronze, repreſenting the paſſion of Jeſus Chriſt. In this church is a ſilver ſhrine, enriched with pearls and diamonds, and containing a ſort of wool called manna, which, report ſays, fell from heaven 1400 years ago in time of drought, and which was carried in proceſſion when rain was wanted. The greateſt ornament of Arras is the church of St. Vedaſt, with a fine ſteeple, a pulpit of braſs in the form of a tree, ſupported by two bears of the ſame metal. The chimes play a great variety of tunes. There are eleven pariſh churches. The tapeſtry, called *Arras hangings*, derives its denomination from this city. The place contains 19,364, and the canton 29,613 inhabitants: the terrritory comprehends 70 kiliometres and 13 communes. N. lat. 50° 17′. E. long. 2° 56′.

ARRATS, a river of France, which runs into the Garonne, about two miles north-weſt of Auvillard, in the department of the Lot and Garonne.

ARRAY, in *Law*, the ranking or ordering a jury or inqueſt of men impannelled on any cauſe. The word may be derived either from the obſolete French, *array*, *order*; or from *raye*, *a line*, *ſtroke*, &c. Hence, to *array* a pannel, ann. 3 Hen. V. is to ſet forth the men impannelled one by another. By the ſtatute, every *array* in aſſiſe ought to be made four days before. For challenges to the array, ſee Challenge.

Array, in *Military Language*. See Battle.

ARRAYAL de Porate, in *Geography*, a town in Brazil, ſituate on the weſt ſide of Para river, below the junction of its two great branches.

ARRAYERS, or Arrajers, Arraitores, in *Military Language*, is uſed in ſome ancient ſtatutes for certain provincial officers, whoſe duty it was, not only to inſpect the ſoldiers, and ſee that they were able-bodied and fit for ſervice; but alſo that they were properly armed, accoutred, and otherwiſe appointed according to the ſtation and nature of their ſervice. They were likewiſe to arrange both the cavalry and the infantry into their proper bodies, equivalent to the preſent diviſions of troops, ſquadrons, companies, and battalions. In ſome reigns, commiſſioners were appointed for this purpoſe; and the form of the commiſſion of array was ſettled in parliament in the 5 Henry IV.

About the reign of king Henry VIII. or his children, lieutenants began to be introduced, as ſtanding repreſentatives of the crown, to keep the counties in military order; for we find them mentioned as known officers in the ſtatute 4 & 5 Ph. & M. c. 3., though they had not then been long in uſe; for Camden ſpeaks of them in the time of queen Elizabeth, as extraordinary magiſtrates conſtituted only in times of difficulty and danger. But the introduction of theſe commiſſions of lieutenancy, which contained, in ſubſtance, the ſame powers as the old commiſſions of array, cauſed the latter to fall into diſuſe. In this ſtate things continued, till the repeal of the ſtatutes of armour in the reign of king James I. ſtat. 1 Jac. I. c. 2. 21 Jac. I. c. 28

c. 28. After this period, viz. in 1642, king Charles I. oppoſed his commiſſions of array to the ordinance of parliament concerning the militia, and thus brought on the agitation of the queſtion which became at length the immediate cauſe of the fatal rupture between the king and his parliament.

ARRAYOLOS, in *Geography*, a ſmall town of Portugal, in Alentejo; ſituate upon the declivity of a mountain, and containing about 2000 inhabitants, a large monaſtery belonging to the canons of St. John the Evangeliſt, and a monaſtery of Franciſcans. It lies north of Evora, ſouth-eaſt of Montemor, and 6 leagues from Eſtremoz, in which diſtance a ſingle village is not ſeen. The ſoil is ſometimes granite in maſſes, and ſometimes ſlaty granite. In the vicinity are tracts over-grown with broom; but within a league of Arrayolos the lands are cultivated.

ARREARS, Arrearages, Arreragium, or Arrieragium, the remains of an account, or a ſum of money remaining in the hands of an accomptant. The word is derived from the French *arrerages*, which is formed from *arriere*, *behind*.

Arrears is alſo uſed more generally for a remainder of rents or monies unpaid at the due time; whether they be rents of a manor, or any thing reſerved: called alſo, in ſome writers, *arrieragium firmarum*.

Arrears, in *Military Language*, denote the difference between the full pay and ſubſiſtence of each officer, directed to be paid once a year by the agent. Theſe arrears were aboliſhed in 1797. See Pay.

ARREAU, in *Geography*, a town of France, in the department of the Higher Pyrenées, and chief place of a canton in the diſtrict of Bagneres, 13 miles ſouth-eaſt of Bagreres, and 23 ſouth-ſouth-eaſt of Tarbes. The place contains 980 and the canton 5979 inhabitants: the territory includes 175 kiliometres and 19 communes.

ARRENS, a town of France, in the department of the Higher, Pyrenées and chief place of a canton in the diſtrict of Argellez, on the Garonne, 8 miles ſouth-weſt of Argellez.

ARRENTATION, in the *Foreſt Law*, the licenſing an owner of lands in the foreſt, to incloſe them with a low hedge, and ſmall ditch, in conſideration of a yearly rent. *Saving the arrentations*, denotes a power reſerved to give ſuch licences for yearly rent.

ARREST, in *Common Law*, the apprehending or reſtraining of one's perſon, in execution of the command of ſome court of record, or officer of juſtice.

The word *arreſt* is French, and is uſed in that language for a decree or determination of a cauſe debated to and fro: in which ſenſe it ſeems derived from ἀρέσκω, *placitum*, *the pleaſure of the court*.

Hence when a perſon is legally ſtopped, apprehended, and reſtrained of his liberty, for debt, &c. he is ſaid to be arreſted, or put under an arreſt; which is the beginning of impriſonment.

Arreſts are either in *civil* or in *criminal* caſes.

1. An arreſt in a *civil cauſe*, is defined to be the apprehending or reſtraining one's perſon by proceſs in execution of the command of ſome court or officer of juſtice. Wood's Juſt. 575. This arreſt muſt be corporal ſeiſing or touching the defendant's body; after which the bailiff may juſtify breaking open the houſe in which he is, to take him; otherwiſe he has no ſuch power, but muſt watch his opportunity to arreſt him. For every man's houſe is conſidered by the law as his caſtle of defence and aſylum, in which he ſhould ſuffer no violation. This principle is carried ſo far in the civil law, that for the moſt part, not ſo much as a common citation or ſummons, much leſs an arreſt, can be executed upon a man within his own walls. But doors may be broke open in purſuit of one arreſted; otherwiſe, action of treſpaſs, &c. lies for breaking open a houſe to make arreſt in a civil action. But if it appears a bailiff found an outer door, &c. open, he may open the inner door to make an arreſt. Comb. 327. The court of King's Bench has determined, in the caſe of Lee *v.* Gen. Ganſel, that the chamber door of a lodger is not to be conſidered as his outer door; but that the ſtreet door being open, the officers had a right to force open the chamber door, the defendant being in the room and refuſing to open it. Cowp. 1. Peers of the realm, peereſſes by birth, peers of Scotland, a peereſs by marriage, not afterwards having intermarried with a commoner, members of parliament, and corporations, are privileged from arreſts, and of courſe from outlawries. And againſt them the proceſs to enforce an appearance muſt be by ſummons, and diſtreſs infinite, inſtead of a *capias*. Alſo clerks, attornies, and all other perſons attending courts of juſtice (for attornies, being officers of the court, are always ſuppoſed to be there attending), are not liable to be arreſted by the ordinary proceſs of the court, but muſt be ſued by *bill* (uſually called a *bill of privilege*), as being perſonally preſent in court. Clergymen, performing divine ſervice, and not merely ſtaying in the church with a fraudulent deſign, are for the time privileged from arreſts, by ſtat. 50 Edw. III. c. 5. and 1 Ric. II. c. 16.; as likewiſe members of convocation actually attending thereon, by ſtat. 8 Hen. VI. c. 1.; and alſo ambaſſadors, or the domeſtic ſervants of an ambaſſador, "really and *bona fide* in that capacity." Suitors, witneſſes, and other perſons, neceſſarily attending any courts of record upon buſineſs, are not to be arreſted during their actual attendance, which includes their neceſſary coming and returning. A bankrupt coming to ſurrender, or within 42 days after his ſurrender (5 Geo. II. c. 30. § 5. Cowp. 156.): witneſſes properly ſummoned before commiſſioners of bankrupt, or other commiſſioners under the great ſeal (1 Atk. 54.); but not creditors coming to prove their debts (4 Term Rep. 377.); heirs, executors, or adminiſtrators (R. M. 1654.), except on perſonal contracts by themſelves (1 T. Rep. 716.), or in caſes of *devaſtavit* (1 Salk. 98.), are exempted from arreſts. By ſtat. 31 Geo. II. c. 10. no ſeaman aboard his majeſty's ſhips can be arreſted for any debt, unleſs the ſame be ſworn to amount to at leaſt 20*l.*; but by the annual mutiny acts, a ſoldier may be arreſted for a debt which extends to half that value, but not to a leſs amount. In an action againſt huſband and wife, the huſband alone is liable to be arreſted, and ſhall not be diſcharged till he have put in bail for himſelf and his wife (1 Vent. 4). 1 Mod. 8.); and if ſhe is arreſted, ſhe ſhall be diſcharged on common bail (1 Term Rep. 486. 1 Salk. 115.). No arreſt can be made in the king's preſence, nor within the verge of his royal palace, extending by ſtat. 28 Hen. VIII. c. 12. from Charing-croſs to Weſtminſter Hall, or within 200 feet from the gate of any of the palaces and houſes of the king, or any other houſe where the royal perſon ſhall abide; nor in any place where the king's juſtices are actually ſitting. The king hath moreover a ſpecial prerogative (which indeed is very ſeldom executed) that he may, by his writ of proection, privilege a defendant from all perſonal, and many real, ſuits for one year at a time, and no longer; in reſpect of his being engaged in his ſervice out of the realm. And the king alſo, by the common law, might take his creditor into his protection, ſo that no one might ſue or arreſt him till the king's debt were paid (F. N. B. 28. Co. Litt. 131.); but by ſtat. 25 Edw. III. ſt. 5. c. 19. notwithſtanding ſuch protection, another creditor may proceed to judgment againſt him, with a ſtay of execution, till the king's debt be paid;

unleſs ſuch creditor will undertake for the king's debt, and then he ſhall have execution for both. An arreſt in the night, as well as the day, is lawful. 9 Rep. 66. And laſtly, by ſtat. 29 Car. II. c. 7. no arreſt can be made, nor proceſs ſerved, upon a Sunday, except for treaſon, felony, or breach of the peace. But a perſon may be retaken on a Sunday, when arreſted the day before, Mod. Caſ. 231.; or, when he goes at large out of the rules of the King's Bench or Fleet priſon, &c. 5 Ann. c. 9. By 12 Geo. I. c. 29. and 5 Geo. II. c. 27. both made perpetual by 21 Geo. II. c. 3. no perſon can be arreſted, or held to bail, on a writ ſued out of the ſuperior courts, unleſs the cauſe of action be 10*l.* or upwards. And by 19 Geo. III. c. 70. no perſon can be arreſted or held to bail upon proceſs out of any inferior court, for leſs than 10*l.*, but proceedings are to be had in inferior courts according to the directions of 12 Geo. I. c. 29. extended by 19 Geo. III. to debts under 10*l.* It is now ſettled, both in K. B. and C. P. that a defendant may be arreſted in an action on a judgment for 10*l.* for damages and coſts, though the original debt alone were under 10*l.* 4 Term Rep. 570. on the authority of 2 Blackſt. Rep. 1274.

When a perſon is apprehended for debt, &c. he is ſaid to be arreſted; and writs expreſs arreſt by two ſeveral words, *capias* and *attachias*, to take and catch hold of a man; for an officer muſt actually lay hold of a perſon, beſides ſaying that he arreſts him, or it will be no lawful arreſt, 1 Lill. Abr. 96. If a bailiff be kept off from making an arreſt, he ſhall have an action of aſſault; and where the perſon arreſted, reſiſts or aſſaults the bailiff, he may juſtify beating of him. If a bailiff *touches* a man, which is an arreſt, and he makes his eſcape, it is a reſcous, and attachment may be had againſt him. If a bailiff lays hold of one by the hand held out at a window, this is ſuch a taking of him as will juſtify his breaking open of the houſe to carry him away.

2. An arreſt in a *criminal cauſe* is the apprehending or reſtraining one's perſon, in order to be forthcoming to anſwer an alleged or ſuſpected crime. To this arreſt all perſons whatſoever are, without diſtinction, equally liable, and doors may be broken to arreſt the offender; but no man is to be arreſted, unleſs charged with ſuch a crime as will at leaſt juſtify holding him to bail, when taken. There is this difference between civil and criminal caſes; that none ſhall be arreſted for debt, treſpaſs, &c. or other cauſe of action, but by virtue of a precept or commandment out of ſome court; but for treaſon, felony, or breach of the peace, any man may arreſt without warrant or precept. Terms de Ley, 54. But the king cannot command any one by word of mouth to be arreſted; for he muſt do it by writ, or order of his courts, according to law: nor may the king arreſt any man for ſuſpicion of treaſon or felony, as his ſubjects may, becauſe, if he doth wrong, the party cannot have an action againſt him. 2 Inſt. 186. In general, an arreſt may be made four ways; viz. by WARRANT; by officers without warrant, as by a JUSTICE of the peace, the SHERIFF, the CORONER, the CONSTABLE, and WATCHMEN; by a private perſon alſo without warrant; and by an HUE *and* CRY. Arreſts by private perſons are in ſome caſes commanded; ſo that any perſon who is preſent when any felony is committed, is bound by the law to arreſt the felon, on pain of fine and impriſonment, if he eſcapes through the negligence of the by-ſtanders. 2 Hawk. P. C. 74. And they may juſtify breaking open doors upon following ſuch felon; and if they kill him, provided he cannot be otherwiſe taken, it is juſtifiable; though, if they are killed in endeavouring to make ſuch arreſt, it is murder. 2 Hal. P. C. 77. Upon probable ſuſpicion alſo a private perſon may arreſt the felon, or other perſon ſo ſuſpected. 30 Geo. II. c. 24. But he cannot juſtify breaking open doors to do it; and if either party kill the other in the attempt, it is merely man-ſlaughter, 2 Hal. P. C. 82, 83. Every private perſon is bound to aſſiſt an officer, requiring him to apprehend a felon. In order to encourage the apprehending of certain felons, rewards and immunities are beſtowed on ſuch as bring them to juſtice, by ſeveral acts of parliament. By 4 & 5 W. & M. c. 8. perſons who apprehend a highwayman, and proſecute him to conviction, ſhall receive a reward of fifty pounds from the public, to be paid them, or if they be killed, to their executors, by the ſheriff of the county; to which is added by 8 Geo. II. c. 16. ten pounds, to be paid by the hundred indemnified by ſuch taking. By 6 & 7 W. III. c. 17. and 15 Geo. II. c. 18. perſons apprehending and convicting any offenders againſt thoſe ſtatutes reſpecting the coinage, ſhall, if the offence be treaſon or felony, receive a reward of 40*l.* or 10*l.* if the offence amount only to counterfeiting the copper coin. By 10 & 11 W. III. c. 23. any perſon apprehending and proſecuting to conviction a felon guilty of burglary, houſe-breaking, horſe-ſtealing, or private larceny to the value of 5*s.* from any ſhop, warehouſe, coach-houſe, or ſtable, ſhall be excuſed from all pariſh offices. By 5 Ann. c. 31. any perſon ſo apprehending and proſecuting a burglar, or felonious houſe-breaker, or, if killed in the attempt, his executors ſhall be entitled to a reward of 40*l.* By 6 Geo. I. c. 23. perſons apprehending and proſecuting to conviction any one taking reward for helping others to ſtolen goods, ſhall be entitled to 40*l.* By 14 Geo. II. c. 16. explained by 15 Geo. II. c. 34. any perſon apprehending and proſecuting to conviction ſuch as ſteal, or kill with intent to ſteal, any ſheep or other cattle ſpecified in the latter of the ſaid acts, ſhall, for every ſuch conviction, receive a reward of 10*l.* Laſtly, by 16 Geo. II. c. 15. and 8 Geo. III. c. 15. perſons diſcovering, apprehending, and convicting felons and others, being found at large during the term for which they are ordered to be tranſported, ſhall receive a reward of 20*l.* Blackſt. Com. vol. iii. p. 288. vol. iv. 289. Jacob's Law Dict. by Tomlins, art. *Arreſt*.

The method of procuring a man's appearance before a court of juſtice, is different from that above recited, in moſt of the countries of Europe, where the forms introduced in the Roman civil law, in the reigns of the latter emperors, have been inſtituted. The uſual practice is to have the perſon ſued, ſummoned to appear before the court by a public officer belonging to it, a week before the time. If no regard is paid to ſuch ſummons twice repeated, the plaintiff, or his attorney, is allowed to make before the court a formal reading of his demand, which is then granted him, and he may proceed to execution.

In Rome, the method of ſeizing the perſon of a man, againſt whom a demand of any kind was preferred, previouſly to any judgment being paſſed againſt him, was adopted and continued to be followed after the inſtitution of the prætor's court, to whom the civil branch of the power of the conſuls was afterwards delegated; and it laſted till the times of the latter emperors, in whoſe reigns the Roman civil law underwent thoſe alterations which gave it the form it now has in thoſe codes or collections that are in our poſſeſſion. In Rome, however, inſtead of employing a proper officer, and furniſhing him with a writ or order for ſeizing a man's perſon, every one became a kind of public officer in his own cauſe, for aſſerting the prætor's prerogative; and without any oſtenſible legal licence, or badge of public authority, had a right to ſeize by force the perſon of his opponent, wherever he met him. The practice was, that

the "actor," or plaintiff, firſt ſummoned the "reum," or perſon ſued, with a loud voice to follow him before the court of the prætor. If the defendant refuſed to obey this ſummons, the plaintiff, by means of the words "licet antestari," requeſted the by-ſtanders to witneſs the fact, in token of which he touched the ears of each of them; and he then proceeded to ſeize the perſon of his opponent by throwing his arms around his neck "obtorto collo," and thus endeavouring to drag him before the prætor. If the perſon ſued was, by age or ſickneſs, unable to follow the plaintiff, the latter was directed by the Twelve Tables to ſupply him with a horſe. This method of proceeding was afterwards, though very lately and very ſlowly, mitigated. In the firſt place, it became unlawful to ſeize a man in his own houſe, as it was the abode of his domeſtic gods. Women of good family, or "matronæ," were protected from being dragged by force before the tribunal of the prætor. The method of forcibly placing a ſick or aged perſon upon a horſe was aboliſhed during the latter times of the republic. Emancipated ſons, and ſlaves who had obtained their freedom, were afterwards reſtrained from ſummoning their parents or late maſters without the expreſs leave of the prætor, under the penalty of fifty pieces of gold. However, ſo late as the time of Pliny, the old mode of ſummoning or carrying by force before a judge continued in general to ſubſiſt; though in the time of Ulpian, the neceſſity of obtaining the expreſs leave of the prætor was extended to all caſes and perſons; and in the reign of Conſtantine, the method was introduced of having legal ſummonſes ſerved only by means of a public officer appointed for that purpoſe. After that time other changes in the former law took place, from which the mode of proceeding now uſed on the continent of Europe has been borrowed. De Lolme's Conſtitution of England, ch. 10.

Arrest *of judgment, to move or plead in*, is to ſhew juſt cauſe why judgment ſhould be ſtayed, notwithſtanding verdict given. Judgment may be arreſted for good cauſe in criminal caſes, as well as civil, if the indictment be inſufficient. 3 Inſt. 210. Motions in arreſt of judgment may be made at any time before judgment ſigned. Doug. 747. Str. 845. Arreſts of judgment ariſe from intrinſic cauſes appearing upon the face of the record. Of this kind are, firſt, where the declaration varies totally from the original writ; alſo, ſecondly, where the verdict materially differs from the pleadings and iſſue thereon; or, thirdly, if the caſe laid in the declaration is not ſufficient, in point of law, to found an action upon. If judgment is not by ſome of theſe means arreſted within the firſt four days of the next term after the trial, it is then to be entered on the roll or record. See Judgment.

In criminal caſes, whenever the defendant appears in perſon, upon either a capital or inferior conviction, he may at this period, as well as at his arraignment, offer any exceptions to the indictment in arreſt or ſtay of judgment, as for want of ſufficient certainty in ſetting forth either the perſon, the time, the place, or the offence. And if the objections be valid, the whole proceedings ſhall be ſet aſide; but the party may be indicted again. A pardon may be pleaded in arreſt of judgment; and it has the ſame advantage when pleaded here, as when pleaded upon arraignment; viz. the ſaving the attainder, and of courſe the corruption of blood, which nothing can reſtore but parliament, when a pardon is not pleaded till after ſentence. Praying the benefit of clergy may alſo be ranked among the motions in arreſt of judgment. If all theſe reſources fail, the court muſt proceed to pronounce the judgment. See Judgment.

Arrest *of Inqueſt*, or to plead in arreſt of taking the inqueſt, is to ſhew cauſe why an inqueſt ſhould not be taken. See Inquest.

Arrest, in *Military Language*, is the exerciſe of that part of military juriſdiction, by which an officer is noticed for miſconduct, or put into a ſituation to prepare for his trial by a general court-martial.

Arrest, or *Arret*, is ſometimes uſed among French writers, in the ſenſe of the Latin word "retinaculum," to ſignify a ſmall piece of ſteel, which was formerly uſed in the conſtruction of fire-arms, to prevent the piece from going off.

ARRESTANDIS *bonis ne diſſipentur*, a writ which lay for him whoſe cattle or goods are taken by another, who during the controverſy makes or is likely to make away with them, and will hardly be able to give ſatisfaction for them afterwards. Reg. Orig. 126.

ARRESTANDO *ipſum, qui pecuniam recepit ad proficiſcendum in obſequium regis*, &c. is a writ which lay for the apprehenſion of him that hath taken preſs-money to ſerve in the king's wars, and hides himſelf when he ſhould go. Reg. Orig. 24.

ARRESTMENT, in *Scots Law*, ſignifies the ſecuring of a criminal till trial, or till he find caution to ſtand trial, in what are called bailable crimes. In civil caſes, it denotes either the detaining of ſtrangers or natives "in meditatione fugæ," till they find caution "judicio ſiſti;" or the attaching of the effects of a ſtranger in order to found juriſdiction. But, in the moſt general acceptation of the word, it ſignifies that diligence by which a creditor detains the goods and effects of his debtor in the hands of third parties, till the debt due to him be paid or ſecured. *Arreſtment* may be laid on by the authority either of the ſupreme court, or of an inferior judge. In the firſt caſe, it proceeds either upon ſpecial letters of arreſtment, or on a warrant contained in letters of horning, and it muſt be executed by a meſſenger. The warrants granted by inferior judges are called precepts of arreſtment, and they are executed by the proper officer of the court. All debts, in which one is perſonally bound, though they ſhould be heritably ſecured, are grounds upon which the creditor may arreſt the moveable eſtate belonging to his debtor.

Moveable debts are the proper ſubject of arreſtment; under which are comprehended conditional debts, and even depending claims. But there are certain moveable debts which are not arreſtable; ſuch as debts due by bill, future debts, and alimentary debts, including ſalaries of public offices. If, in contempt of the arreſtment, the arreſtee ſhall make payment of the ſum, or deliver the goods arreſted, to the common debtor, he is not only liable criminally for breach of arreſtment, but he muſt pay the debt again to the arreſter. Arreſtment is only an inchoated or begun diligence; for perfecting it, there muſt be an action brought by the arreſter againſt the arreſtee, to make the debt, or ſubject arreſted, forthcoming. In all competitions of arreſtments, regard is had to the dates, not of the grounds of debt, but of the diligences proceeding upon them. In the competition of arreſtments with aſſignations, an aſſignation by the common debtor, intimated before arreſtment, is preferable to the arreſtment; if the aſſignation is granted before arreſtment, but not intimated till after it, the arreſter is preferred. See Poinding.

ARRESTO *facto ſuper bonis mercatorum alienigenorum*, &c. is a writ which lay for a denizen againſt the goods of aliens found within this kingdom, in recompence of goods taken from him in a foreign country, after he hath been denied

denied reſtitution there. This anſwers to what among the ancient civilians was called *clarigatio*, now barbarouſly REPRISALIA.

ARRETE-NEF, in *Zoology*, a common term among the French for the *Remora*, or ſucking-fiſh; alluding no doubt to the fabulous relations of the ancient poets, who feigned that this fiſh, which is ſcarcely more than a foot or two in length, was capable of arreſting the progreſs of a ſhip in full ſail by faſtening itſelf to the bottom of it. See ECHENEIS *remora*.

ARRETIUM VETUS, now *Arezzo*, in *Ancient Geography*, a town of Italy, in Etruria. It was ſeated on a hill not far from Umbria, and was celebrated for its manufacture of earthen veſſels, its wine, a fountain whence were iſſued oracles, &c. See AREZZO.

ARRETIUM *Julium*, a town of Etruria, upon the Arnus, north of the former.

ARRETIUM *Fidens*, another town of Etruria, ſouth of Arretium vetus.

ARRETTED, ARRECTATUS, *quaſi, ad rectum vocatus*, is ſometimes uſed in our ancient law-books for imputed, or laid to.—As, no folly may be arretted to one under age. It is applied alſo to a perſon who is convened before a judge, and charged with a crime.

ARRHA, in *Ancient Geography*, a town of Illyrium. Steph. Byz.

ARRHABON, a river of Aſia, in Armenia, had its ſource in mount Caucaſus, and ran into the Cyrus. Strabo.

ARRHABONARII, derived from ἀῤῥαβων, *arrha, earneſt*, in *Eccleſiaſtical Hiſtory*, a ſect, in the ſixteenth century, who held that the euchariſt is neither the real fleſh and blood of Chriſt, nor yet the ſign of them, but only the pledge or earneſt thereof.

ARRHADA, in *Ancient Geography*, a town of Arabia Deſerta. Ptolemy.

ARRHÆ, or *Argentum Dei*. See EARNEST, &c.

ARRHAPA, in *Ancient Geography*, a town of Aſia, in Aſſyria. Ptolemy.

ARRAPHON, denotes a ſkull without ſutures, found to be the cauſe of incurable CEPHALALGIÆ.

ARRHENA, in *Ancient Geography*, a town of Aſia, in Armenia Major. Pliny ſays, that the rivers Tigris and Arſenius ran near one another through this country.

ARRHENOGOGON, in *Botany*, a name given by ſome to the *parietaria*, or pellitory of the wall.

ARRHEPHORIA, in *Antiquity*, a feaſt among the Athenians, inſtituted in honour of Minerva, and Herſe, daughter of Cecrops. The word is compounded of ἄῤῥητον, *myſtery*, and φέρω, *I carry*; on account of certain myſterious things which were carried in proceſſion at this ſolemity.

Boys, or, as ſome ſay, girls, between ſeven and twelve years of age, were the miniſters that aſſiſted at this feaſt, and were denominated ἀῤῥηφόροι.

This feaſt was alſo called *Herſiphoria*, from Herſe the daughter of Cecrops, on whoſe account it is ſaid to have been firſt eſtabliſhed.

ARRIA, in *Biography*, a Roman lady diſtinguiſhed by her fortitude and conjugal affection, was the wife of Cæcina Pœtus, a man of conſular dignity, who died in the 42d year of the Chriſtian æra. Pliny the younger has preſerved (Epiſt. l. iii. ep. 16.) ſeveral anecdotes, ſome of which are worth recording. Her huſband and her ſon, who was a very amiable and promiſing youth, were both ſeized at the ſame time with a very dangerous diſorder. The ſon died, but the mother concealed the diſtreſſing event from the ſick father; and whenever ſhe appeared in his preſence, aſſumed a cheerful countenance, and anſwered his inquiries reſpecting the deceaſed with ſo much compoſure and ſerenity, that ſhe even prevented the ſuſpicion of his death. When her huſband was apprehended, in conſequence of having joined Scribonianus in a rebellion againſt the emperor Claudius, and was conveyed by ſea to Rome, Arria wiſhed to accompany him in the ſame veſſel; but being refuſed, ſhe hired a fiſhing boat, and followed him. Having arrived at Rome, ſhe determined to die with Pœtus; and to the remonſtrance of her ſon-in-law Thraſea, who aſked her, "Would you wiſh that your daughter ſhould accompany me, if I were to die?" ſhe replied, "Yes, provided ſhe had lived ſo long and ſo happily with you as I have lived with Pœtus." To thoſe who watched her, and who endeavoured to divert the execution of her purpoſe, ſhe ſaid, "You may make my death more painful, but cannot prevent it;" and daſhing her head againſt a wall, fell ſenſeleſs on the ground. Upon her recovery, ſhe calmly ſaid, "I told you that I would find a difficult road to death, if you hindered me from obtaining an eaſy one." When her huſband was ordered to deſtroy himſelf, Arria perceiving his heſitation, plunged a dagger in her breaſt, and then preſented it covered with blood to her huſband, exclaiming, in words celebrated by the ancients, who did not entertain that horror of ſelf-murder which Chriſtians have derived from better principles, "Pœtus, it is not painful." Martial's epigram on this ſubject is well known; but it is remarked, that he has given an ingenious turn to the ſpeech, which injures its noble ſimplicity:

"Caſta ſuo gladium cum traderet Arria Pœto,
Quem de viſceribus traxerat ipſa ſuis;
Si qua fides, vulnus, quod feci, non dolet, inquit,
Sed quod tu facies, hoc mihi, Pœte, dolet."

"When Arria pulled the dagger from her ſide,
Thus to her conſort ſpoke th' illuſtrious bride:
The wound I gave myſelf I do not grieve;
I die by that which Pœtus muſt receive."

Tatler, vol. ii. N° 72.

Arria, the daughter, who was married to Pœtus Thraſea, propoſed to imitate this example of her mother, when her huſband was condemned to death under Nero; but ſhe changed her reſolution upon his requeſt, who deſired her to live in order to take care of their daughter. Tacit. Annal. l. xvi. c. 34. Gen. Dict.

ARRIACA, in *Ancient Geography*, a town of Spain, between Complutum to the ſouth-weſt, and Seguntia to the north-eaſt, on the ſame river with the firſt of theſe towns.

ARRIAGA, RODERIC DE, in *Biography*, a learned Spaniſh Jeſuit, was born at Lucrona in 1592, and gained great applauſe by teaching philoſophy at Valladolid, and divinity at Salamanca. Having voluntarily undertaken the office of teaching theſe ſciences in Bohemia, he removed to Prague in 1624, whence he was deputed thrice to Rome by the province of Bohemia, to aſſiſt at the general congregations of the order of Jeſuits; and after acquiring diſtinguiſhed reputation in the ſeveral offices to which he was appointed, he died at Prague in 1667. Such was the vigour of his mind, that he broke through the trammels of the ſchools in the inveſtigation of philoſophical and theological ſubjects: but deſtitute of the right clue to guide his inquiries, he indulged the wildeſt conjectures in explaining the phenomena of nature, and wandered into the regions of general ſcepticiſm, ſo that he was more ſucceſsful in demoliſhing the opinions of others than in eſtabliſhing any of his own. His works are: "A Courſe of Philoſophy," in one volume folio, printed at Antwerp in 1632, and ſeveral times re-printed; and "A Courſe of Divinity," in eight volumes folio, printed between the years 1643 and 1655, by Balthaſar Moret, at Antwerp.

He-

He was prevented from finiſhing a ninth volume by his death. Gen. Dict.

ARRIAGI, in the *Materia Medica*, a name given by ſome authors, particularly by Serapion and Avicenna, to a fine kind of camphor.

ARRIAN, in *Biography*, a Greek hiſtorian, was born at Nicomedia in Bithynia, where he was prieſt of Proſerpine, and flouriſhed in the ſecond century under the emperors Adrian and the Antonines. After his reſidence at Rome, he became a diſciple of Epictetus, and by his talents and learning he recommended himſelf to the patronage of Adrian. Having been admitted to the honour of a Roman citizen, he was appointed prefect of Cappadocia, and in this ſtation he diſtinguiſhed himſelf by his prudence and valour in the war againſt the Alani and Maſſagetæ. He was afterwards advanced to the dignities of ſenator and conſul. Like Xenophon, he united the literary with the military character, and devoted a great part of his life to the purſuits of learning and philoſophy. Of the numerous hiſtorical writings of Arrian, if we except ſome fragments preſerved by Photius and Tzetzes, two only remain. The firſt is, "The expedition of Alexander the Great, in ſeven books;" a work in high eſtimation, not only on account of the accuracy and fidelity that diſtinguiſh the detail of facts, but for the ſimplicity and ſweetneſs of the ſtyle in which they are recited. As his knowledge of political and military ſcience was more extenſive than that of Q. Curtius, he poſſeſſed a ſounder judgment, and was leſs inclined to the marvellous than that hiſtorian. His facts were collected from the beſt authorities, particularly from the memoirs left by Ptolemy Lagus and Ariſtobulus, who had ſerved under Alexander in his expedition, and who did not publiſh their accounts till after the death of Alexander, and with no other motive beſides that of diſcovering the truth. His ſtyle was formed upon the model of that of Xenophon, and combined ſimplicity and eaſe with ſtrength and elegance; ſo that he was not unjuſtly denominated the ſecond Xenophon. "This work, ſays Dr. Robertſon, (Hiſt. Diſq. concerning India, p. 24.) though compoſed long after Greece had loſt its liberty, and in an age when genius and taſte were on the decline, is not unworthy the pureſt times of Attic literature." Arrian's "Account of the Affairs of India," in which the hiſtory of Alexander is purſued, has been conſidered by many as an eighth book of the former work: though it has been objected that this book is written in the Ionic, but the former ſeven in the Attic dialect, and that its facts are chiefly taken from Megaſthenes, to whom Strabo allows little credit. Dr. Robertſon (ubi ſupra, p. 344.) ſays, that the Indian hiſtory of Arrian is one of the moſt curious treatiſes tranſmitted to us from antiquity. The firſt part of it conſiſts of extracts from an account given by Nearchus of the climate and ſoil of India, and the manners of the natives; and the ſecond contains that officer's journal of his voyage from the mouth of the Indus to the bottom of the Perſian gulf. For the elucidation of this curious monument of ancient navigation, ſee "The Voyage of Nearchus from the Indus to the Euphrates," by Dr. Vincent, 4to. 1797. We may add, that, notwithſtanding ſome particulars, to which objections have been made, and which have been examined by Dr. Robertſon and others, the account of Nearchus's voyage, detailed, probably only in part by Arrian, the promontories, the creeks, the rivers, the cities, and the mountains, which came ſucceſſively in his view, are ſo clearly deſcribed, and the diſtances of ſuch as were moſt worthy of notice are ſo diſtinctly marked, that M. d'Anville, by comparing theſe with the actual poſition of the country, according to the beſt accounts of it, ancient as well as modern, has been able to point out moſt of the places which Nearchus mentions, with a degree of certainty, which does as much honour to the veracity of the Grecian navigator, as to the induſtry, learning, and penetration of the French geographer. Mem. de Literat. tom. xxx. p. 132, &c. See alſo the learned and elaborate work of Dr. Vincent, above cited. Arrian's "Expedition of Alexander" was firſt printed in Greek, at Venice, in 8vo, in 1535; at Baſil, in 1539, 8vo.; at Geneva, by H. Stephens, in 1575, fol.; in Greek and Latin, by Blancard, 8vo. with notes, at Amſterdam, in 1668; by Gronovius, at Leyden, in 1704, fol.; and at Amſterdam, in 8vo., with the notes of Raphelius and others, in 1757. The book "De Indicis" has uſually been publiſhed with the "Exped. Alex." The "Periplus Ponti Euxini," in a letter from Arrian to Adrian, containing a deſcription of a voyage along the coaſts of the Euxine ſea, is ſtill extant, and was probably written while Arrian was prefect of Cappadocia. The "Periplus Maris Erythræi" has been aſcribed by ſome to Arrian, but Salmaſius is of opinion that it was written in the time of Pliny the natural hiſtorian, or a little before his time; and that it could not have been compoſed by Arrian, and addreſſed to Adrian, becauſe mention is made of ſeveral princes who lived in Pliny's time. M. Tillemont apprehends, that it was compiled by that Arrian to whom Pliny the younger wrote ſeveral letters, whom he repreſents as a man of great abilities and eloquence, and who was conſidered as an imitator of Demoſthenes. But this Arrian, having retired from public employments about the time of Nerva, or the beginning of Trajan's reign, could not have been the ſame with the diſciple of Epictetus. The "Periplus Ponti Euxini," and "Periplus Maris Erythræi," were publiſhed together at Baſil, in fol.; at Leyden, in 1577; and among the Ancient Geographers, in 4to. by Gronovius, at Leyden, in 1697; and at Oxford, in 1698, 8vo. The "Tactics" of Arrian was written in the 20th year of Adrian. It treats of the order and arrangement of an army; and alſo the order which Arrian gave for the march of the Roman army againſt the Alani. His book "On Hunting" was publiſhed in Blancard's edition of the works of Arrian: and of his invaluable moral treatiſe, intitled "Enchiridion," containing the diſcourſes of Epictetus, we have an excellent edition by Upton, printed at London in two volumes 4to., in 1739. Gen. Dict. Fabr. Bibl. Græc. l. iv. c. 8. t. iii. p. 269.

ARRIANA, in *Ancient Geography*, a town of Pannonia Prima, in the diſtrict of Norica Ripenſis.

ARRIANA, in *Geography*, a village of Africa, two leagues north of Tunis, in which are ſeen ſome ruins of ancient Carthage, particularly a long range of the arches of the celebrated aqueduct, all of them entire, ſeventy feet high, ſupported by columns ſixteen feet ſquare. The channel, that conveyed the water, lies upon theſe arches, and is high and broad enough for a perſon of an ordinary ſize to walk in. It is vaulted, and plaiſtered in the inſide with a ſtrong cement, which by the ſtream running through it, is diſcoloured to the height of about 3 feet. Shaw's Trav. p. 13.

ARRIB *of Rupees*, in *Commerce*, equal to 100 crores, each crore being 100 lacks, and each lack 12,500*l.*: ſo that an arrib is equal to about 125,000,000 *l.*

ARRIBANTRUM, in *Ancient Geography*, a town of Dardania, a country of Upper Myſia. Ptolemy.

ARRIE'GE, in *Geography*, a river of France, which riſes in the Pyrenées, paſſes by Foix, Pamiers, Savarden, St. Gabelle, &c. and joins the Garonne about two miles from Toulouſe. Gold has been found in ſeveral parts of this river near Pamiers.

Arriége gives name to one of the departments of France, formed of the territory called Couzerans, and the Pays de Foix. It is bounded on the north by the departments of Upper

Upper Garonne, and of Aude; on the eaſt, by the departments of Aude, and the Eaſtern Pyrenées; on the ſouth, by the department of the Eaſtern Pyrenées, and the Pyrenées; and on the weſt, by the department of Upper Garonne. Its ſuperficies is about 1,037,533 ſquare acres, or 529,540 hectares; its population conſiſts of about 194,858 individuals; and it is divided into three communal diſtricts. Its chief town is Taraſcon.

ARRIENNES, a mountain of France, in the department of the Calvados, remarkable for the reſort of birds of prey, ſuch as eagles, falcons, kites, &c. one league from Falaiſe.

ARRIERE, Fr. denotes the rear.

Arriere-*Ban*, or *Ariere-ban*, in the *French Cuſtoms*, is a general proclamation, whereby the king ſummons to the war all that hold of him; both his vaſſals, i. e. the nobleſſe, and the vaſſals of his vaſſals.

M. Caſeneuve takes the word to be compoſed of *arriere*, and *ban*: the *ban*, according to him, denotes the convening of the nobleſſe or vaſſals, who hold fees immediately of the king: and *arriere*, thoſe who only hold of the king immediately.

Arriere *fee*, or *fief*, is a fee dependant on ſome other ſuperior one.

Arriere-fees commenced at the time when the counts and dukes, rendering their governments hereditary in their families, diſtributed to their officers certain parts of the royal domains which they found in their provinces; and even permitted thoſe officers to gratify the ſoldiers under them with parts of the ſame.

Arriere-*guard*. See Rear-*guard*.

Arriere *vaſſal*, or *tenant*, the vaſſal or tenant of another vaſſal or tenant.

ARRIGNO, in *Geography*, a town of the iſland of Corſica, eight miles eaſt of Calvi.

ARRIGONI, Carlo, in *Biography*, an eminent Italian Luteniſt, who arrived in England about the time of the eſtabliſhment of the Royal Academy, or opera, in 1721, where he accompanied on the lute out of the compoſer's book or ſcore, during the whole time of Handel's regency. In 1732, he accompanied Farinelli: he had many ſcholars in ſinging in the great families of this country, and had the reputation of a good compoſer. He left England in 1738, and removed to Vienna, where he compoſed the oratorio of Eſther, which augmented his reputation as a good muſician.

ARRION, in *Geography*, a town of Perſia, in the province of Adir-beitzan, thirty leagues ſouth-eaſt of Tauris.

ARRION, or Carrion, a river of Spain, which runs into the Piſuerga, near its union with the Duero.

ARRO, a river of England, which runs into the Lug, near Leominſter, in Herefordſhire.

ARROBAS, or Arobas, in *Commerce*. See Arobe.

ARROE, in *Geography*, an iſland of Denmark, in the Baltic mountains, but interſected with vallies, and containing three pariſhes. It lies ſouth of the iſland of Funen, and weſt of that of Langeland. N. lat. 54° 55′. E. long. 10° 10′.

Arroe, is alſo a ſmall iſland of Denmark, in the Little Belt, weſt of Funen, and almoſt contiguous to the eaſt coaſt of the duchy of Sleſwick. It gives name to a Sound on that coaſt. N. lat. 55° 16′. E. long. 9° 40′.

ARROESKIOBING, a town of Denmark, in the iſland of Arroe, in the Baltic.

ARROGATION, See Adrogation.

ARROJA de St. Servan, in *Geography*, a town of Spain, in the province of Eſtremadura, three miles ſouth of Merida.

ARROIS, a village of Scotland, in the iſle of Mull.

ARRON, or Aron, a river of France, which runs into the Loire near Decize.

ARRONCHES. See Aronches.

ARRONDIE, in *Heraldry*, Cross-*arrondie*, or *rounded*, is that whoſe arms are compoſed of ſections of a circle, not oppoſite to each other, ſo as to make the arm bulge out thicker in one part than another; but both the ſections of each arm lie in the ſame way, ſo that the arm is every where of an equal thickneſs; and all of them terminating at the edges of the eſcocheon, like the plain croſs.

ARROO, or Arrau, *Iſles*, in *Geography*, iſlands of that part of Aſia called Auſtralaſia, lying to the ſouth-weſt of New Guinea; in S. lat. 6°, and E. long. 135°. Although Pennant claſſes theſe among the ſpicy iſlands, they produce, according to his account, ſago, and not ſpice. During the dry, or weſtern monſoons, the manucodiatæ, or birds of Paradiſe, which breed in New Guinea, and reſide there whilſt the wet monſoon laſts, retire to Arroo; migrating in flocks of 30 or 40, under the conduct of a leader, called by the inhabitants of Arroo, the king: he is ſaid to be black, to have red ſpots, and to fly far above the flock, which never deſert him, but ſettle where he ſettles. During their flight they cry like ſtarlings; but when ſurpriſed with a ſtrong gale, they croak like ravens, and aſcend to the ſuperior regions of the air. They alight on the higheſt trees, and ſeem to feed on berries, or on nutmegs and butterflies; and they are either ſhot with blunt arrows, or caught with birdlime, or nooſes. The bowels and breaſt-bone being extracted, they are dried with ſmoke and ſulphur, ſold for nails or bits of iron, and exported to Banda. The Arroo iſlands appear, in Arrowſmith's chart, divided into five by intervening ſtraits. The chief product is ſago; and the people make expeditions to the main land, where they ſeize captives, and ſell them at Banda. Since 1623, the Arroo iſles have been conſidered as belonging to the Dutch Eaſt India Company, and ſubſervient to thoſe of Banda.

ARROS, a river of France, which runs into the Adour near Aire, in the department of Landes.

ARROSOIR, in *Conchology*, a name aſſigned by modern French naturaliſts, after Brugière and Lamarck, to a new genus of ſhells, formed excluſively of the Linnæan *Serpula penis*, and another analogous ſpecies figured in the ſeventy-ninth plate of Favanne's Conchology. The former is the *Pencillus marinus* of Argenville; *Chineſe watering-pot* of the Engliſh; and *L'Arroſoir de Java* of the French; the latter is alſo called by them *L'Arroſoir de la Nouvelle Zélande*. See Serpula penis.

ARROTINO, L', in *Sculpture*, a ſtatue in the gallery of the great duke at Florence, repreſenting an old man reſting upon one knee, and whetting a kind of broad knife upon a ſtone, with his head erect, and, as it were, liſtening with great attention, but very cautious of being obſerved. The head and the hair of this piece of ſculpture are particularly admired. It is generally thought to have been a peaſant, who, being in the field, happened to overhear ſome of Catiline's accomplices, and diſcovered them: but the hiſtory of that conſpiracy, as alſo of that headed by Brutus's ſons, makes no mention of their being detected by a country labourer. Keyſler's Trav. vol. ii. p. 21. Leonard Agoſtini, cited by Gronovius, ſuppoſes that this ſtatue repreſents a Scythian charged by Apollo with the deſtruction of Marſyas, and that it made part of a group, exhibiting the puniſhment of this audacious rival of Apollo.

ARROU, in *Geography*, a town of France in the department of the Eure and Loire, and chief place of a canton in the diſtrict of Chateaudum, 7 leagues S.S.W. of Chartres.

ARROUKHAGE. See Arokhage.

ARROUX, in *Geography*, a river of France, which riſes near Arnay-le-Duc, and runs into the Loire, between Digoin, and Motte St. Jean, in the department of the Saone and Loire.

A R R

ARROW, in *Archery*, in the Saxon arpe, or arepe, a missive weapon of offence, slender, pointed, and barbed, made to be cast or shot from a bow. See ARCHERY. Minshew derives it from the Latin *arundo*, because the ancients so frequently made the shafts of their arrows from reeds: Skinner refers us to the Anglo Saxon gearo, *paratus*: and Junius to the French *arroser*, because the arrows descended on the enemy like a shower.

The chief of the nations that composed the army of Xerxes had both their bows and arrows made of reeds: the bows, however, of the Lycians were of cornel wood; the arrows of the Indians were pointed with iron; those of the Ethiopians with a sharp stone that they sometimes used to cut their seals with; and the arrows of the Lycians were unfeathered (Herodotus, Polymnia). The Grecians headed their arrows with brass, as well as the Scythians; and from a particular passage in the Odyssey, it is supposed, that the heads of the Grecian arrows were fastened on as they were wanted. The ancient Germans generally prefixed pointed stones to their weapons: and Brotier, in his notes on Tacitus, observes, that many such have been discovered in the German sepulchres. Nor is it an uncommon thing to find arrow-heads of flint in the ancient cairns of stone in our own country. (See Gough, Sep. Mon. vol. i. p. 18.)

Among the Romans, although the tree called *Cornus* was very frequently made use of for the arrow-shaft, yet the most common material was the reed, which grew in Italy, not only with great strength, but in great abundance, particularly in the Pomtine marshes.

The use of the arrow among our early ancestors has been already spoken of (see ARCHERY); the particular material, indeed, of which either the head or shaft was made, has not come down to us: but we can speak of the arrows of the middle ages with a greater degree of certainty.

Roger Ascham thought (Toxoph. ed. 1571. f. 166.) that for the pluming of an arrow, the feathers from the wing of a grey goose were preferable to any other: which strongly reminds us of part of a stanza in the well-known ballad of Chevy Chace, where an English archer aimed his arrow at sir Hugh Montgomery:

"The *grey-goose wing* that was thereon,
In his heartes blood was wett."

The more ancient ballad, however, reads, *swane-feathers*. In the "geste of Robyn Hode," among Mr. Garrick's old plays, in the Museum, the arrows of the outlaw and his companions are particularly described:

"With them they had an hundred bowes,
The strings were well ydight;
An hundred shefe of arrows good,
With hedes burnish'd full bryght;
And every arrowe an ell longe,
With *peacocke* well ydight,
And nocked they were with white silk,
It was a femely sight."

And Chaucer, in his description of the squyers yeoman, says:

"And he was clad in cote and hode of greene;
A shefe of *peacocke* arrowes bryght and shene,
Under his belt he bare full thriftely,
Well coude he dresse his tackle yemanly:
His arrowes drouped not with fethers lowe,
And in his hande he bare a mighty bowe."
Prol. to Cant. Tales.

In the wardrobe accompts of the 28th Edw. I. (p. 359.) is a charge of verdigrease to stain the feathers of the arrows green. Nor are we to suppose that peacock-arrows are only to be found in poetry; a wardrobe accompt of the 4th Edw. II. furnishes this entry; "Pro duodecim flecchiis cum pennis de *pavone*, emptis pro rege de 12 den'." And Gervase Markham mentions that when he wrote, 1634, the peacock feather was sometimes used at the short butt; yet seldom or ever, he complains, did it keep the shaft either right or level. (Art of Archerie, p. 91.)

Ascham says, in the composition of an arrow there are three essential parts; the stele or wand, the feathers, and the head. The stele was not always made of the same species of wood, but varied according to the different modes of shooting practised. He commends sound *ash* for military arrows, and prefers it to *asp*, which in his day, as well as in the time of Charles I., was generally used for the arrows of the army: but for pastime he thought none were better than those made of oak, hard-beam, or birch. Occasionally, it should seem the arrow, toward the head, was pierced with brazil, holly, or other heavy wood, to make it fly the steadier. (Markham's Art of Archerie, p. 86.)

The arrows at Cheviot Chace were drawn to the ear, contrary to the usage of the ancients, as appears not only from many of their reliefs, but the traditionary circumstance of the Amazons parting with the right breast as an impediment to their using the bow. Some of our ancient ballads extend the length of the arrow to an ell; but the cloth-yard appears to have had the preference, and is mentioned not only in the old ballad of Chevy Chace, but by most of our historians, as the particular length of the arrow used by the English archers at the battle of Agincourt, 1415; and by Carew, (Survey of Cornwall, p. 73.) 1602, as in use among the Cornish bowmen. (See Strutt's Sports and Pastimes, p. 50.)

Archers generally speak of an arrow weighing so many shillings; but they consider an arrow of an ounce weight to be the best for flight or hitting a mark at a considerable distance. As to the feathers, those of a goose are preferred; it is also wished that the bird should be two or three years old, and that the feather may drop of itself. Two out of the three feathers are commonly white, being plucked from the gander, but the third is generally brown or grey, being taken from the goose, and from this difference in point of colour informs the archer when the arrow is properly placed. (Archæol. vol. vii. p. 65.)

Mr. Grose, in his Military History, (vol. ii. p. 169.) quotes a curious particular respecting arrow heads from Swinden's History of Great Yarmouth; where the sheriff of Norfolk, in the 42d of Edw. III. being ordered to provide a number of garbs of arrows headed with steel for the king's use, is directed for the heading of these to seize all the flooks of anchors (omnes alas ancarum) necessary for the purpose. Arrows were usually reckoned by the garb or sheaf. For immediate use they were carried in the girdle.

ARROW, *for the Cross-bow*. See BOLT.

ARROW, *Fire*. When the Persians, under Xerxes, encamped on the hill opposite the citadel of Athens, they commenced their attack by shooting against the barricade of wood, which the oracle had declared invincible, arrows wrapped in tow, and fired. (Herodotus, Urania.) This, as far as we remember, is the earliest instance of fire arrows on record. Among the Romans they were seldom used. But the warriors of the middle ages frequently fixed phials of quicklime, or other combustible matter, to their arrow heads, and shot them from the bow; (See Matt. Paris, p. 1090, 1091) and in sea-fights they were found particularly serviceable. Even so low as the time of Edward VI. arrows with wild-fire, and arrows with fire-works, are mentioned among the stores at Newhaven and Berwick. (Grose, Milit. Hist. vol. ii. p. 270.)

ARROWS, *Whistling*. The use of whistling-arrows, at least in this country, cannot be carried to very high antiquity. It seems probable that they were first used on military occasions,

ſions, and eſpecially as ſignals during the quarrel of the roſes. Hall (An. 7. Hen. VIII. fol. 56.) mentions a company of archers who met king Henry VIII. at Shooter's-hill, on a May-day morning, where they diſcharged their bows in his preſence, and the arrows made a loud whiſtling in their flight, "by crafte of the head." The ſtrangeneſs of the noiſe, we are told, ſurpriſed the king: but this is no proof that the uſe of the weapon was a novelty. In this caſe the arrow-head was uſually made with horn, rounded at the end and pierced with ſeveral holes. See Archæol. vol. ii. p. 58. For the practice of divining by *arrows*, ſee Belomancy.

Arrow, in *Aſtronomy*, *Trigonometry*, &c. See Sagitta.

Arrow, in *Fortification*, is a work placed at the ſaliant angles of the glacis, and conſiſts of two parapets, each forty toiſes long. The work has a communication with the covert-way, of about twenty-four or thirty feet broad, called *caponier*; and a ditch before it, of five or ſix toiſes.

Arrow, in *Geography*, the name of a lough, or lake, in the county of Sligo, in Ireland, which is about eight miles long, full of romantic and woody iſlands, and of a very irregular form; and alſo of a river proceeding from the lake, and running northward to Ballydore, where it ruſhes at once into the ſea, breaking over rocks in the moſt romantic manner, from edge to edge, in many falls for the ſpace of 200 yards, before it comes to the principal one, which is twelve or fourteen feet perpendicular. Beaufort. Young.

Arrow, in *Surveying*, is uſed for ſmall ſtraight rods, of which there are ten, about a foot or half a yard long, ſhod with iron ferrils. Their uſe is to ſtick into the ground, at the end of every chain, in meaſuring lines.

ARROWAUKS, or Arwacks, in *Geography*, a name given to the ancient natives of Hiſpaniola, Cuba, Jamaica, and Porto-Rico, as well as of Trinidad, who were a mild and comparatively cultivated people, and who ſeem to have had one common origin, as they ſpeak the ſame language, poſſeſs the ſame inſtitutions, and practiſe ſimilar ſuperſtitions. Columbus treats of them as ſuch; and the teſtimony of many contemporary hiſtorians confirms his opinion. The Charaibes, or Caribbees, regarded them as the deſcendants of a colony of Guiana, a race of Indians to whoſe noble qualities the moſt honourable teſtimony is borne by every traveller who has viſited them, and recorded his obſervations. Mr. Bryan Edwards thinks it extremely probable, that all the various nations of this part of the New World, excepting only the Charaibes, emigrated anciently from the great hive of the Mexican empire. But at what period ſuch emigrations were made; whether the Charaibes were previouſly poſſeſſed of the widely extended coaſt that bounds the Atlantic, or, in poſterior ages, accidentally found their way thither by ſea from the continent, are points concerning which, as it is impoſſible to determine, it is in vain to inquire. Mr. Edwards has given a particular detail of their perſons and corporeal endowments, their intellectual faculties and diſpoſitions, their political inſtitutions, and their religious rites. See his Hiſtory of the Weſt Indies, vol. i. p. 60. &c.

Arrow, *Elf*. See Elf-*arrows*.

ARROWSIKE, in *Geography*, an iſland in the diſtrict of Maine, in America, ſeparated from Parker's iſland by a ſmall ſtrait. It is within the limits of George-town; and contains nearly one-third of its inhabitants, and has a church. It comprehends about 20,000 acres of land.

Arrow, *Magical*, a ſort of weapon very common among the barbarous inhabitants of Lapland, and many other of the northern climates; and ſuppoſed to poſſeſs very ſtrange virtues.

Arrow, *Wildfire*. See Wildfire.

Arrow-*head*, in *Botany*. See Sagittaria.

Arrow-*headed Graſs*. See Triglochin.

Arrow-*root*, *Indian*. See Maranta.

ARRUCI Vetus, in *Ancient Geography*, a town of Spain, in Bœtica, near the mountains.

ARS Notaria. See Art.

Ars *Theſſalica*, *Theſſalian art*, is uſed by *Ancient Writers*, for a ſpecies of magic, whereby it is pretended, they could draw the moon and ſtars out of heaven.

It was denominated *Theſſalian*, from its ſuppoſed inventors, the people of Theſſaly.

Ars, in *Geography*, a town of France, in the department of the Creuſe, and chief place of a canton in the diſtrict of Aubuſſon; five miles north-weſt of Aubuſſon.

Ars, a town of France, on the ſouth-weſt coaſt of the iſland of Ré, two leagues weſt of St. Martin de Ré. N. lat. 46° 12′. W. long. 1° 37′.

Ars, a river of Spain, which runs into the ſea near cape Finiſterre, in Galicia.

ARSA, in *Ancient Geography*, a town of Spain, in Bœtica, to the north-eaſt.

Arsa, a town of Hiſpania Tarragonnenſis, in the territory of the Edutians. Ptolemy.

Arsa, a country of India, on this ſide the Ganges, between the rivers Indus and Hydaſpes. According to Ptolemy it had two cities, viz. Iſaguras or Ithaguras, and Taxila or Taxilea.

ARSACIDÆ, in *Ancient Hiſtory*, a denomination given to the kings of Parthia, commencing with Arſaces I., the founder of the Parthian monarchy, and terminating with Artabanus, who was put to death by order of Artaxerxes, after the Parthians were ſubdued by the Perſians. The moſt probable account of this period, which is ſomewhat perplexed, is as follows. In the reign of Antiochus Theos, king of Syria, Arſaces, a Bactrian, excited the Parthians to ſhake off the Macedonian yoke, and to eſtabliſh the national independence. This happened about the year before Chriſt 250. The ſucceſs of Arſaces induced the Parthians to elevate him to the throne, and he fixed his reſidence at Hecatompolis. Seleucus Callinicus, the ſucceſſor of Antiochus, attempted to recover the Parthian provinces; but he was defeated in a great battle by Arſaces, and made captive; and this event was by the Parthians commemorated at the commencement of their independence; and its anniverſary celebrated with great ſolemnity for many ages. Having poſſeſſed himſelf of Hyrcania and ſome neighbouring provinces, he was at length killed in battle againſt the king of Cappadocia, after a proſperous reign of about thirty-eight years. Blair, in his Chronology, dates his death at the year before Chriſt 245. However this be, he left behind him a great reputation throughout the eaſt; and his ſucceſſors the Parthian kings all took his name, as the Roman emperors did that of Cæſar. The empire founded by him proved an impenetrable barrier againſt the Romans, in their attempts to extend their dominions eaſtward. After various events (ſee Parthia), Artabanus IV. ſucceeded to the throne; and his proſperity had elated him ſo much, that, firſt of all the Parthian monarchs, he aſſumed the double diadem, and the title of the "Great King." But his power was of no long duration. Ardſhir Babegan, or Artaxerxes, excited the Parthians to revolt againſt him; and in a deſperate battle he was defeated, taken, and ſoon after put to death, in 226. Blair refers this defeat to the year 229, and Playfair to 222. By this event, the Parthian empire, which had ſubſiſted under the "Arſacidæ" 475 years, was finally overthrown, and once more transferred to the Perſians. The family of the "Arſacidæ,"

facidæ," however, was not extinguiſhed in Artabanus, but continued to reign in Armenia, till the time of the emperor Juſtinian, holding that kingdom of the Perſian monarchs, to whom the "Arſacidæ" of Armenia were tributaries. Anc. Un. Hiſt. vol. viii. p. 129. vol. ix. p. 210.

ARSACIDES, *Land of*, in *Geography*, high land, covered with wood, ſituate north of New Britain, in that part of Aſia called Auſtralaſia, forms a part of the iſlands of Gower, Carteret, and Simpſon, ſeen by captain Carteret in 1767, obſerved by M. de Bougainville in 1768; and ſeen by M. Surville in 1769, who called it the Archipelago of the Arſacides. This land forms ſome part, at leaſt, of the Solomon iſlands, which were firſt recognized by the Engliſh; though the diſcovery of them is claimed by M. Fleurieu, and other French writers, in favour of French navigators. Theſe iſlands were viſited in 1788, by Mr. Shortland, and called by him New Georgia. See SOLOMON *Iſlands*.

ARSÆ, in *Ancient Geography*, a people of Arabia Felix, according to Ptolemy.

ARSAGALITÆ, a people of India, placed by Pliny beyond the Indus.

ARSAGO, in *Geography*, a town of Italy, in the Milaneſe, four leagues north of Milan.

ARSAMAS, a town of Ruſſia, in the community of Neſhnei Novogorod. It is the capital of the diſtrict of Arſamas, ſituate on the river Teſh, falling into the Occa, and on the road from Moſcow to Aſtracan, 120 leagues ſouth-eaſt from the former, and 200 north-weſt from the latter.

ARSAMATIAS, in *Ancient Geography*, a river of Armenia, over which the Parthians compelled the Romans to build for them a bridge. Lipſius has, without ſufficient reaſon, corrected the text of Tacitus, and called it Arſanias.

ARSAMOSATA, SIMSAT. See ARMOSATA.

ARSANE', a town of Paleſtine, in which Aſa, king of Iſrael, was buried, according to Joſephus, Ant. l. viii. c. 6.

ARSANIAS, ARSEN, a river of Aſia, which had its ſource in the mountains eaſt of the Euphrates, and paſſing through a ſmall lake, traverſed the ſouth-weſt between the mountains, paſſed by Arſamoſata, and diſcharged itſelf into the Euphrates to the ſouth-weſt of that city. Pliny, Dion, Plutarch, and Tacitus, mention this river; and the latter ſays, that it ran between Tigranocerta and Artaxata.

ARSARATHA, a town of Aſia, in Armenia Major. Ptolemy.

ARSCHIN, in *Commerce*, a long meaſure uſed in China, to meaſure ſtuffs; of the ſame length with the Dutch ell, which is two feet eleven lines.

ARSCHOT, in *Geography*. See AERSCHOT.

ARSE-*verſe*, in *Antiquity*, a term, or formula, inſcribed on doors, to prevent fire. It is ſaid to be of Tuſcan origin, where the word *arſe* ſignifies *avert*, and *verſe*, *fire*. Pitiſc. Lex. Ant.

ARSEMINI, in *Geography*, a town of the iſland of Sardinia, ſeven miles ſouth-weſt of Cagliari.

ARSEN, in *Ancient Geography*, a river of the weſtern part of Arcadia, which ran from the north-eaſt to the ſouth-weſt, and diſcharged itſelf into the river Ladon.

ARSENA, a name given by Strabo to the lake Arethuſa in Armenia Major.

ARSENAL, a royal or public magazine, or place appointed for the making and keeping of arms, neceſſary either for defence or aſſault. The Romans had arſenals in all the frontiers of their empire.

The arſenal of Venice is the place where the gallies are built and laid up. This is a fortification of between two and three miles in compaſs; on the ramparts are many little watch-towers, where centinels are ſtationed. Like the arſenal at Toulon, it is both a dock-yard, and a repoſitory for naval and military ſtores. Here the Venetians build their ſhips, caſt their cannon, make their cables, ſails, anchors, &c. —The arſenal of Paris is that where the cannon or great guns are caſt. It has this inſcription over the gate:

"Ætna hæc Henrico vulcania tela miniſtrat,
Tela Gigantæos debellatura furores."

There are arſenals or ſtore-houſes appropriated to naval furniture and equipments.—At Marſeilles is the arſenal for the gallies; and at Toulon, Rochefort, and Breſt, are thoſe for the men of war.

ARSENARIA, in *Ancient Geography*, a Roman colony of Africa, in Mauritania Cæſarienſis. This town was an epiſcopal ſee. It correſponds to the modern ARZEW.

ARSENIAT. See ARSENIC, § 10.

ARSENIC, *Arſenique*, Fr. *Arſenik*, Germ. *Arſenicum*, Lat. Αρρενικον, Αρσενικον, Theoph. & Dioſcorid.

Arſenic is a brittle acidifiable metal, of a bluiſh white colour, eaſily tarniſhing by expoſure to the air: it does not melt, but volatilizes by a gentle heat, exhaling copious white fumes, with a peculiar alliaceous or garlic ſmell; it is ſoluble in nitro-muriatic acid, and is precipitable in the form of a light orange-coloured powder by ſulphuret of ammonia, or of a green colour by ammoniated copper.

§ 1. *Ores of Arſenic.*

Beſides the ores of arſenic properly ſo called, this metal is found in combination with ſilver, copper, iron, lead, cobalt, antimony, and lime, all of which will be treated of in their proper places: at preſent we ſhall confine ourſelves to thoſe ſubſtances which, by the common conſent of mineralogiſts, are arranged as ores of arſenic.

Sp. I. Native Arſenic. *Arſenic teſtacée*, Born. *Arſenic natif*, Hauy and Brochant. *Gediegener arſenick*, Emmerling, &c. *Arſenicum nativum*, Werner. *Arſenicum nigrum*, *Cobaltum teſtaceum*, *Fliegenſtein*, *Scherbenkobelt*, &c. of the older writers.

Its colour when newly broken is a very light lead-grey, often paſſing into tin white; but the ſurface, by a ſhort expoſure to the air, becomes yellow, then blackiſh grey, and finally almoſt black.

It is found generally in maſs, more rarely diſſeminated; in kidney-ſhaped or cluſtered maſſes, or in plates, or carious, branched, bearing impreſſions, &c. Externally it is rough or granular, with little or no luſtre; internally it is little ſhining, with a metallic luſtre.

Its fracture is ſometimes fine-grained, uneven, or curved lamellar; more rarely radiated or bundled. It flies when broken into indeterminate blunt-edged fragments, ſometimes in the form of plates. It is alſo frequently compoſed of diſtinct concretions, either teſtaceous, concentric, or kidney-ſhaped.

It acquires a poliſh by friction, and emits an alliaceous odour; is half-hard and brittle. It rings when ſtruck by a hard body.

Sp. gr. according to Briſſon 5.724 . . . 5.763; according to Kirwan 5.67.

Before the blow-pipe native arſenic fuſes without difficulty, giving out a copious, white, alliaceous fume; by an increaſe of heat it takes fire, burns with a bluiſh flame, and is wholly diſſipated. It depoſits on the charcoal, or any cold ſubſtance that is preſented to it, a white powder, which is oxyd of arſenic.

Native arſenic is not, however, in a ſtate of abſolute purity; it always contains a ſmall and variable proportion of iron; beſides occaſionally a little gold or ſilver.

This mineral is found at Worlich and Joachimſthal, in Bohemia; at Freyberg, Annaberg, Schneeberg, Marienberg, and Johangeorgenſtadt, in Saxony; at Andreaſberg, in the Hartz; at Geiſberg and Seltſpach in Carinthia; at Nagyag in Tranſilvania; and St. Marie-aux-mines in France. It occurs only in the veins of primitive mountains: the ſubſtances that accompany it are red ſilver, realgar, galena, native ſilver, ſpecular cobalt, kupfernikkel, ſpathoſe iron, fahlerz, pyrites, quartz, heavy ſpar, calcareous and fluor ſpars.

Sp. II. Marcaſite or Miſpickel. *Arſenical pyrites*, Kirw. *Fer arſenical*, Hauy. *Arſenik kies*, Germ. *Arſenicum mineralizatum pyritaceum*, Werner.

Of this there are two varieties.

Var. 1. Common Marcaſite. *Gemeiner arſenik kies*, Germ.

Its colour when recently fractured is ſilvery white, but in general its ſurface is yelloviſh, greyiſh, or bluiſh, ſometimes irideſcent. It occurs in maſs, diſſeminated, inveſting, or cryſtallized. The primitive form of its cryſtals is a ſtrait rhomboidal priſm, the angles of whoſe baſe are 103° 20′, and 76° 40′: the other varieties that have been aſcertained are, the rhomboidal priſm with dihedral ſummits (Fer arſen. ditetraedre of Hauy), and the ſame priſm with tetrahedral ſummits (F. ar. quadrioctonal of Hauy). The lateral faces are alſo ſometimes cylindrical, either concave or convex. The faces compoſing the ſides of the priſms are always ſmooth and ſhining; thoſe of the ſummits are croſſed by ſtriæ. Internally the marcaſite is ſhining, with a metallic luſtre. Its fracture is uneven, coarſe, or finely granular; preſenting occaſionally columnar or granular diſtinct concretions. When broken it flies into indeterminate ſharp-edged fragments. It is hard, generally giving fire with ſteel, and diffuſing an alliaceous odour; is brittle, but difficult to break.

Sp. gr. according to Gellert 5.75; according to Hauy 6.52.

When expoſed to the flame of the blow-pipe on charcoal, this mineral gives out a copious arſenical fume, and melts into a globule of brittle iron. Its analyſis has not yet been made with any accuracy, and probably the amorphous kind at leaſt, on account of the variable proportion of its ingredients, is incapable of affording an exalt reſult. The conſtituent parts of pure miſpickel appear to be only arſenic and iron, both of them in the metallic ſtate: but it is often intimately mixed with iron pyrites, and hence affords an uncertain quantity of ſulphur: two ſpecimens analyſed by Vauquelin, yielded reſpectively 38.8 and 4. per cent. of arſenic, which ſeems to ſhew that miſpickel and pyrites, though, when pure and cryſtallized, ſufficiently diſtinct from each other, are ſo intimately blended by nature, as to paſs by inſenſible gradations from the one to the other extreme of the ſeries. In ſeveral of theſe compounds, however, minute inſpection has diſcovered ſmall ſeparate cubes of pyrites; and theſe intermediate varieties are rather to be conſidered as ſimple mixtures than chemical compounds.

The two ſubſtances with which marcaſite is liable to be confounded, are arſenical cobalt and pyrites. It differs from the firſt in being harder, in having a yelloviſh white tint, while the colour of the other is reddiſh white, and in the form of its cryſtals: it is diſtinguiſhed from the latter by giving out when ſtruck an arſenical, inſtead of a merely ſulphureous odour, by the lighter yellow of its colour, and by its cryſtalline forms.

Marcaſite is found in Bohemia, in Saxony, in Sileſia, in Cornwall, and various other places, either in veins, or diſſeminated through primitive mountains. The ſubſtances by which it is accompanied, are generally tin-ſtone and galena; more rarely black blende, ſpathoſe iron, copper pyrites, quartz, fluor, and calcareous ſpars. At Reichenbach in Sileſia, it is found in ſerpentine rock.

Marcaſite appears to be made little or no uſe of: the more brilliant ſpecimens are occaſionally cut and poliſhed, and made into buttons, and other ſmall articles; this is particularly the caſe with ſome found near Dublin, and called Iriſh diamonds.

Var. 2. Argentiferous marcaſite. *Weiſſerz*, Werner.

Its colour is ſimilar to that of the preceding variety, but when expoſed to the air it tarniſhes to a deeper yellow. It is rarely found in maſs, being generally diſſeminated or cryſtallized in minute acicular four-ſided priſms. Externally it is ſhining, internally little ſhining, with a metallic luſtre. Its fracture is fine-grained, uneven, with granular diſtinct concretions.

Its other external and chemical characters correſpond with thoſe of the preceding variety, from which it differs only in a variable proportion of ſilver, from 1 to 10 per cent.; and for which it is often worked.

It is found at Freyberg and Braunſdorf in Saxony; and is uſually accompanied with common marcaſite, red ſilver, galena, copper pyrites, &c.

For the affinities of this mineral with arſenical ſilver, ſee SILVER, *Ores of*.

Sp. III. Sulphurated Arſenic. *Rauſchgelb*, Germ. *Arſenic ſulfuré*, Hauy. *Arſenicum mineralizat. riſigallum*, Werner.

This ſpecies is divided into two varieties, the red and yellow.

Var. 1. Realgar. *Rothes rauſchgelb*, Emmerling. *Arſen. min. riſigall. rubrum*, Werner. *Arſenic ſulfuré rouge*, Hauy. *Rubine d'arſenic*, *Sanderac*, *Rubinſchwefel*, &c.

Its colour is a bright Aurora red, paſſing on one hand to ſcarlet-red, and on the other to yellow-orange. It is rarely found in maſs, more frequently diſſeminated or inveſting, and very frequently cryſtallized. The primitive form of its cryſtals is a long octahedron, with ſcalene triangular faces exactly the ſame as ſulphur. The two pyramids of the octahedron are ſometimes intercepted by a quadrilateral priſm (ſee *Cryſtallographical Plates*, *fig.* 94.), forming the variety A. ſ. r. émouſſé of Hauy: other varieties are derived from bevilling and truncating the angles of the intervening priſm; and a further variety (*fig.* 95.) A. ſ. r. ſurcompoſé of Hauy, is produced by the truncature of all the ſolid angles of the terminating pyramids. The cryſtals are for the moſt part ſmall, and not eaſy to determine. Their ſurface and interior are ſhining or much-ſhining, with a vitreous luſtre. The fracture is uneven granular, paſſing into minute conchoidal: the fragments are indeterminate, blunt-edged. It is commonly tranſlucid, occaſionally ſemi-tranſparent or opaque. The colour of its ſtreak is orange-yellow. It is very tender, ſomewhat brittle, and eaſily broken by the nail. Sp. gr. according to Bergman 3.22. Briſſon 3.33. It is idio-electric, acquiring the reſinous electricity by friction.

Before the blow-pipe it melts eaſily, burns with a blue flame, and a ſulphureous arſenical odour, and is for the moſt part volatilized. Nitrous acid in a ſhort time deprives it of its colour. It has never been accurately analyſed, but conſiſts principally of arſenic and ſulphur.

Realgar occurs native in the vicinity of Ætna and other volcanos, and alſo in the primitive mountains of Germany, Hungary, and Swiſſerland. The ſubſtances that are found moſt frequently to accompany it are native arſenic, red ſilver, and galena.

The ſubſtances that it reſembles are red ſilver and chromated lead; it may, however, be diſtinguiſhed from the firſt by the following properties: the powder of the ſilver ore is red, that of the realgar orange-yellow; the ſp. gr of the

ſilver ore is the greateſt, in the proportion of about 5 to 3; beſides which, it does not become electric by friction, nor does it flame or volatilize by the blowpipe. Chromated lead is more than twice as heavy as realgar, and exhibits the ſame differences with regard to electricity and habitude before the blowpipe as red ſilver.

Native realgar is made no uſe of; for the purpoſes to which the artificial is applied, ſee § 12. of this article.

Var. 2. Orpiment. *Gelbes rauſchgelb*, Emmerling. *Arſen. min. riſigal. flavum*, Werner. *Arſen. ſulf. jaune*, Hauy. *Auripigmentum*, Lat.

Its uſual colour is a beautiful lemon-yellow, paſſing on one ſide into ſulphur-yellow, gold-yellow, or honey-yellow, and on the other into aurora red. It is found diſſeminated, and in maſs. It is internally ſhining, or very ſhining, with a bright waxy luſtre, ſometimes paſſing into the metallic. Its fracture is ſtraight or curved foliated. In maſs it is rarely more than tranſlucid at the edges, but in thin plates is ſemitranſparent. Its ſtreak is of the ſame colour as the mineral itſelf, only a little lighter. It is very tender, ſoft to the touch; when in plates is flexible though not elaſtic. Sp. gr. 3·45. It is idio-electric, and in its chemical characters, correſponds with the preceding variety. It conſiſts of ſulphur and arſenic, but the proportions are not aſcertained with accuracy.

Orpiment is found in the Bannat in Natolia and Servia, at Nagyag in Tranſilvania, Felſobanya in Hungary, &c.

It appears to be a mineral of late formation, being always found in ſtratiform mountains. It is, for the moſt part, accompanied by clay, quartz, &c. &c. ſometimes by realgar.

The cryſtalline forms that are uſually attributed to this mineral are, upon the authority of Hauy, referred to the preceding variety.

Sp. IV. Native oxyd of Arſenic. *Arſenic oxydé natif*, Fr. *Naturlicher arſenik kalk*, Germ. *Arſenicum ochraceum album*, Werner.

Its colour is ſnow-white or yelloviſh, reddiſh, or greeniſh-white; it is found alſo of a clear ſmoke grey. Its common form is that of a ſuperficial earthy friable cruſt on the ſurface of other minerals: more rarely it occurs in an indurated ſtate, either ſtalactitic, cluſtered, or cryſtallized. The cryſtals are always extremely minute, ſometimes capillary, bundled, interlaced, or diverging, ſometimes in octahedrons, ſometimes in quadrilateral tables. When cryſtallized it appears to be tranſlucid, but in the earthy ſtate it is always opaque. It is very tender, often friable, brittle; has a very ſharp diſagreeable taſte. Sp. gr. 3·7.

Before the blowpipe it gives out a white ſmoke, and the uſual arſenical odour; the grey coloured, as being little oxydated, burns with a bluiſh flame: after a time, but not ſo quickly as native arſenic, it is almoſt wholly volatilized. It is ſoluble in fifteen times its weight of boiling water: and appears to be an oxyd of arſenic nearly pure with a variable proportion of oxygen. The only ſubſtance with which it is liable to be confounded, is the Pharmacolite, or native arſeniat of lime: this latter however is inſoluble in water, and leaves a conſiderable reſidue when expoſed to the blowpipe.

The native oxyd of arſenic is a mineral of very rare occurrence; it is found at Joachimſthal in Bohemia, in Saxony, Heſſe, Tranſilvania, and Hungary, in the vicinity of native arſenic, and in certain cobalt mines.

Lenz, verſuch der Mineralien, vol. ii. p. 229. Kirwan's Mineralogy, vol. ii. p. 254. Hauy, Traité de Mineral. vol. iv. p. 220. Weidenmann, Handbuch, &c. p. 965. Brochant, Traité de Mineral. vol. ii. p. 435.

§ 2. *Aſſay and Analyſis of Arſenical Ores.*

Arſenic is a metal in itſelf of ſo little value, and ſo noxious to other metals by its obſtinate adherence to them, rendering them brittle, and debaſing their colour, that in all works in the great, and even in almoſt all docimaſtical aſſays, every method has been reſorted to in order to drive off the arſenic, and its proportion to the whole maſs has only been vaguely eſtimated by the loſs of weight experienced during the proceſs. The methods employed by Bergman, and the reſt of his contemporaries, for aſcertaining the quantity of arſenic in any of its ores, are extremely imperfect; even the accurate Klaproth confeſſes the imperfections of his mode, and till the publication of Mr. Chenevix's Analyſis of the Arſeniates of Copper and Iron, chemiſtry had attained no certainty in the reſolution of this important problem. We ſhall firſt mention the advantages and defects of the methods recommended by Bergman, Kirwan, Klaproth, &c. and then proceed to the more accurate ones of Chenevix.

For the decompoſition either of the *native arſenic* or *marcaſite*, Bergman propoſes to treat the pulverized ore with four times its weight of nitro-muriatic acid, formed of one part nitrous and one and a half or two parts muriatic acid. By this menſtruum the ſilver will be converted into muriated ſilver, and will, together with the ſilex, remain undiſſolved, and the arſenic and iron will continue in ſolution. The filtered liquor is to be evaporated to one-fourth of its bulk, and poured into water; the arſenic will thus be precipitated, and the iron may then be thrown down from the filtered liquor by ammonia, &c. Another way of proceeding is to boil the ore with dilute nitrous acid, in order to take up the ſilver, copper, &c., while the arſenic will remain behind in form of a powder, and may afterwards be taken up by nitro-muriatic acid, and precipitated from its ſolution by water.

To theſe methods, however, it may be objected, 1ſt, That the precipitation of arſenic from its ſolution in nitro-muriatic acid by water, is denied by ſome chemiſts; and even if the fact of precipitation be allowed, ſtill it is certain that ſome of the arſenic will remain in ſolution. 2dly, Antimony, which is often mingled with arſenical ores, will alſo be thrown down by this proceſs. 3dly, The Ammonia added to the remaining liquor, beſides precipitating the iron, &c. will, by deſtroying the exceſs of the nitro-muriatic acid, allow the arſenic acid to combine with the oxyd of iron, and thus induce an error in the proportion of this laſt metal. 4thly, It appears from the uniform experience of Klaproth, and other eminent chemiſts, that arſenic is abundantly ſoluble in nitrous acid, and that the ſilver precipitated from ſuch a ſolution, even by muriat of ſoda, contains a little arſenic; and whichever of the alkalies was afterwards uſed for throwing down the copper, &c. the neceſſary neutralization of the nitrous acid would afford an opportunity for the arſenic acid to combine with the oxyd of copper.

The *native oxyd of arſenic* is propoſed by Kirwan to be diſſolved in boiling water, and of courſe its proportion is to be eſtimated by the loſs of weight ſuſtained by the quantity of ore thus treated. But (beſides other objections) the dark-coloured varieties of this ore are probably not ſufficiently removed from the metallic ſtate, to be thus ſoluble. In order to decompoſe *realgar* or *orpiment*, Bergman directs long-continued ebullition with muriatic acid, adding, if neceſſary, a little nitrous, till the inſoluble reſidue becomes grey. The inſoluble powder is the ſulphur, and the arſenical ſolution is to be decompoſed as before mentioned by water. In this proceſs, however, the ſulphur will ſtill retain ſome arſenic; and a little of the ſulphur will be oxygenated, and converted into ſulphuric acid. Mr. Kirwan recommends

recommends to precipitate the arſenic from the muriatic acid by zinc; but, according to Mr. Chenevix, the precipitate is not pure metallic arſenic, but a mixture of this with arſeniat of zinc.

The analyſes in the dry way of the arſenical ores are ſtill leſs ſatisfactory than thoſe in the humid way above recited. If ſublimation in cloſe veſſels is had recourſe to, a very intenſe and long-continued heat will be inſufficient to volatilize the whole of the arſenic; the ſulphur will alſo riſe at the ſame time and produce orpiment. Roaſting in a muffle, provided the ore is mixed with powdered charcoal, is more effectual; but in this caſe, not only the arſenic, but the ſulphur and antimony, if there happens to be any in the ore, will fly off, and the relative properties of theſe muſt be eſtimated by mere gueſs.

Klaproth's method of treating the unſulphurated ores of arſenic may be deduced from his analyſis of the arſenical ſilver ore, which conſiſts of iron, arſenic, ſilver, and antimony. He firſt digeſts the ore with moderately ſtrong nitric acid, which takes up the arſenic and the greateſt part of the iron and ſilver: the addition of muriat of ſoda throws down the ſilver in the ſtate of muriat combined with a few atoms of arſenic; and afterwards, the arſeniat of iron is thrown down by potaſh; this precipitate being dried and weighed, is afterwards roaſted with charcoal ſeveral times, till it ceaſes to give out arſenical fumes, and is attractable by the magnet: from the loſs of weight ſuſtained by the iron, the quantity of arſenic is then eſtimated. This however, as Mr. Klaproth himſelf obſerves, is a very imperfect method. Another way practiſed by him in the analyſis of the arſenical cobalt is, to digeſt the ore in nitric acid, which oxydates the arſenic and takes up the greater part of it, leaving the reſidual arſenic ſoluble in water. The nitrous ſolution is then evaporated as long as it continues to depoſit oxyd of arſenic, and the oxyd of cobalt afterwards ſeparated by potaſh from the nitrous acid, is preſumed to be pure, becauſe it affords a ſympathetic ink with muriatic acid. From this humid analyſis the combalt ore is ſtated by Klaproth to contain 54.5 cobalt, 45 oxyd of arſenic and $\frac{1}{2}$ ſulphur: a ſpecimen, however, of the ſame ore treated in the dry way, afforded only 44 cobalt; there was therefore required to make up the 100, $\frac{1}{2}$ ſulphur, and 55.5 reguline arſenic. Hence it is evident, that little dependence is to be placed on the eſtimation of the quantity of arſenic from the oxyd precipitated by evaporation of the nitrous ſolution.

A more certain mode of aſcertaining the proportion of arſenic is furniſhed by Mr. Chenevix. Let the ore, previouſly reduced to extremely fine powder, be digeſted in nitric acid ſufficient to acidify and take up the whole of the arſenic; pour off the clear liquor, and boil on the reſidue ſome diſtilled water; filter, and add the water to the nitrous ſolution: then neutralize the exceſs of acid by potaſh, taking care, however, not to have an acceſs of alkali, and add nitrat of lead as long as any precipitate takes place: waſh the precipitate in cold water, dry and weigh it. As the arſenical ores often contain ſulphur, it is poſſible that the arſeniat of lead thus procured, may be mixed with a little ſulphat of lead: to decide this, digeſt the powder in ſome warm dilute muriatic or nitrous acid, and the arſeniat of lead will be diſſolved, leaving the ſulphat behind. 100 parts arſeniate of lead contain, of arſenic acid 33, oxyd of lead 63, water 4, and the 33 parts arſenic acid, denote 22 of the metal.

§ 3. *Reduction of Arſenical Ores, and Preparation of Crude Arſenic, and White Arſenic.*

Arſenic is a ſubſtance of ſuch ſmall value and ſuch little demand, that none of the proper ores of this metal are wrought in the great; the whole of the arſenic of commerce being prepared in Saxony, by roaſting the cobalt ores in the manufacture of zaffre. Theſe conſiſt principally of arſenic, cobalt, iron, and a little ſulphur: the firſt and laſt ingredients of which are got rid of by roaſting: this proceſs, inſtead of being performed in the open air, is done in an oven, the flue of which runs horizontally to a conſiderable diſtance before it bends upwards. By this contrivance the arſenic and ſulphur, when liberated, are for the moſt part depoſited in the horizontal flue in the form of a greyiſh meal, ſtreaked with yellow (ſuch portions as are neareſt the fire being often melted into a ſemitranſparent cryſtalline maſs). In this ſtate it is called *crude arſenic*, or *flowers of arſenic*; the yellow ſtreaks proceed from the ſulphur uniting with the arſenic into orpiment: and beſides this, it is alſo ſullied with other impurities.

The *white arſenic* of commerce is prepared from the crude, by mixing this laſt with potaſh, or as ſome adviſe, with lime, and re-ſubliming. By this the ſulphur and other impurities unite with the alkali, and the white oxyd is driven over into a heated receiver, where it melts into a heavy colourleſs tranſparent glaſs: by expoſure for a ſhort time to the air, this glaſs becomes opaque, and reſembles in its fracture the fineſt white china; and it is in this ſtate that the white arſenic of commerce is found in our ſhops and laboratories.

§ 4. *Preparation of Reguline Arſenic.*

The old method of procuring the regulus of this metal conſiſted in mixing white arſenic with half its weight of black flux, one fourth part of borax, and the ſame proportion of filings of iron or copper, and fuſing the whole as quicky as poſſible in a crucible. When the whole is grown cold, there will be found, on breaking the crucible, a maſs of impure metallic arſenic, of a bluiſh white colour and conſiderable hardneſs and ſolidity. Probably this regulus was originally made from the crude arſenic, in which caſe the addition of iron or copper was for the purpoſe of ſeparating the ſulphur according to the proceſs mentioned for martial regulus of ANTIMONY. (§. 4.—III.) It is obvious, however, that the arſenic muſt contain a variable proportion of iron or copper when prepared according this method, by which its external and chemical characters will be in ſome degree modified. Another way of obtaining the regulus is recommended by Brandt, to which there can be no objection, upon the ſuppoſition that he uſed crude arſenic. He directs that white arſenic ſhould be mingled with ſoap, and ſublimed: in this operation the oil of the ſoap ſerves to de-oxydate the arſenic, and the alkali to keep down any portion of ſulphur that may have been combined with the arſenic.

The white arſenic of commerce being an almoſt entirely pure oxyd of arſenic, the reduction of it into the metallic ſtate is very eaſily effected. The moſt eligible way is to mix the white arſenic with any of the vegetable or animal expreſſed oils, till it becomes of the conſiſtence of very ſoft glazier's putty; it is then to be made up into round or oblong pieces, and dropped into a Florence flaſk, ſo as not to adhere to the ſides. The flaſk with its contents is to be put into a ſand-bath, or over a gentle charcoal fire, and muſt be heated very gradually as long as any thick vapours proceeding from the decompoſition of the oil are given out. When theſe ceaſe, the heat may be by degrees increaſed till the bottom of the flaſk becomes obſcurely red; ſhortly after the flaſk may be withdrawn from the fire, and when cold, upon carefully breaking it, there will be found in the neck and upper part of the veſſel, a cruſt of brilliant triangular cryſtals of oxyd of arſenic, ſemi-tranſparent, and

of

of a yellowiſh grey colour, below theſe there will be a thick amorphous cruſt of regulus, and ſome impurities will remain at the bottom. Let theſe products, except the impurities, be ſeparated from the fragments of glaſs, and pulverized together with half their weight of charcoal; then re-ſublime the whole as before, and the inſide of the flaſk will be found lined with a cruſt and cryſtals of pure and ſhining regulus of arſenic. It is neceſſary that theſe ſublimations ſhould be performed under a chimney, for the vapours that ariſe are intolerably fetid, and extremely noxious to the operator, bringing on in a very ſhort time headach, ſickneſs, and other unpleaſant ſymptoms. Inſtead of a flaſk, an earthen retort may be made uſe of.

§ 5. *External Characters and phyſical Properties of Reguline Arſenic.*

The freſh ſurface of arſenic is of a bright metallic luſtre, and a colour between that of tin and lead; it very ſoon however tarniſhes by expoſure to the air, becoming firſt yellowiſh, then ſlightly irideſcent, and laſtly black, in which ſtate it is alſo wholly deſtitute of luſtre. Its fracture is compact, granular; in hardneſs it is ſaid to be ſuperior to copper, but it is ſo brittle as to be reducible to power in a common mortar without any difficulty, being neither malleable nor ductile. It cryſtallizes in octahedrons or tetrahedral pyramids. Sp. gr. = 8.31, according to Bergman, but according to Morveau = 5.76. It is not ſenſible to the ſmell when cold, yet the fingers after handling it acquire a ſlight metallic odour: it is manifeſt to the taſte by a peculiar acrid flavour; and when heated to volatilization, diffuſes a characteriſtic fetid alliaceous odour.

§ 6. *Chemical Properties of Reguline Arſenic.*

I. Effects of Heat.

Arſenic, when pure, is incapable of being melted: in cloſe veſſels, at a heat inferior to that required for the fuſion of tin, it begins to be volatilized, and is depoſited in the upper and cooler parts unchanged in form or properties.

II. Effects of Atmoſpheric Air.

Atmoſpheric air at the uſual temperature is ſlowly decompoſed by this metal, the oxygenous part uniting with the arſenic, and converting it into a black oxyd, as mentioned § 5. At a heat of about 350° Fahr. the abſorption of oxygen is much more rapid, and vapours of white oxyd begin to be viſible, diffuſing the well-known arſenical ſmell. At a higher temperature combuſtion takes place: thus if a veſſel or crucible be made red hot, and a few pieces of arſenic be thrown in, a denſe white vapour is immediately produced, accompanied by a light blue flame, and in a ſhort time the whole is volatilized. This experiment muſt not be made in an iron ladle, for the affinity between the two metals at this temperature is ſo great, that artificial miſpickel would be formed, and this being very fuſible, the ladle would in all probability be found after the proceſs to have a hole in its bottom.

III. Effects of Water.

Although arſenic is ſo eaſily oxydable, yet it does not appear capable of decompoſing water; at leaſt it may be immerſed in it for any length of time without exhibiting any ſigns of ſolution or oxydation; and a covering of this fluid or of alcohol is the beſt preſervative of arſenic againſt the tarniſhing effect of the air.

IV. Arſenic with Hydrogen.

This combination was firſt diſcovered by Scheele. If liquid arſenic acid be digeſted with zinc, an effervescence will take place; and the air thus diſengaged, has a ſtrong arſenical ſmell, inflames by the contact of a candle, and depoſits on the inſide of the veſſel a brown film, which is metallic arſenic. The ſame gas may alſo be produced by granulated zinc in a hot ſolution of white arſenic in water with the addition of a little muriatic acid.

V. Arſenic with Phoſphorus.

The union of theſe two ſubſtances was firſt obſerved by Margraaff, whoſe experiments have ſince been repeated and confirmed by Pelletier. Phoſphuret of arſenic may be made in four ways: firſt, by ſubliming equal parts of phoſphorus and white oxyd of arſenic, in which caſe, part of the phoſphorus will be acidified at the expence of the metallic oxyd, while the remainder will combine with the metallic baſe; ſecondly, by ſubliming equal parts of reguline arſenic and phoſphorus; thirdly and fourthly, in the humid way, by digeſting equal parts of arſenic or oxyd of arſenic, with the ſame weight of phoſphorus in a flaſk, containing a ſufficient quantity of water. Phoſphorated arſenic is volatilizable in a moderate heat, and is combuſtible on hot coals, exhaling the mixed odour of its ingredients.

VI. Arſenic with Sulphur.

Both arſenic, and the white oxyd, are capable of uniting with ſulphur, by means of fuſion or ſublimation, into a beautiful red or yellow maſs, according to the relative proportion of the ingredients. The yellow is called *orpiment*, or yellow ſulphuret of arſenic, the red, *realgar*, or red ſulphuret. The ſulphur in the realgar is to the arſenic as 1 to 4 nearly, but in the orpiment as 1 to 9 or 10. Both preparations are fuſible, and may be ſublimed, but the realgar is more eaſily melted, and with care may be obtained quite tranſparent, and of a bright red colour; hence it has been called *arſenical ruby*, *rubine d'arſenique*. The ſp. grav. of orpiment, according to Bergman, is = 5.315; but of realgar, only = 3.225.

Theſe two ſubſtances have not been very accurately analyſed, and it is the opinion of ſeveral modern chemiſts, that the differences between them does not depend ſo much on the proportions of the ſulphur and arſenic, as on the preſence of oxygen in the one, and its abſence from the other. Hence they call realgar, ſulphuret of arſenic, and orpiment, ſulphurated oxyd of arſenic. This appears, however, to be a miſtake, for the following reaſons; when regulus of arſenic and ſulphur are mixed together, the combination takes place without the extrication of any gas, but when the oxyd of arſenic is ſubſtituted for the regulus, at the moment of combination a portion of the ſulphur is converted into ſulphureous acid gas, probably on account of a decompoſition of the metallic oxyd. Further, it appears from the experiments of Bucquet, that by continued fuſion orpiment is made of a much redder colour than before, by the volatilization of part of its arſenic; and as an additional confirmation, it may be mentioned that realgar, being ſublimed either with metallic or oxydated arſenic, is converted into orpiment.

It is not very eaſy to make realgar by the direct combination of its elements when they are in a ſtate of purity, on account of the eaſe with which they are volatilized before they have experienced the proper degree of heat. In Saxony, where orpiment and realgar are made in large quantities, the method is to fill an oven like that deſcribed in § 3. with miſpickel and iron pyrites, proportioning the quantities of each according as realgar or orpiment is intended to be produced. Now the ſulphur and arſenic contained in theſe minerals being in natural combination with iron, require for their ſublimation a degree of heat far greater than they could ſuſtain without volatilization, if they were pure.

Sulphurated arſenic is wholly inſoluble in water or alcohol. The nitrous and nitro-muriatic acids, eſpecially when warm, take up the arſenic from the ſulphur. The former of theſe, however,

however, except it is ſo concentrated as to act on the ſulphur alſo, only takes up a portion of the arſenic from realgar, converting it into orpiment. Nitro-muriatic acid completely decompoſes both the red and yellow ſulphuret, hepatic gas being given out at the ſame time, a circumſtance worthy of notice, as affording additional ſtrength to the opinion mentioned above, concerning the ſtate of the metal in theſe compounds. Sulphuret of arſenic is alſo decompoſed by diſtillation with two or three times its weight of *corroſive muriat of* MERCURY, the acid and oxygen of the mercurial ſalt uniting with the arſenic into corroſive muriat of arſenic, § 7.; and the metallic baſe with the ſulphur of the orpiment, forming cinnabar.

In the dry way, the fixed alkalies decompoſe orpiment into alkaline ſulphuret and arſenic, which latter ſublimes; but if the alkali is in exceſs, the arſenic is in part detained as well as the ſulphur. A ſolution of cauſtic potaſh in water being boiled with orpiment, diſſolves it completely, but by the addition of an acid a yellow precipitate is thrown down, which probably is a *hydroſulphuret of arſenic*. Quicklime and orpiment alſo unite by boiling in water, forming an arſenio-ſulphuret of lime, which is ſometimes employed as a WINE-TEST.

VII. Arſenic with Oils.

Any of the expreſſed oils being triturated with arſenic, gradually diſſolve it, and thus acquire a dark colour and conſiſtence like ſalve.

VIII. Alloys of Arſenic.

Arſenic unites with almoſt all the metals, debaſing the red and yellow ones, and deſtroying in a great meaſure the luſtre of all the reſt, except tin. It renders thoſe which are malleable and ductile, brittle, and for the moſt part increaſes their fuſibility and hardneſs. For other particulars, ſee the ſeveral metals.

§ 7. *Salts of Arſenic.*

1. Reguline arſenic is acted upon by ſulphuric acid when concentrated and aſſiſted by heat: if the operation be performed in a retort with a pneumatic apparatus, there will be produced a conſiderable quantity of ſulphureous acid gas, and ſulphur will ſublime into the neck of the veſſel. What remains behind is a white maſs ſimilar to oxyd of arſenic, but combined with a little acid. By the addition of a freſh portion of ſulphuric acid, the ſulphated oxyd is taken up; as the liquor cools, however, a precipitation of cryſtalline grains happens, and theſe are *ſulphat of arſenic*. This ſalt is much leſs ſoluble in water than white arſenic; when expoſed to the flame of a blow-pipe, it fuſes and begins to emit an arſenical ſmoke, but requires a much longer time for its volatilization than the ſimple oxyd. By repeated cohobation with ſulphuric acid, the arſenic approaches more and more to the nature of arſénic acid, but always continues in ſome degree ſulphated.

2. Nitric acid when hot is readily decompoſed upon reguline arſenic, being itſelf changed into nitrous gas, and the metal becoming oxydated. An addition of dilute nitrous acid at a boiling temperature effects a complete ſolution of the reſidual oxyd, and the liquor by evaporation and cooling may be brought to depoſit cryſtals of *nitrat of arſenic*. This ſalt being abſtracted with freſh nitrous acid, and then heated red hot, is wholly converted into arſénic acid. Nitrat of arſenic is ſparingly ſoluble in water, and with the blow-pipe exhibits nearly the ſame appearances as the preceding ſalt.

3. Oxymuriatic acid when pure, freſh made, and in the form of gas, exerciſes a very powerful action on the regulus of arſenic, and exhibits a very ſtriking and beautiful appearance. For this purpoſe, let a common ſix or eight ounce phial be filled in the uſual way with oxymuriatic acid gas procured from ſalt, manganeſe, and ſulphuric acid, in order to have the acid as dry as poſſible (for the further ſecuring of which, the gas produced about the middle of the proceſs is the beſt); ſtop the mouth of the phial with a cork, and place it on a table in an upright poſition; then reduce ſome reguline arſenic to a fine powder, and cautiouſly opening the mouth of the phial, ſhake in from the end of a knife, or in any other convenient way, a little of the powder. As ſoon as it comes in contact with the gas, a white vapour will firſt appear, and will be immediately followed by ignition of the metal, which in its paſſage to the bottom of the veſſel will appear like a ſtream of fire: this phenomenon may be repeated with ſucceſſive portions of powder till the acid is almoſt wholly decompoſed. At the bottom will be found a white acidulous oxyd of arſenic. Liquid oxymuriatic acid alſo is capable of diſſolving reguline arſenic; but during this proceſs, the metal being oxygenated at the expence of the acid, the reſult is muriat of arſenic.

4. Arſénic acid has a remarkable action on its own regulus, though the two appear to be incapable of combining into a proper ſalt. If the regulus is digeſted with the acid, its ſurface becomes ſhortly covered with a white powder, which is oxyd of arſenic. If the acid is kept in a ſtate of fuſion in a retort, and ſmall pieces of the regulus are dropped in from time to time, an inflammation and ſublimation of white arſenic will be manifeſt at each addition. Hence it appears that the oxygen of the arſénic acid quits this to combine with the regulus, till an equilibrium is produced by the one and the other being brought to a common ſtate of oxydation.

Theſe are all the acids which are known to act upon reguline arſenic; many others however are capable of combining with this metal, when previouſly brought to the ſtate of white oxyd. The ſalts hence reſulting we ſhall proceed to mention.

1. Muriatic acid when boiling will take up one third of its weight of oxyd of arſenic; a ſaline precipitate is produced by cooling, and if this is managed gradually, there are formed ſpicular cryſtals of *muriat of arſenic*. This ſalt ſublimes wholly if expoſed in cloſe veſſels to a moderate heat. Before the blow-pipe on charcoal it is decompoſed in part, and flies off, giving out at the ſame time the diſtinguiſhing odour of the metal. It is ſoluble, though ſparingly, in warm water, and the ſolution is decompoſable by an alkali, the oxyd of arſenic being thrown down.

Very dry and concentrated muriatic acid, or oxymuriatic acid, are capable of uniting with a much larger proportion of oxyd of arſenic than the liquid muriatic acid. This combination is called *butter of arſenic*, and is thus prepared: take one part of white arſenic, one and a half of red calcined ſulphat of iron, and three parts of common ſalt; mix them accurately in a mortar, and diſtil in a glaſs retort from a ſand bath. When the heat has been gradually raiſed ſo as to make the bottom of the retort nearly red, and nothing more comes over, the proceſs is finiſhed, and there will be found in the receiver two diſtinct liquors of different conſiſtence. The lower one is of a clear iron brown colour, and is called *butter of arſenic;* the ſupernatant liquor is thinner, of a lighter yellowiſh colour, and is called *oil of arſenic*.

Butter of arſenic is a heavy thick liquor, exceſſively corroſive and poiſonous; on expoſure to the air it exhales a denſe white ſuffocating vapour, deliquiates, becomes turbid, and finally is ſpontaneouſly decompoſed. When, inſtead of this gradual abſorption of moiſture, it is directly mingled with water, an immediate turbidneſs and precipitation

tation enſues of a white pulverulent matter, which was formerly taken for pure oxyd of arſenic; it ſtill, however, as in the caſe with ſimilar metallic precipitates, retains a portion of acid; for by heating in a cloſe veſſel, a little butter of arſenic is ſublimed. Liquid muriatic acid unites very ſparingly and imperfectly with the butter; and if conſiderably diluted with water, produces a decompoſition juſt in the ſame manner as pure water does.

Oil of arſenic, like the preceding, is decompoſed in part by water or alcohol, but the precipitate is not ſo copious: it mingles with liquid muriatic acid without producing any turbidneſs. The addition of a carbonated alkali is followed by effervescence and the precipitation of oxyd of arſenic. By ſpontaneous evaporation it yields cryſtals of muriated arſenic, and a ſlight efflorescence of white oxyd of arſenic.

There are ſeveral other methods of obtaining the butter and oil of arſenic: thus, if orpiment is diſtilled with two or three times its weight of corroſive ſublimate, the ſulphur of the former unites with the mercury of the latter, and produces cinnabar, while the arſenic of the former combines with the oxygen and acid of the latter into the oil and butter of arſenic. It is remarkable, however, that corroſive ſublimate is not decompoſable by oxyd of arſenic; for when the two are diſtilled together, whatever be their relative proportions, the mercurial ſalt riſes unchanged. Indeed the ſuperiority in affinity of muriatic acid for oxyd of mercury over oxyd of arſenic is ſtill more ſtrikingly ſhewn by diſtilling butter of arſenic with oxyd of mercury, in which caſe a little butter of arſenic firſt comes over, then corroſive ſublimate, and finally white arſenic. If, however, *reguline arſenic* is diſtilled with corroſive ſublimate, the produce is butter of arſenic, a little calomel, and running mercury.

Although the ſalts of arſenic have not yet received that notice from chemiſts to which they are entitled, ſtill there has ariſen ſome difference of opinion reſpecting the combinations of this metal with muriatic acid, ſome aſſerting the butter of arſenic to be a proper oxymuriat, while others conſider it as ſcarcely differing, except in concentration, from the muriat. From a careful collation of the ſcattered facts relative to this ſubject, it appears that there is no ſuch ſalt as oxymuriat of arſenic, but that muriatic acid, when its affinities are not weakened by water, will take up a large quantity of arſenical oxyd forming the butter of arſenic; that when by the gradual or ſudden addition of water, the affinities of this latter are brought into action, an unequal partition of the acid and oxyd takes place into a ſoluble and inſoluble muriat of arſenic. Hence we have three diſtinct ſalts compoſed of muriatic acid and oxyd of arſenic: firſt, muriat of arſenic with the ſmalleſt proportion of metallic oxyd, this is ſoluble in water and cryſtallizable by cooling, and is alſo capable of ſublimation without decompoſition; ſecondly, muriat of arſenic with a larger proportion of metallic oxyd (butter of arſenic), decompoſable by water, and not cryſtallizable; thirdly, muriat of arſenic ſuperſaturated with the oxyd, inſoluble in water, decompoſable by ſublimation.

2. Oxymuriatic acid gas paſſed into an aqueous ſolution of white arſenic, is itſelf decompoſed into muriatic acid; and by diſtillation, the water and muriatic acid being drawn off, there remains in the retort ſolid arſenic acid. It is therefore probable that the three muriats of arſenic juſt mentioned differ from each other in the degree of oxygenation of the metallic baſe, as well as in the proportions of it that they contain; the firſt being the leaſt oxygenated, and the latter the moſt ſo.

3. Fluoric acid, when digeſted on white oxyd of arſenic, diſſolves a ſmall proportion; and by evaporation and cooling, a granular cryſtalline ſalt is obtained, *fluat of arſenic*, the properties of which have not been examined into.

4. Boracic acid combines with white arſenic by means of water, but not in the dry way, according to Reuſs. Equal parts of the oxyd and acid digeſted together in a little water are entirely diſſolved, and afforded by evaporation *borat of arſenic* in powder or ſpicular cryſtals.

5. Phoſphoric acid and oxyd of arſenic combine together without difficulty in the moiſt way, and afford cryſtals of *phoſphat of arſenic*. This ſalt is very ſparingly ſoluble in water, and is decompoſable by heat, the oxyd being volatilized.

6. Liquid tartareous acid unites by digeſtion with oxyd of arſenic into a cryſtallizable ſalt, *tartrite of arſenic*; the properties of which are as yet in a great meaſure unknown.

7. Oxalic acid diſſolves very eaſily a conſiderable quantity of white arſenic, and the liquor affords by evaporation and cooling priſmatic cryſtals of *oxalat of arſenic*: theſe melt in a very gentle heat, the water of cryſtallization with part of the acid is evaporated, and the reſidue affords a very beautiful ſaline vegetation. Oxalat of arſenic is ſoluble both in water and alcohol, changes the colour of litmus tincture to red, and ſublimes at a moderate heat; but at a higher temperature the acid is firſt deſtroyed and flies off, leaving behind the metallic oxyd.

8. Acetous acid, by long digeſtion and boiling with white arſenic, diſſolves a ſmall proportion, and depoſits by cooling and evaporation ſmall cryſtalline grains of *acetite of arſenic*, which are very ſparingly ſoluble in water.

9. Benzoic acid, according to Trommſdorff, diſſolves white arſenic with conſiderable caſe, and forms with it *benzoat of arſenic*. This ſalt appears in the form of long ſlender radiating cryſtals, poſſeſſed of a ſour and pungent taſte, which efflorеſce in the air, are very ſoluble in boiling water, and are again for the moſt part depoſited by cooling.

10. *Gallat of arſenic* is not known, nor does the tincture of galls, according to the chemiſts of Dijon, produce any alteration in a ſolution of white arſenic.

11. Pruſſiat of potaſh, when pure, throws down an abundant white precipitate from the ſolution of arſenic in muriatic acid. This is ſoluble in a large quantity of water, and by ſublimation in the dry way affords a ſemi-tranſparent maſs; it is probably a *pruſſiat of arſenic*, but has been as yet ſcarcely at all examined.

The order of affinity of the various acids for oxyd of arſenic is not aſcertained with much certainty. Bergman arranges them in the following order; muriatic, oxalic ſulphuric, nitric, tartareous, phoſphoric, fluoric, arſénic acetous, and pruſſic acids.

§ 8. *Oxyd of Arſenic, or Arſenious Acid.*

Oxyd of arſenic is prepared in the large way according to the method already mentioned in § 3. When pure, it is of an opaque white colour; or if recently fuſed, is perfectly tranſparent and colourleſs. It cryſtallizes artificially (§ 4.) in three-ſided pyramids, the vertical angle of which is generally deeply truncated; the cryſtals are tranſparent, of a dilute wine yellow colour, and not liable to efflorеſce or become opaque by expoſure to the air, probably owing to their containing rather a ſmaller proportion of oxygen than the white arſenic of the ſhops. The ſp. grav. of the fuſed oxyd is about $= 5$. It ſlowly excites upon the tongue a ſweetiſh acid taſte. It is the moſt volatile of any of the metallic oxyds, riſing at 383° Fahr.

Pure water at the temperature of 60° Fahr. will diſſolve about $\frac{1}{80}$ of its weight of this oxyd, but when boiling it takes up $\frac{1}{15}$, the greater part of which it retains even when cold; by evaporation, however, minute three-ſided

pyramidal

pyramidal cryſtals are depoſited: the ſolution is clear and colourleſs. Alcohol alſo, when boiling, will diſſolve about $\frac{1}{70}$ or $\frac{1}{50}$ of its weight.

From many of its properties white arſenic ſeems to hold a kind of middle place between an acid and metallic oxyd: thus, it reddens litmus tincture, but turns ſyrup of violets green, and its aqueous ſolution is incapable of cauſing an effervescence in the carbonated alkalies and earths. In the new chemical nomenclature it is denominated the arſenious acid (acide arſenieux, Fr.); and the ſalts that are formed by its combination with the alkalies, earths, and metals, are called arſenites. Theſe ſeem to hold nearly the ſame relation to arſénic acid and the arſeniats, as ſulphureous acid and the ſulphites do to ſulphuric acid and the ſulphats.

The white oxyd of arſenic is eaſily deoxygenated by carbonaceous matter, by hydrogen, phoſphorus, and ſulphur, as already mentioned § 4. and 6. and is reduced to the ſtate of reguline arſenic: its habitudes with acids are deſcribed § 7.

If to a ſolution of cauſtic pot-aſh in water there be added ſome finely powdered oxyd of arſenic, the whole combines together by a boiling heat into a thick, viſcid, ſcarcely fluid matter, of a brown colour, and nauſeous ſmell, which as it cools becomes ſolid and brittle. This was named by Macquer *liver of arſenic*, and in the modern ſyſtem has obtained the name of *arſenite of potaſh*. By long expoſure to the air it becomes deliqueſcent; it is readily ſoluble in water, but has not been made to cryſtallize. The addition of any of the acids to the ſolution cauſes an immediate decompoſition with a copious precipitation of oxyd. Cauſtic ſoda produces the ſame general effects on white arſenic as potaſh, except that the arſenite of ſoda is cryſtallizable. Either of theſe ſalts, on being ſubjected to a full red heat, is decompoſed; the greater part of the arſenic being volatilized in the form of a denſe white ſmoke, while the remainder in the ſtate of arſénic acid remains united with an exceſs of alkali. In the dry way, the white oxyd of arſenic melts together with the fixed alkalies, forming a maſs not eaſily decompoſable by heat. According to Bergman, potaſh is capable of thus fixing twice its weight of the oxyd, and ſoda three times its weight of the ſame.

When ammoniacal gas is paſſed two or three times over heated white arſenic, the two ſubſtances contract at length ſo intimate an union as to bear even fuſion without ſeparating from each other. In the moiſt way alſo, a combination takes place by the help of a gentle heat, which differs eſſentially from the common liver of arſenic in that the acids occaſion no precipitation. Theſe are ſingular facts, and the nature of the arſenite of ammonia is well worthy of more notice from chemiſts than it has yet obtained.

Quicklime and barytes combine by fuſion with oxyd of arſenic into a vitreous maſs, which however becomes milky and opaque by the continued action of the air. In the moiſt way, lime and white arſenic being boiled together form a ſoluble arſenite of lime, from which a precipitate is thrown down on the addition of an acid. Neither magneſia, alumine, nor ſilex, appear capable of uniting with white arſenic by fuſion, but all or any of them combine into an eaſily fuſible maſs with the arſenites of potaſh, ſoda, lime, or barytes.

But few of the neutral ſalts have been examined with reſpect to their action on arſenious acid. The nitrats of potaſh and ſoda are decompoſed by heat converting the arſenious into the arſénic acid, and therefore this combination is treated of in § 10, *(Arſeniats)*. The effect of white arſenic on acetite of potaſh, as recorded by Cadet and the other chemiſts of the academy of Dijon, is however too remarkable to be omitted. A mixture of theſe two ſubſtances being ſubjected to diſtillation, there firſt paſſed over a limpid liquor, with a ſlight arſenical ſmell; this changed the colour of ſyrup of violets red, cauſed an effervescence in a ſolution of carbonated alkali, and rendered the liquor turbid. The next product was of a reddiſh brown colour, and filled the receiver with a denſe vapour of a moſt peſtiferous odour, different however from that of arſenic; towards the end of the proceſs, ſome reguline arſenic ſublimed into the neck of the retort. The red liquor, after being confined for three weeks in a ſtopped phial, was ſtill ſmoking, and exhaled the ſame deteſtable ſmell as before; it produced no alteration in ſyrup of violets, and occaſioned only a very feeble effervescence with carbonated alkali, depoſiting a little flocculent ſediment: it occaſioned a white precipitate in a ſolution of corroſive ſublimate: being poured into a filter, in order to ſeparate a yellowiſh thick portion that had ſeparated from the reſt, ſcarcely had a few drops paſſed through, than a denſe ſuffocating vapour began to riſe accompanied by an ebullition at the edges of the veſſel, and immediately followed by a beautiful roſe-coloured flame which laſted ſeveral ſeconds.

A hot ſolution of arſenious acid diſſolves ſome of the metals, particularly copper, iron, and zinc; the differences, however, between theſe and the metallic arſeniats have not been aſcertained with much accuracy.

§ 9. *Arſénic Acid.*

The properties of the white oxyd of arſenic that have been mentioned in the preceding ſections, eſpecially its ready ſolubility in water, its cryſtallizability, its taſte, its habitudes with alkalies and metals, had long induced a ſuſpicion of its ſaline nature. This ſuſpicion was at length confirmed by Macquer's valuable diſcovery of the *arſenical neutral ſalt* (ſee § 10. arſeniat of potaſh); but chemiſts ſtill continued ignorant of the preciſe difference between this and the liver of arſenic (arſenite of potaſh). The illuſtrious Scheele firſt cleared up this difficulty, and pointed out a method of procuring the arſénic acid in a ſtate of purity, and uncombined with any other ſubſtances. Bergman's valuable eſſay on the ſame ſubject confirmed and extended the diſcoveries of his friend and countryman, and more recent experiments have brought new acceſſions to the intereſting facts already collected. Arſenic, as well as ſome others of the metallic bodies, is not only a combuſtible and oxydable, but alſo an acidifiable baſe. It combines with oxygen, in at leaſt three different proportions. By the ſpontaneous action of air and moiſture, at the uſual temperature, it is converted into the black oxyd, an additional portion of oxygen is abſorbed by the aſſiſtance of a higher heat, forming the white oxyd; and by means, that we ſhall now proceed to mention, this latter ſubſtance may be ſaturated with oxygen, forming a perfect acid; the *arſenical*, or Arsénic (*acidum arſenicum*, or *arſenici*, *acide arſenique*, *arſenikſaure*.)

The method recommended by Scheele for the preparation of arſénic acid is the following.—Take two parts of finely powdered white oxyd of arſenic, and put it into a capacious tubulated retort, adapted to a quilled receiver, and fixed properly in a ſand-bath; then pour in ſeven parts, by weight, of ſtrong and pure muriatic acid, and cloſe the tubulure of the retort; as ſoon as the acid begins to boil, the arſenic will be rapidly diſſolved; and when the whole is taken up, lower the heat, and add three and a half parts of concentrated nitric acid; the mixture will immediately begin to foam, and there will be a copious extrication of nitrous gas.

The diſtillation is, at the ſame time, to be proceeding gradually, as long as any nitrous gas is produced; and when this ceaſes, one part more of the white oxyd of arſenic may

be added. As ſoon as this is diſſolved, pour into the retort one and a half part of nitric acid, and a freſh effervescence will take place. The whole is now to be diſtilled to dryneſs, and towards the end of the proceſs the heat muſt be increaſed till the bottom of the retort, with its contents, is red hot. After the retort is grown cold, it muſt be broken, and there will be found within it a ſaline maſs, which is the dry arſénic acid. In order to preſerve it in its ſolid ſtate, it muſt be put into a dry, well-ſtopped phial. The proportion of acid thus procured is nearly equal to the quantity of white oxyd employed. The uſe of the muriatic acid in this proceſs, ſeems to be merely that of a ſolvent of the arſenical oxyd, which is thus preſented to the action of the nitric acid in a ſtate of extreme diviſion. The nitric acid is decompoſed into nitrous gas and oxygen, the former of which flies away, while the latter is expended in acidifying the oxyd; by the ſubſequent red heat, the undecompoſed reſidue of the nitrous acid, and the muriatic, are driven off in vapour, and the arſénic acid alone remains behind. It generally, however, corrodes the retort, in a greater or leſs degree; whence the ſolid acid, when boiled with water, leaves a ſmall inſoluble reſidue of ſilex.

Bergman's method is to make a hot ſaturated ſolution of white arſenic in muriatic acid, and to add double the weight of nitric acid. The effervescence, however, thus occaſioned, is ſo great, that a conſiderable portion of the arſenic is driven over in the form of butter of arſenic, and the conſequent produce of acid is much diminiſhed, the quantity of this being eſtimated by Bergman at no more than 80 per cent. of the white oxyd employed. Weigleb, by repeatedly returning the liquor collected in the receiver into the retort with freſh nitric acid, obtained $112\frac{1}{2}$ of arſénic acid for every 100 of oxyd.

Another method of preparing this acid, alſo diſcovered by Scheele, is by oxymuriatic acid. Take one part finely pulverized black oxyd of manganeſe, and mix it with three parts of ſtrong muriatic acid, in a tubulated retort, large enough to allow ample room for the effervescence of the maſs: the retort is to be connected, in the uſual way, with a Woulfe's apparatus, containing the white oxyd of arſenic and a little water. By a gentle heat, the muriatic acid becomes oxygenated at the expence of the manganeſe, and paſſes into the bottles in the form of oxymuriatic acid; here it is decompoſed, and the muriatic acid unites with part of the arſenic, while the oxygen combines with another portion. This compound liquor being then gently diſtilled to dryneſs, and towards the end of the proceſs the bottom of the retort being made red hot, a complete ſeparation will take place; in the receiver there will be found diſtilled muriat, or butter of arſenic, and the ſaline maſs remaining in the retort is arſénic acid.

A ſimpler way of procuring the acid, is to heat together the white oxyd of arſenic, with diluted nitrous acid, in a retort, and when the ſolution is complete, to add ſome ſtrong nitric acid, and proceed to diſtillation: much nitrous gas will be given out, and ſome orange-coloured acid will come over into the receiver; return this upon the maſs in the retort before it becomes dry, together with a freſh portion of ſtrong nitric acid, and thus repeat the cohobation till the extrication of nitrous gas has almoſt ceaſed; then diſtil to dryneſs, and make the bottom of the retort red hot; all the remaining oxyd of arſenic and nitrous acid will be driven off, and nothing will be left behind but pure arſénic acid.

Beſides the above proceſſes, Pelletier has deſcribed another method of procuring the acid of arſenic. He mixes the white oxyd with nitrat of ammonia, and ſubjects the maſs to diſtillation in a luted retort. It is neceſſary to begin with a very gentle degree of heat, for the decompoſition of the ammonical ſalt is otherwiſe ſo rapid, that a large portion of the oxyd of arſenic is carried over into the receiver. But by proper management, the operation goes on more ſlowly and quietly; there paſſes over ſome nitrous acid, and by a ſlight increaſe of the heat, ammoniacal gas is alſo produced; towards the end of the proceſs, a little white oxyd uſually ſublimes, and a ſolid vitreous maſs of arſénic acid remains at the bottom of the retort, which, when heated red hot, becomes perfectly pure.

Arſénic acid is a ſolid vitreous maſs, of a milky white colour: its ſp. gr. according to Bergman, is $= 3.391$. It fuſes at a temperature a little below red heat, and becomes a tranſparent colourleſs fluid; but by cooling, it again becomes milky. When raiſed to a full red heat, it begins to boil, and gives out a portion of its oxygen; being ſlowly converted into white oxyd of arſenic, which ſublimes in proportion as it forms. If this experiment is performed in a covered crucible, after a time, almoſt the whole of the arſénic acid will be diſſipated, and the reſidue will be found cloſely adherent to the ſides of the veſſel, having diſſolved a portion of its earth, and being thus converted into a permanent glazing. Arſénic acid is wholly inſoluble in alcohol; but has ſo ſtrong an affinity with water, as to deliquiate by expoſure to a moiſt air: it diſſolves completely in three or four times its weight of water, and has not been obtained in a cryſtalline form, either by refrigeration or evaporation. It has a ſour, cauſtic, metallic taſte, and reddens litmus tincture, though it produces no change on ſyrup of violets. Charcoal powder, digeſted with the aqueous ſolution, exerts no chemical action whatever on it, but if the mixture is diſtilled to dryneſs in a cloſe retort, as ſoon as the bottom begins to grow red hot, the whole maſs takes fire with violence, and the acid is deoxygenated, a beautiful ſublimate of reguline arſenic being found in the neck of the retort. Sugar, and oil of turpentine, or any of the expreſſed oils, are charred even by digeſtion with a ſaturated ſolution of the acid. Six parts of the acid digeſted with one of ſulphur ſuffer no change, but when the mixture is diſtilled in a cloſe retort, as ſoon as the water is driven off, and the ſulphur begins to melt, a ſudden combination takes place, accompanied by a copious extrication of ſulphureous acid gas, and the whole contents of the retort riſe almoſt inſtantaneouſly, and attach themſelves to the upper part in the form of beautiful realgar. It combines with various alkaline, earthy, and metallic baſes, forming a genus of compound ſalts, known in chemiſtry by the name of ARSENIATS. None of the acids appear to have any action on the arſénic, for though it is ſoluble in ſome of them, it may be ſeparated again unchanged. It unites with the boracic and phoſphoric acids by fuſion, but neither ſuffers nor occaſions any decompoſition.

The order of its affinities, according to Pearſon, are, in the moiſt way, lime, barytes, ſtrontia, magneſia, potaſh, ſoda, ammonia, alumine, metallic oxyds, water.—In the dry way, lime, barytes, ſtrontia, magneſia, potaſh, ſoda, metallic oxyds, ammonia, alumine.

§ 10. *Arſeniats.*

1. *Arſeniat of Potaſh.*

If a ſolution of arſénic acid is dropped into cauſtic potaſh, till the mixture ceaſes to change ſyrup of violets green, and turns tincture of litmus red; thus ſhewing an exceſs of acid; there will be obtained by evaporation a cryſtallizable ſalt, arſeniat of potaſh. But if on the other hand potaſh be added to arſénic acid till the mixture turns ſyrup of violets green, but produces no change on tincture of litmus,

mus, an uncryſtallized ſalt is the reſult, which being evaporated to dryneſs, again deliquiates on being expoſed to the air. Theſe varieties of arſeniated potaſh are, however, rarely made by the direct union of their compotent parts, but from the white oxyd of arſenic and nitre. The phenomena attending this proceſs we ſhall therefore firſt explain, before we enter upon an enumeration of the properties of the ſalt.

Let any quantity of nitre be melted in a crucible, the bottom of which is heated red, and ſmall portions of white oxyd of arſenic be projected at intervals, taking care not to add a ſecond portion till the effervescence and diſengagement of the nitrous gas occaſioned by the former has ceaſed. By degrees the matter in the crucible, provided the heat is not augmented, will grow thick; and being then examined by ſolution and cryſtallization, will be found to redden litmus, and conſiſt of arſeniat of potaſh in a cryſtallizable ſtate, and ſome undecompoſed nitre. If, however, the maſs in the crucible is kept for a few minutes at a little higher heat, it will enter into perfect fuſion, and give out ſome nitrous gas; after a ſhort time it will again grow thick, and being then diſſolved in water, will turn ſyrup of violets green, and refuſe to cryſtallize, forming what Macquer and the old chemiſts call *Nitre fixed by arſenic*.

If a mixture of equal parts of nitre and white arſenic be put into a crucible (or ſtill better, into a Florence flaſk), and the flaſk be heated gradually in a ſand bath, till its bottom is obſcurely red, there will happen a very copious diſengagement of orange-coloured vapours; when theſe ceaſe, the veſſel is to be withdrawn from the fire, and will be found to contain a white ſaline maſs, which, by ſolution in hot diſtilled water, and evaporation, will yield arſeniat of potaſh, formerly called after the inventor *Macquer's neutral arſenical ſalt*. When, on the contrary, two parts of nitre and one of white arſenic are ſubjected to the above treatment, the reſult is an uncryſtallizable deliqueſcent maſs, the alkaline arſeniat of potaſh. This may be converted into the cryſtallizable or acidulous arſeniat, either by the addition of arſénic acid, in which caſe the whole will be arſeniat of potaſh, or by ſulphuric acid, which neutralizing the alkali, the liquor will yield by cryſtallization arſeniat and ſulphat of potaſh. In oppoſition to theſe facts, which are mentioned by Bergman, Scheele, Macquer, and moſt modern chemiſts, Pelletier has recorded an experiment, which, though he draws no concluſions from it, ſeems incapable of being reconciled with the theory of an alkaline and acidulous arſeniat of potaſh. He mixed, according to the proceſs of Lefevre, two ounces of white arſenic with four of nitre, and put the whole into a large crucible, the mouth of which was then cloſed with a ſmaller inverted crucible pierced with a ſmall hole to give vent to the nitrous vapour. It was ſubjected firſt to a very gentle heat for three hours, and then expoſed to a red heat for eight hours longer. The matter thus prepared was a compact ſaline white maſs, eaſily ſeparating from the crucible, and weighing one gros leſs than four ounces. Being diſſolved in diſtilled water and filtered, there was ſeparated a gelatinous maſs, conſiſting no doubt of ſome of the potaſh combined with the earth of the crucible. The clear liquor that paſſed the filter afforded by evaporation cryſtals of arſeniat of potaſh, and the mother water conſiſted almoſt wholly of cauſtic potaſh, which united quietly with ſulphuric acid, and formed ſulphat of potaſh. Here therefore we have an example of the cryſtallized arſeniat formed in the midſt of cauſtic potaſh, a circumſtance wholly unaccountable if an exceſs of acid is neceſſary for this purpoſe.

Arſeniat of potaſh cryſtallizes in rectangular quadrilateral priſms, terminated by four-ſided pyramids. In cloſe veſſels it fuſes at a low red heat, but ſhews no ſigns of decompoſition; when made to boil violently in an open veſſel it gives out oxygen, and acquires alkaline properties. It neither efflorescees nor deliquiates in the air. It is ſoluble in about ſix parts of boiling water, and depoſits cryſtals by cooling. It is decompoſable by lime and barytes, either in ſolution or by fuſion, the acid quitting the alkali to unite with the earths. The ſulphuric, nitric, and muriatic acids, abſtract from it the alkaline baſe, ſetting the arſénic acid at liberty, and forming ſulphat, nitrat, or muriat of potaſh. It decompoſes and precipitates almoſt all metallic oxyds from their combinations, forming inſoluble metallic arſeniats. In the dry way, it is decompoſed by charcoal, and the product is reguline arſenic of great beauty and purity, and carbonated potaſh. Sulphur, iron, and zinc, alſo decompoſe this ſalt, the reguline arſenic combining with one part of them, while the other is oxygenated.

2. *Arſeniat of Soda.*

According to Scheele, if ſoda is ſaturated with arſénic acid, cryſtals of arſeniat of ſoda are obtained, ſimilar in figure to thoſe of the preceding ſalt; however, the ſolution of them has no effect on litmus, but turns ſyrup of violets green. Some arſénic acid ſuperadded, takes away the cryſtallizability of the maſs, which, when evaporated to dryneſs, deliquiates in the air. Pelletier, by decompoſing nitrat of ſoda by oxyd of arſenic, in the manner already recited for preparing arſeniat of potaſh, obtained a permanent ſalt in truncated hexahedral priſms. The other properties of arſeniat of ſoda are unknown; probably, however, they are analogous to thoſe of the preceding article.

3. *Arſeniat of Ammonia.*

Liquid ammonia, ſaturated with arſénic acid, affords by evaporation a ſalt ſimilar in form to the rhomboidal cryſtals of nitrat of ſoda. It turns ſyrup of violets green, but produces no change on litmus; by a gentle heat it becomes opaque, and part of the ammonia flying off, it exhibits an exceſs of acid. In this ſtate it forms long acicular acid cryſtals, which deliquiate in the air. When diſtilled, it firſt gives out ſome ammoniacal gas, then fuſes, and again becomes ſolid after it has parted with ſome oxyd of arſenic which ſublimes. By a further increaſe of temperature it again becomes fluid, and is now found to be wholly changed into arſénic acid. Muriat of Ammonia is decompoſed by diſtillation with three parts of arſénic acid. There firſt riſes muriatic acid, then ammoniacal gas, afterwards oxyd of arſenic, and arſénic acid remains behind; hence it is obvious that part of the arſénic acid is deoxygenated at the expence of a portion of the ammonia.

4. *Arſeniat of Lime.*

If arſénic acid is dropped into lime water, a white precipitate is thrown down, which is reſoluble in a freſh portion of acid; the ſolution being now evaporated, ſmall cryſtals are obtained of arſeniat of lime. Another way of procuring this ſalt is by digeſting chalk in arſénic acid. An effervescence enſues, and afterwards by cooling, copious cryſtals are depoſited. Arſeniat of lime is ſparingly ſoluble in water, and the ſolution is decompoſed by ſulphuric acid, ſulphat of lime being precipitated. The affinity of arſénic acid for lime, is alſo inferior in the moiſt way to nitric, muriatic, or even acetous acid. Yet nitrat, muriat, and acetite of lime are decompoſable by means of double affinity, by the uncryſtallizable arſeniat of potaſh, and the arſeniats of ſoda and ammonia, arſeniat of lime being in all theſe caſes precipitated. This ſalt, if heated ſtrongly in a cloſe crucible, enters into fuſion, forming a white enamel-like maſs, but without undergoing any decompoſition; by mixing with charcoal and ſubſequent heating, the greater

part of the acid is oxygenated, and reguline arſenic is ſublimed. Arſénic acid in the dry way has ſo powerful an affinity for lime, as to be capable of uniting with this earth to the excluſion of ſulphuric, fluoric, and nitric acids.

5. Arſeniat of Magneſia

Acid of arſenic, when digeſted upon magneſia to ſaturation, forms a coagulum; this being diſſolved in a freſh quantity of arſénic acid, and evaporated, yields a jelly which by further privation of its moiſture is converted into an uncryſtallizable viſcous maſs. The ſulphat, nitrat, muriat, and acetite of magneſia, are not decompoſable by arſénic acid, but readily ſo by the alkaline arſeniats; the precipitate thus produced is inſoluble in water, but readily ſo by acids. When heated in a cloſe veſſel with charcoal, it exhibits the ſame phenomena as arſeniat of lime.

6. Arſeniat of Barytes.

This ſalt may be obtained in an earthy form, according to Scheele, by digeſting the acid upon barytes; at firſt the barytes diſſolves readily, but when the acid is ſaturated, a ſpontaneous precipitation of arſeniat of barytes takes place. Fourcroy informs us, that it may be procured in a cryſtalline form by mixing a warm concentrated ſolution of acetite of barytes and arſeniat of potaſh; a decompoſition takes place, and bright ſpicular needles of arſeniat of barytes are depoſited. In the moiſt way this ſalt ſeems undecompoſable except by ſulphuric acid and the eaſily ſoluble ſulphats. In a full red heat, however, even ſulphat of barytes is decompoſed by arſénic acid, the ſulphuric acid being volatilized.

7. Arſeniat of Alumine.

Moiſt earth of alum is readily ſoluble in arſénic acid, and by evaporation it yields a gummy uncryſtallizable maſs. The alkaline arſeniats will occaſion a precipitate in ſulphuric, nitric, and muriatic acids, previouſly ſaturated with earth of alum, and this precipitate is ſoluble in acids, though not ſo in water. It muſt however be remembered, that the earth precipitated from ALUM by an alkali is not pure ALUMINE, and therefore that the preparation here deſcribed is not arſeniat of alumine. Scheele indeed expreſsly mentions, that the ſolution mixed with charcoal, and evaporated to dryneſs, and then ignited in a cloſe veſſel, yields a ſublimate of orpiment, together with reguline arſenic and ſulphureous acid, and that the reſidue, when diſſolved in ſulphuric acid, depoſits after a time ſome cryſtals of alum. The arſénic acid, even by a long digeſtion with white clay, does not take up any portion of it. One part of clay and four parts of acid combine by fuſion into a vitreous maſs; and this, by being again heated with charcoal, affords a beautiful ſublimed regulus of arſenic.

The combinations of ſtrontia, and the other earths with the arſénic acid, have not as yet been examined. The metallic arſeniats will be found under the ſeveral metals.

§ 11. *Hiſtorical Notice concerning Arſenic.*

The native ſulphuret of arſenic, was the only one of the arſenical ores known to the ancients. Ariſtotle ſpeaks of the Σανδαραχη; and his pupil Theophraſtus, in his treatiſe on minerals, mentions the Αρρενικος, corrupted afterwards by Dioſcorides and others into Αρσενικος. Pliny alſo, in his Natural Hiſtory, deſcribes the arſenicum, auripigmentum, and ſandaracha. The Syrian orpiment, probably from its colour, was ſuppoſed to contain gold, and an ineffectual attempt by order of the emperor Claudius to extract this metal from it, is recorded by the Roman naturaliſt juſt mentioned. The ſandaracha of Pliny is realgar, being repreſented by him as friable, of a ruddy colour, and analogous to litharge. His arſenicum is expreſsly ſaid to be of the ſame ſubſtance as ſandaracha, and is thus deſcribed. "The colour of the beſt is ſuperior even to gold; the inferior ſorts are paler, or elſe approach to the hue of ſandaracha. It is of a ſcaly texture." The two laſt do not appear to have been conſidered of the ſame nature as auripigmentum: and the only uſe to which they were applied, was that of a cauſtic in medicine, and a pigment. The firſt mention of white arſenic is in the works of Avicenna, who lived in the 11th century. Paracelſus affirms, that arſenic ſublimed with egg-ſhells becomes like ſilver; and in 1673, Lemery publiſhed the method of obtaining the regulus by ſublimation from a mixture of white arſenic, fixed alkali, and ſoap. Albertus Magnus and Becher conſidered arſenic (by which they meant the white oxyd) as of a ſaline nature. Kunkel was alſo of the ſame opinion; and Macquer, by his diſcovery of the arſenite and arſeniat of potaſh, demonſtrated that in theſe combinations it held the place of an acid. Finally, Scheele proved, that the baſe of arſenic (according to the Stahlian theory then in vogue) was not only ſimilar to, but was actually an acid, by diſcovering the method of obtaining it in an uncombined ſtate.

Arſenic being found in the ores of many metals, often ſerving as a mineralizer to them, and adhering with great obſtinacy to them even when brought into the ſtate of regulus, was long conſidered, like mercury, as an eſſential component part of metallic ſubſtances, nor was this opinion abandoned till the celebrated eſſay of Monnet in reply to a prize queſtion propoſed by the Royal Berlin Academy, in 1773, on the nature and peculiar agency of arſenic in the formation of metals. In this treatiſe he ſhews arſenic to be a peculiar metal, eſſentially differing from all others, and inſtead of being a neceſſary component part of them, is often totally abſent, and when preſent is ſo far from perfecting them, that it always deteriorates and obſcures their characteriſtic properties.

§ 12. *Uſes of Arſenic.*

In the reguline ſtate, it is uſed to whiten COPPER, and enters as an ingredient in ſeveral kinds of SPECULUM METAL. Oxyd of arſenic is employed as a poiſon for rats and other vermin, and a flux in GLASS-*making*. Orpiment and realgar are of extenſive uſe in DYING and CALICO-PRINTING, and as a pigment. For the deleterious properties of arſenic, and its medical uſes, ſee the next article.

Plinii Hiſt. Nat. Bergman's Eſſays. Scheele's Eſſays. Pelletier, Memoires de Chimie, vol. i. Encycloped. Method. art. Arſenique. Fourcroy, Syſt. des Connoiſſ. Chem. vol. v. Macquer's Chemiſches worterbuch, art. Arſenik. Gren's Syſtematiſches handbuch der Chemie, vol. iii.

ARSENIC, *in Pharmacy, and its Operation upon the Human Body.*—Arſenic is perhaps of all natural ſubſtances, that which exerts the moſt virulent and dreadfully active operation upon the living animal, when taken into the ſtomach or any other part of the ſyſtem.

We are, unfortunately, too familiar with its effects as a poiſon; its cheapneſs and abundance rendering it eaſily acceſſible to malevolence, or obnoxious to careleſſneſs, and the hiſtory of almoſt every year adds to the number of ſufferers from this formidable mineral.

Nevertheleſs, as every poiſon, when judiciouſly managed, may be converted into a powerful medicine, ſeveral very ſkilful practitioners have attempted, and not without advantage, to add this ſubſtance to the materia medica, and hence the effects of arſenic become important to the phyſiologiſt in a double point of view, both that he may relieve and counteract them, when they operate as a poiſon; and manage them with judgment and caution, when they are intended to cure diſeaſe.

We may begin by obſerving, that all the preparations of arſenic appear, as far as experience goes, to operate in a ſimilar manner, though ſome with much more activity than others, in proportion to their quantity; and likewiſe it is fully aſcertained, that ſulphur moderates the operation of this metal in a very ſtriking manner, as indeed it does that of all the other metallic medicines. This comparative mildneſs of the ſulphuret may be the reaſon why the native orpiment and realgar have been employed medicinally for ages by ſome of the oriental nations, particularly, among other caſes, as an antidote to the bite of the cobra, and other venomous ſerpents; and we may remark, that the native arſénical ſulphures (as obſerved by Hoffman, and confirmed by ſubſequent experiments) are much milder and ſafer in their operations, than any of the artificial combinations of theſe two minerals.

When the active arſénical ſalts (the white arſenic for example) have been taken into the ſtomach in the quantity of a few grains or upwards, the moſt dreadful conſequences are obſerved to ſucceed: theſe are, firſt, a moſt horrible and almoſt indeſcribable anxiety at the pit of the ſtomach, to which ſucceeds a very acute burning pain in this organ, generally attended with violent retching and vomiting, whereby, indeed, the life of the ſufferer is ſometimes preſerved, owing to the rejection of the arſenic; this is often followed with ſevere purging, and the pain proceeds with increaſed virulence, to the bowels, and almoſt the whole of the alimentary canal; to this ſucceed, in a ſhorter or longer time, convulſive tremors of the limbs, cold ſweats, and a very ſudden and characteriſtic ſwelling of the emphyſematous kind, which puffs up the face, the neck, and at laſt every other part of the body. If no relief be obtained from theſe dreadful ſymptoms, they quickly proceed to the deſtruction of life; the unhappy ſufferer becomes inſenſible to ſurrounding objects, lying on his belly, with every muſcle diſtorted by the violence of the pain, his hands clenched, his eyes bloodſhot and glaſſy, his jaws now immoveably fixed, and unable to ſwallow either ſolids or liquids, his limbs convulſed with ſevere cramps, his face and neck ſo much ſwelled that the features can hardly be recognized, till at laſt death terminates his agony. On inſpecting the body after death, the ſtomach is always found highly inflamed, partly gangrenous, and often actually corroded by ſphacelated ſpots. The ſame inflammation and partial mortification alſo extend in moſt caſes to parts of the ſmall inteſtines. The body is ſaid to putrefy with remarkable rapidity.

Even when perſons have recovered from poiſoning by arſenic, they feel its effects long after in griping pains, tremors of the limbs, partial paralyſis, loſs of appetite, and often a lingering hectic fever, which remains for a conſiderable time, and without great attention to health, are apt materially to injure the conſtitution. An expoſure to the fumes of arſenic occaſions ſimilar accidents, particularly griping, bloody urine, and contraction of the body, and ſometimes a general eruption like the nettle-raſh; and hence in all chemical operations with this dangerous metal, the operator ſhould be particularly cautious of avoiding its noxious fumes.

Arſenic, when applied to any wounded or ulcerated ſurface of the body, is equally liable to produce the above-mentioned ſymptoms in a greater or leſſer degree; but as the firſt that appear are generally pains in the ſtomach and bowels, and ſwelling of the face, ſufficient warning is hereby given to withdraw the cauſe of them.

A variety of remedies againſt the poiſon of arſenic has been propoſed, all of which are intended to fulfil theſe two indications, to remove the noxious ingredient, and to protect the alimentary canal from its baneful operation. The firſt object is to get rid of the poiſon by moſt copious vomiting and purging; and for this purpoſe all the ſubſtances known to produce theſe effects, may be employed with the greateſt freedom. It has been thought that the rougher mineral emetic and purgative medicines ſhould be avoided, and certainly the milder vegetable ſubſtances appear the moſt eligible; but it is of ſuch infinite conſequence to apply an *immediate* remedy, that the preference due to one over another medicine can hardly ever be equivalent to the miſchief incurred by allowing this moſt corroſive and deleterious of all poiſons to remain a moment longer in the ſtomach than can be avoided. Hence the firſt emetic medicine at hand is always the beſt, nor ſhould the mechanical means of exciting vomiting, as by thruſting a feather down the throat, and the like, be neglected. In the intervals of vomiting, the ſtomach ſhould be deluged with any mild mucilaginous liquid that is at hand; milk, gruel, linſeed tea, broth, oil of any kind, or even warm water, in the largeſt poſſible quantity, ſhould be taken, and where the arſenic itſelf excites conſtant vomiting, as is often the caſe, no other remedy than theſe mucilaginous or oily liquids is required. Theſe ſhould be aſſiduouſly perſevered in till the burning pain and other ſymptoms produced by the arſenic are removed, and only the ſoreneſs conſequent to ſuch a violent exerciſe of the alimentary canal remains; after which a cautious and judicious uſe of opiates will prove of material benefit: but the ſtate of health will require much attention for a conſiderable time, before the conſtitution can entirely recover the effects of ſo rude a ſhock. When the poiſon has remained ſo long in the ſtomach that the ſufferer lies inſenſible, racked with pain and unable to ſwallow, recovery ſeems to be hopeleſs; in ſuch caſes, the moſt probable method of exciting vomiting is to lay ſome tartar emetic upon the tongue, part of which may perhaps be carried by the ſaliva into the ſtomach, and relieve it from the poiſonous mineral.

Some ingenious men have endeavoured to diſcover an antidote to arſenic, in the proper meaning of the term; that is, a ſubſtance which may prove a peculiar corrective to its baneful effects, by uniting with it when in the ſtomach, and deſtroying its acrimony. The well-known effect of ſulphur to mitigate the operation of all metallic bodies, readily ſuggeſted this as the deſired remedy, and the liquid alkaline ſulphuret was propoſed by Navier, an eminent phyſician of Chalons in France. Fourcroy has ſuggeſted the liquid hydro-ſulphures (or ſolutions of ſulphurated hydrogen in water, of which the ſulphurated mineral waters are familiar examples) as an improvement on Navier's remedy. Experience, however, has not confirmed the utility of either of theſe preparations. It is true, that if the poiſon and the antidote were previouſly mixed, and in a ſtate of ſolution, the former would be diſarmed of its terrible powers; but to truſt to the chance of a mere chemical operation in an organ ſo irritable as the ſtomach, ſo dreadfully ſuſceptible of active inflammation, and actually ſuffering under a violent injury, which is haſtening the deſtruction of the whole ſyſtem, is to carry the ideas of a laboratory much beyond the bounds of ſober prudence and ſound practice.

It has been urged, however, that after the immediate danger from arſenic has been removed by the liberal uſe of emetics and emollient liquids, much advantage may be derived from the uſe of the liquid ſulphurets. But at this period we have not (in all probability) any of the arſenic to remove, but only the inflammation, the effects of arſenic, and on what ground can ſulphurated hydrogen be ſuppoſed to be of uſe in inflammation of the ſtomach and bowels?

The medical chemiſt is ſometimes called upon by the magiſtrate to aſcertain the preſence or abſence of arſenic in the ſtomach of perſons who have died with ſome of the violent

lent ſymptoms above deſcribed. Some of the appearances, on diſſection, have been already mentioned. The preſence of arſenic, in ſubſtance, in the ſtomach, is thus aſcertained: firſt, make a ligature round the lower part of the oeſophagus, and another at the pylorus, to prevent any of the contents of the ſtomach from ſpilling; then take out this organ, empty its contents in a baſon, and rinſe the inner ſurface with a little cold water, which add to the other contents. As white arſenic, in ſubſtance, is generally that which is found after death by this poiſon, it will be ſeen in the form of a heavy white powder, from which the ſlime, and other contents of the ſtomach, may be waſhed off by repeated affuſions of cold water, which waſhings, however, ſhould not be thrown away, but added to the liquid contents. Then let the powder be ſubmitted to the following experiments: boil a portion of it in a Florence flaſk, in a few ounces of diſtilled water, and filter the liquid ſolution; add to a part of the clear liquid ſome water ſaturated with ſulphurated hydrogen gas, or a few drops of ſulphuret of ammonia, and if arſenic be preſent, a golden yellow ſediment will fall down, which will appear ſooner if a few drops of acetic acid be added; add to another portion of the ſolution a ſingle drop of a weak ſolution of carbonate of potaſh, and afterwards a ſolution of ſulphate of copper, when the arſenic will be indicated by a yellowiſh green precipitate, ſimilar to that which is known in chemiſtry by the name of *Scheele's green*; collect the ſediments and dry them, or if there is any of the powder to ſpare, take a portion of this, lay it upon red hot charcoal, when it will be entirely diſſipated in a white denſe vapour, having the garlic ſmell peculiar to arſenic.

But a portion of the white powder ſuſpected to be arſenic ſhould be reduced to the metallic ſtate, which may be done in the following neat manner, propoſed by Dr. Black: mix it with two parts of dry carbonate of potaſh, and one of powdered charcoal; procure a tube eight or nine inches long, and one-ſixth of an inch in diameter, of thin glaſs ſealed hermetically at one end; coat the cloſed end with clay for about an inch, and let the coating dry; then put into the tube the mixture of the powder and the flux, and if any of it ſhould adhere to the inner ſurface, let it be bruſhed down by a feather; ſtop the open end of the tube looſely with a cork, and gradually heat the ſealed end only, on a chafing-diſh of hot charcoal. The arſenic, if preſent, will then riſe to the upper part of the tube, on the inner ſurface of which it will form a thin, brilliant, metallic coating, whilſt a portion will eſcape in garlic-ſmelling fumes. When nothing more riſes from the heated end, break the tube, and ſcrape off the metallic cruſt formed on the upper part. Of this, lay a part on heated iron, when it will totally exhale in a denſe ſmoke, with the peculiar arſenical ſmell; put another part between two poliſhed pieces of copper (halfpence, for example, rubbed quite bright), bind them together with wire, and expoſe them ſlowly to a low red heat; if the enclоſed ſubſtance is arſenic, it will leave a white ſtain on the copper.

If it ſhould happen that no white powder is found in the ſtomach, the liquid contents, when filtered along with the waſhings, ſhould be evaporated to dryneſs, and the reſidue examined in the ſame manner as the white powder; but this would be a work of greater difficulty on account of the caſual mixture with the other contents of the ſtomach.

By theſe means the preſence of arſenic, even in very ſmall quantity, may be detected by any one tolerably verſed in chemical experiments; but, for greater ſecurity, it may be adviſable to perform ſeparate and parallel experiments with the white arſenic of the ſhops, and compare the reſults and appearances.

It is a matter of common obſervation, that no vegetable or mineral poiſon, however virulent, exiſts, which in diminiſhed quantity and by prudent precautions may not be converted into a valuable remedy. This obſervation will apply even to arſenic, and we have the moſt reſpectable teſtimony to its value in the cure or relief of ſome complaints which entitles it to conſiderable notice. The medicinal uſe of the ſulphurets of arſenic may be traced back to very early times, and the Greeks and Romans appear to have uſed it with conſiderable freedom. Dioſcorides obſerves that the arſenic (ἀρσενικὸν) is found in the ſame minerals which produce the ſandarach. The beſt for medicinal purpoſes, he adds, is of a golden colour, unmixed with any other ſubſtance, which eaſily ſeparates into ſcales, and comes from Myſia on the Helleſpont. An inferior ſort comes from Pontus and Cappadocia. It is prepared by roaſting on hot coals, with conſtant ſtirring till it takes fire, and alters in colour, when it is to be cooled and carefully pulverized. The ſandarach is prepared in the ſame manner as the arſenic or orpiment, and poſſeſſes the ſame virtues. When taken internally, they have a violent corroſive and aſtrictive operation, exciting a burning on the ſkin, and cauſing the hair to fall off. Theſe arſenical powders were uſed principally as external applications, mixed with pitch, oil, or fat, againſt a variety of cutaneous complaints, itch, phthiriaſis, and other defedations of the ſkin, and alſo to ulcers of the noſtrils and mouth, and condylomata.

Much attention has been beſtowed in modern times to the power ſaid to be poſſeſſed by arſenic of relieving or curing cancers, when employed both as a topical application, and taken into the ſtomach. The progreſs of this diſorder is ſo dreadful, and the remedies uſually employed have proved ſo inadequate to ſtop its ravages, that any medicine, however ſevere, may be employed without cenſure, which affords a chance of permanent relief. We have ſtill to regret that the flattering hopes of a cure, and the real benefit often produced by this metal, have not been confirmed by frequent experiment; but the virtues of this remedy, however, are too important to be neglected. Several medical practitioners and empirics have gained much credit for ſuppoſed cures of cancers by remedies which appear to have been arſenical; and Mr. Juſtamond, in his valuable Surgical Tracts (London, 1789), gives the recipe of an arſenic cauſtic, called "the earl of Arundel's receipt to cure a cancer," and found in the Harleian MSS. which appears to have been divulged by a woman in the lower order of people, in the year 1638, whoſe father had long employed it for the cure of cancers.

Mr. Juſtamond, in his ingenious work above quoted, gives the hiſtory of many caſes of cancer in different ſtages, in which the following arſenical preparations were topically applied:

1. The earl of Arundel's receipt above mentioned, compoſed of one ounce of yellow arſenic, and half an ounce of bole armenic; or elſe of one ounce of the yellow arſenic, half an ounce of the red precipitate, and half an ounce of bole armenic.

2. A ſulphuret of arſenic, formed in the following way: Take four pounds of ſulphur, and one pound of white arſenic, mix and put them into a glaſs retort, on a ſand heat, and lute to the retort a long neck and receiver: raiſe the fire gradually till the mixture be fuſed: reject the ſublimed portion, and reſerve the fixed matter beneath, which muſt be finely levigated.

3. A mixed ſulphuret of arſenic and antimony, formed by melting together in a crucible, with a very moderate heat, the native black ſulphuret of antimony (or the common antimony

timony of the ſhops), with white arſenic, in proportions varying according to the intention; being two parts of arſenic to one of antimony, where a violent arſenical cauſtic is wanted; and two parts of antimony with one of arſenic, where a milder eſcharotic is required.

Mr. Juſtamond began the above arſenical application, to the open or ulcerated cancers, which he uſed in the form of powder or ſcrapings, laid to the moſt ulcerated parts, whilſt he frequently moiſtened the hard retracted edges of the wound with a ſolution of muriated iron, with ſal ammoniac.

The immediate effect of the arſenic was to give a moſt acute and burning pain, which conſtantly attended every freſh application, and probably would be hardly tolerable to any, but to thoſe who are ſuffering under one of the moſt dreadful, haraſſing, and hopeleſs diſorders which ever come under the care of the ſurgeon. The firſt beneficial effect of the arſenical powder, was to correct, and almoſt entirely to remove the ſickening ſtench which attends theſe ſpecies of ulceration; and this was invariably the caſe, even when it failed to give any other relief. Afterwards the powder (where ſucceſsful) evidently improved the condition of the ſore, and by repeating it daily, with much perſeverance and attention, Mr. J. happily ſucceeded in producing a complete cure. It was only, however, in one or two inſtances that this was effected; and in others, the poiſon of the arſenic abſorbed into the ſyſtem, produced its baneful operation with ſo much rapidity, bringing on partial palſy, and ſevere pain with cramp in the bowels, that he was obliged inſtantly to diſcontinue it; with the unpleaſant feeling, that he had added to the already diſeaſed conſtitution of his patient, the ſevere diſorder occaſioned by the arſenical remedy itſelf. Mr. Juſtamond then made a trial of the ſtronger arſenical cauſtic (two parts of arſenic fuſed with one of antimony), to ſchirrous tumours of the breaſt, before they had proceeded to ulceration, with the view of *turning them out* entire, or as it were diſſecting them out by cauſtic, inſtead of the knife. In this he followed the example of Guy and Plunkett, who had been celebrated for this ſpecies of operation, an operation only to be undertaken when the patient is too timorous to ſubmit to the ſafer and more expeditious uſe of the knife. Mr. J. mixed the arſenical cauſtic with an equal weight of opium, brought the powder to the conſiſtence of an ointment by the yolk of an egg, and having the day before ſeparated the cuticle of the tumor by lunar cauſtic, he applied the arſenic over the whole ſurface. The pain was very great for twenty hours, after which it ſubſided. After ſome days the tumor began to ſeparate, and by repeating the cauſtic round the ſeparating edges, the ſchirrous gland, in about two months, "came out entire as a nut out of its ſhell, or as if it had been cleanly diſſected with a knife."

We ſhall proceed to enumerate ſome of the other noted arſenical preparations, employed externally to cancers and ſchirrous tumours. The following is given as Plunkett's celebrated arſenical cauſtic, with which the inventor uſed to extirpate ſchirrous tumours before they had arrived to ulceration.

4. Take of the leaves of the ranunculus acris (crowfoot), and of the flammula vulgaris (leſſer crowfoot, alſo a ſpecies of ranunculus), of each one ounce; of white arſenic levigated, one drachm; of flowers of ſulphur, five ſcruples. The two former plants being freſh gathered and bruiſed, the arſenic and ſulphur are to be added, and the whole beaten into a paſte, which is to be formed into balls, and dried in the ſun. When uſed they are to be beaten up with yolk of egg, and applied on a piece of pig's bladder to the ſurface of the tumour. This is to remain till the eſcharotic ſeparates ſpontaneouſly. The ranunculus, which is an acrid plant, is not here an uſeleſs addition, as it aſſiſts in ſeparating the cuticle, and till this is done the arſenic is ſcarcely able to act.

5. The arſenicum citrinum *(gelber arſenik)* employed at Vienna, is one of the ſtrongeſt of theſe preparations, being compoſed of ten parts of arſenic ſublimed with one of ſulphur. When uſed, the ſcrapings of it are laid on the cancerous ulcer till it is conſumed. The pain which it occaſions is moſt ſevere.

Mr. Febure's arſenical remedy *(Remède éprouvé pour guerir radicalement le Cancer occulte, ou ulceré*, Paris, 1775), which excited much attention at the time, is the following:

6. Take one pint of water; one ounce of extract of cicuta; three ounces of Goulard's extract; one drachm of liquid laudanum; and ten grains of arſenic; mix them into a liquid, with which the cancer is to be ſmeared every morning and evening.

Laſtly, of the external applications, we may mention the following, which is ſimple, and probably as efficacious in ulcerated cancer as any of the preceding.

7. Take a ſolution of white arſenic in water, in the proportion of one grain to two pints, mix it with crumb of bread into a poultice, and apply it to the open ſore.

Febure appears to be the firſt who ventured to recommend the *internal* uſe of arſenic in the cure of cancer; a practice which has rarely been openly followed, though probably this mineral forms the baſis of many of the empirical remedies for this diſeaſe. Febure's internal arſenical medicine is the following:

8. Take of white arſenic, two grains; of ſyrup of chicory with rhubarb, half an ounce; of water, one pint. Of this one table ſpoonful is given every morning and evening, in an ounce of milk, with half a drachm of ſyrup of poppies. The doſe is to be gradually increaſed as the patient can bear it.

Mr. Juſtamond alſo was able to give internally as much as five grains of the arſenical ſulphuret (N° 2.) daily, without injuring the patient.

The inference which the reader will be diſpoſed to draw from all that we have given, concerning the efficacy of arſenic in cancerous complaints, will not probably be very encouraging to its uſe. The actual pain attending its application is always very acute, though perhaps not more ſo than the diſeaſe itſelf; but the quantity of the remedy here requiſite, either for external or internal uſe, is ſo conſiderable, as to incur great danger of poiſoning the conſtitution irremediably, and inducing calamities almoſt equal to thoſe which it is deſigned to counteract.

With more ſatisfaction we can conclude our account of this mineral, with a hiſtory of its employment in another obſtinate and often dangerous diſorder, in which it promiſes very great advantage, unattended with any conſiderable riſk where managed with great prudence and diſcretion. This is, in obſtinate and lingering agues, ſuch as have reſiſted ordinary remedies, and are proceeding gradually to undermine the conſtitution by their periodical and repeated paroxyſms.

We owe the introduction, or at leaſt the publicity of this remedy to Dr. Fowler's highly valuable ſeries of experimental caſes, undertaken in the Stafford infirmary, in 1784, and publiſhed in the following year. The circumſtance that directed his attention to this remedy, was the very great ſale and ſucceſsful operation of certain *patent ague drops*, which were (probably with reaſon) ſuppoſed to be a preparation of arſenic.

Dr.

Dr. Fowler's arſenical ſolution is thus prepared.

9. Take white arſenic in fine powder, and pure ſalt of tartar, of each ſixty-four grains, put them into a Florence flaſk, or other glaſs veſſel, along with half a pint of diſtilled water, heat them ſlowly to boiling, till the ingredients are diſſolved; when cold, add half an ounce of compound ſpirit of lavender, and diſtilled water ſufficient to make up the whole quantity one pint, or rather fifteen ounces and a half troy-weight.

Of this ſolution, one ounce, apothecaries meaſure, contains four grains of arſenic, or one dram, half a grain; and Dr. F. calculates each dram to be equivalent to eighty drops.

In preparing this liquid, the operator ſhould be aware that the ſalt of tartar of the ſhops, even the pureſt, ſeldom makes a perfectly clear ſolution with water, but leaves a ſmall earthy ſediment, which no continuation of the boiling will diſſolve. Inſtead of this alkali, twice the weight of pure nitre has been employed, which promotes the ſolubility of the arſenic, and is perhaps ſomewhat preferable to the ſalt of tartar. Theſe ſalts are not neceſſary to the immediate ſolution of arſenic, but they prevent this metallic oxyd from ſeparating again from the water by long keeping.

The proportion of arſenic to water, in the ſolution, may be varied from the form above given; but as white arſenic requires eighty times its weight of cold water to remain diſſolved, not leſs than this quantity ſhould be employed, and the nitre or alkali ſhould never be omitted, as it is of the utmoſt importance for the practitioner to know preciſely the doſe of arſenic which he preſcribes.

Dr. F. found that for the cure of intermittents it was of importance to give the arſenic in divided doſes as faſt as the patients could bear it, without experiencing inconvenience from its poiſonous effects. Strong adults could generally bear about ten drops of the ſolution (equivalent to one-ſixteenth of a grain of arſenic) for a doſe, which he repeated twice, or, if convenient, thrice a day. By ſlow increaſe, ſome were able to bear as much as twenty drops for a doſe, and this courſe was continued for five days, when, if the fits of the intermittent were ſuſpended, the drops were interrupted for two or three days, and then reſumed for three days longer to prevent a relapſe.

Infants could bear about two drops twice a day, and young or delicate perſons took the ſolution in intermediate doſes from two to ten or twelve drops.

The operation of this powerful remedy was truly ſurpriſing in checking almoſt immediately, and finally removing the paroxyſms of the moſt obſtinate intermittents, ſome of which had reſiſted bark and other remedies for a conſiderable time. In a few, however, it failed entirely; and in others the poiſonous effects of the arſenic came on ſo ſpeedily that it could not be continued, and the cure was completed by bark and other tonics.

Every practitioner will be aware of the great caution neceſſary in the exhibition of a remedy, which, though ſafe in prudent hands, might induce the moſt dangerous accidents if expoſed to careleſſneſs or ignorance. In moſt of the ſucceſsful caſes, the medicine removed the diſeaſe without producing any of the inconveniences attending its uſe in larger doſes; but when the arſenic began to ſhew its poiſonous effects, the ſymptoms were, naufea, often accompanied with a ſlight griping and purging, ſwellings of the ſoft integuments of the body, particularly the face, ſometimes uneaſineſs at the ſtomach, and a ſlight eruption like the nettle-rath; and, in a very few inſtances, head-ach, ſweat, and ſlight tremors. By attending to theſe ſerious and very characteriſtic warnings, and by the aſſiſtance of gentle aperients, opiates, and other means which will readily ſuggeſt themſelves to the prudent phyſician, this terrible mineral may be enliſted into the ſervice of the healing art, whilſt its cheapneſs, inſipidity, and great activity in a very ſmall bulk may ſometimes render it preferable to the ſafer drugs and barks, which oppreſs the ſtomach by their bulkineſs, and diſguſt by their naufeous flavour.

We may add that,

10. The arſeniat of potaſh, deſcribed in § 10. of the preceding article, has been employed in intermittents with the ſame effect as the ſolution, and its ready ſolubility and uniformity of compoſition may perhaps give it a claim to preference. The medium doſe of this ſalt may be a fifth of a grain three times a day.

Arſenic has been occaſionally employed with conſiderable ſucceſs, when applied to the ſurface of the body in a variety of cutaneous complaints; and it might be adopted with more freedom, if it were not for the extreme danger to which any neglect of the warning ſymptoms of poiſoning might expoſe the patient, a danger the more likely to be in chronic complaints often neglected, and not always ſufficiently under medical inſpection. Orpiment mixed with tar, with digeſtive ointment, or other unctuous ſubſtances, has been found of eminent ſervice in tinea capitis, a preſcription handed down to us from the ancients; but if the medical practitioner will venture on this hazardous, and not often neceſſary remedy, he ſhould never forget the much ſuperior virulence and activity which the artificial orpiments and arſenical ſulphurets poſſeſs over the natural. Orpiment and quicklime, boiled in water for a ſhort time, form a liquor which, if often applied to the cuticle, cauſes the hair to fall off; and the growth of it, when thus checked, is ſeldom renewed. Dioſcorides. Plenk's Pharmacologia Chirurg. 1782. Fowler's Medical Reports on the Effects of Arſenic, 1786. Juſtamond's Surgical Tracts, 1789. Pharm. Danica. Henry's Epitome of Chem. 1801, &c.

Arsenic, in *Surgery*, has been long employed as a local remedy. It is chiefly recommended in caſes where a ſtrong eſcharotic is indicated, and eſpecially in cancerous or ſordid ulcers; but, as its effects are entirely cauſtical, our account of the mode in which it ſhould be applied is referred to the foregoing article and to that of Caustic.

ARSENIUS, in *Biography*, archbiſhop of Malveſia in the Morea, was a learned philologiſt, in the ſixteenth century. He ſubmitted to the church of Rome, and thus incurred the diſpleaſure of his brethren of the Greek church; ſo that he was excommunicated by the patriarch of Conſtantinople. He died at Venice in 1535. His works are, "A Collection of Greek Apophthegms," publiſhed at Rome; and "A Collection of Scholia on ſeven of the Tragedies of Euripides," printed at Venice, in 8vo. in 1534. Fabr. Bib. Græc. l. v. c. 41. § 8. t. x. p. 222.

ARSENOTHELYS, among *Ancient Naturaliſts*, the ſame with hermaphrodite.

The Greeks uſe the word both in ſpeaking of men and beaſts.—It is formed from αρσην and θηλυς, *male* and *female*.

ARSENVAL, in *Geography*, a town of France, in the department of the Aube, and chief place of a canton in the diſtrict of Bar-ſur-Aube, twenty-three miles eaſt of Troyes.

ARSIA, in *Ancient Geography*, a ſmall river which had a northern courſe, and ſerved as a boundary between Hiſtria and Illyria, to the north of the Flanatic gulf. It there terminated Italy on the north-eaſt of the Polatic promontory.

ARSIANA, or Ariana, a town of Aſia, in Suſiana, ſeated on a mountain to the weſt of the Tigris.

ARSICARITA,

ARSICARITA, an epiſcopal ſee of Africa, in Numidia.

ARSICUA, a town of Germany. Ptolemy.

ARSINARIUM, a promontory of the weſtern coaſt of Africa, in Lybia Interior, now *Cape* Verd, or Cape Bojador.

ARSINIA, Arceni, a town of Aſia, in Armenia, W. N W. of Amida, and near it.

ARSINNUARITANUS, an epiſcopal ſee of Africa, in Mauritania Cæſarienſis.

ARSINOE is a name given to ſeveral places not only in Egypt, but alſo in other countries; and according to Bryant (Anc. Myth. vol. i. p. 209.), it was ſynonymous with Arſene, Arſine, and Arſiana. Arſinoe, ſays this writer, is a compound of Arez-ain, Sol's ſons; and moſt places ſo denominated will be found famed for ſome fountain. To this purpoſe he obſerves, that Arſinoe in Syria had its name from the ſtreams which iſſued out of the riſing ground on which it ſtands; Arſine and Arſiana in Babylonia had fountains of bitumen; Arſene in Armenia was a nitrous lake; near Arſinoe upon the Red Sea were ſtreams of bitter waters; and Arſinoe near Epheſus had waters equally bitter. The *firſt Arſinoe* we ſhall mention was a town of Egypt, ſeated on the weſt ſide of the Arabian gulf near its extremity, and not far from the ſituation of the modern Suez. Ptolemy and Strabo mention this city; and the latter ſays, that it was called by ſome Cleopatris. It is ſaid, that it was called Arſinoe from a queen of that name in the time of the Ptolemies; and that Cleopatra embelliſhed it with new buildings, whence it was called after her name. In order to bring the trade from India, which began to revive at Tyre its ancient ſtation, to center in Alexandria, Ptolemy Philadelphus undertook to form a canal, an hundred cubits in breadth, and thirty in depth, between Arſinoe and the Peluſiac branch of the Nile; and Mr. Rennell ſtates the diſtance between Peluſium (Tinah), and Arſinoe (Suez), at fifty-ſix Britiſh miles; and by means of this canal he propoſed to convey the productions of India to that capital wholly by water. But the work was never finiſhed. A *ſecond Arſinoe* was a town of Egypt, the chief place of a nome which bore its name, on the weſt ſide of the Nile, above Memphis, ſouth of Acanthon and north of Ptolemais. It was alſo called the "City of Crocodiles," becauſe the inhabitants worſhipped that animal, and bred ſome of the ſpecies in the neighbouring lakes. This city muſt have ſtood at ſome diſtance from the river, ſince Ptolemy calls it a Mediterranean metropolis. It retained its name Arſinoe in the time of Adrian. Imperial Greek medals were ſtruck in this city in honour both of Trajan and Adrian. It is now called Faioum. The province, of which it was the capital, contained the Labyrinth and its twelve palaces, the lake Mœris, and the pyramids deſcribed by Herodotus, but not exiſting in the time of Auguſtus, as they are not mentioned by Strabo; and it is extolled by Strabo (l. xvii.) for its beauty, fertility, and the variety of its productions. It abounded with wine, corn, vegetables, and ſeeds of every kind. A *third Arſinoe* was a port of the Red Sea, to the left of the entrance into it and near the promontory *Dire* or *Diræ*, according to Strabo and Ptolemy. This was ſometimes called Berenice. A *fourth* is placed by Strabo on the Red Sea, conſiderably more to the north than Philoteras. Its warm, ſaline, bitter waters flowed from a high rock and ran into the ſea near this town. A *fifth* was a town of Africa, in the Cyrenaica, between Leptis and Ptolemais; the ſame that was formerly called "Teuchira." A *ſixth* was a town of Cœloſyria, according to Steph. Byz. A *ſeventh*, a town of Aſia, in Syria, ſeated on a hill near a valley which was near Damas. An *eighth*, a maritime town of Aſia, in Cilicia, to the eaſt of the river Orymagdus, in the diſtrict called Cetidis; it had a port and road for ſhips. A *ninth*, a town of Greece, in Ætolia, at the paſſage of the Achelous, near Canopa; ſo called from the wife and ſiſter of Ptolemy II., and mentioned by Cicero. A *tenth Arſinoe* is, according to Strabo, one of the names given to the city of Epheſus. An *eleventh Arſinoe* is a maritime town of the iſle of Cyprus, ſituate to the weſt between old and new Paphos: ſo called from a queen of Egypt, Cyprus having been long ſubject to the Ptolemies. It had a port, a temple, and a grove. A *twelfth Arſinoe* was alſo a ſmall town of Cyprus, on the northern coaſt, at the bottom of a ſmall gulf cloſed to the north-weſt by the promontory Acamas. 13. There was another town of this name on the eaſtern coaſt of the ſame iſland, to the ſouth-eaſt, and very near Salamis. 14. *Arſinoe* was alſo the name of an inland town of Cyprus.

Arsinoe, in *Entomology*, a ſpecies of Papilio (*Nymph. Gem.*) found in the iſland of Amboyna, the wings of which are tailed, indented, fulvous, ſpotted with black; and the poſterior ones marked both above and beneath with two ocellated ſpots. It is figured by Seba and Cramer.

ARSIS, and Thesis, in *Proſody*, are names given to the two proportional parts into which every foot or rhythm is divided.

By *arſis* and *theſis* are uſually meant no more than a proportional diviſion of the metrical feet, made by the hand or foot of him that beats the time.

And in meaſuring the quantities of words the hand is elevated, as well as let fall; that part of the time which is taken up in meaſuring the foot, by lifting the hand up, is termed *arſis* or *elevatio*: and the part where the hand is let fall, *theſis* or *poſitio*. Vid. Auguſtin, de Muſica, lib. ii. cap. 10. In *plaudendo enim quia elevatur & ponitur manus, partem pedis ſibi elevatio vendicat, partem poſitio.*

Arsis and *theſis* are uſed as muſical terms when the ſubject of a fugue or point is inverted or reverſed; i.e. when one part riſes and the other falls. Theſe two words are Greek: *arſis* comes from ἄιρω, *tollo*, I raiſe or elevate; θέσις, *depoſitio*, *remiſſio*, a depreſſion or lowering. Theſe terms were applied by the ancients to the motion of the hand in beating time.

ARSISACA, in *Ancient Geography*, a town of Aſia, ſituate in the interior part of Media. Ptolemy.

ARSISSA, a lake of Aſia, in Armenia, about a degree from eaſt to weſt, called the lake of *Van* or *Argiſh*; between 37° 45′, and 38° 30′ N. lat.

ARSITIS, a country of Aſia, near mount Coronos in Hircania. Ptolemy.

ARSK, a town of Ruſſia, in the government of Caſan, forty miles N. N. E. of Caſan. N. lat. 56° 20′. E. long. 49° 34′.—Alſo, the name of one of the thirteen diſtricts of Caſan, ſituate on the river Caſanka.

ARSKOG, a large foreſt in the northern part of Sweden, in the province of Medelpad.

ARSLAN, a fortified place of Aſia, in Perſia, near Caſbin, in the province of Erach.

ARSMART, in *Botany*. See Polygonum.

ARSOFFA, a fortified town of Aſia, in that part of Arabia which is called the Deſert of Syria; ſuppoſed by ſome to be the ſame with Reſapha in the Palmyrene territory, mentioned by Ptolemy: it is ninety miles ſouth-eaſt of Aleppo.

ARSON, *ab ardendo*, in *the Law of England*, a felony at common law, in maliciouſly and wilfully burning the houſe, or out-houſes, of another, by night or by day. See Hawkins's Pleas of the Crown, book i. chap. 39.

The out-houſes, though not contiguous to the dwelling-houſe, nor under the ſame roof, that are parcel thereof, ſuch as barns and ſtables, may be the ſubject of arſon: and this by the common law, which alſo accounted it felony to burn a ſingle barn in the field, if filled with hay or corn, though not parcel of the dwelling-houſe. The burning of a ſtack of corn was anciently likewiſe eſteemed arſon. The offence of arſon, ſtrictly ſo called, may be committed by wilfully ſetting fire to one's own houſe, provided one's neighbour's houſe is thereby alſo burnt; but if no miſchief is done but to one's own, it does not amount to felony, though the fire was kindled with intent to burn another's. For by the common law, no intention to commit a felony amounts to the ſame crime; though it does, in ſome caſes, by particular ſtatutes. However, ſuch wilful firing one's own houſe in *a town*, is a high miſdemeſnor, and puniſhable by fine, impriſonment, pillory, and perpetual ſureties for the good behaviour. And if a landlord or reverſioner ſets fire to his own houſe, of which another is in poſſeſſion under a leaſe from himſelf and from thoſe whoſe eſtate he hath, it ſhall be accounted arſon; for, during the leaſe, the houſe is the property of the tenant. A bare intent or attempt to burn a houſe, by actually ſetting fire to it, unleſs it abſolutely burns, does not fall within the deſcription of "incendit et combuſſit," which were words neceſſary, in the days of law-latin, to all indictments of this ſort. But the burning and conſuming of any part is ſufficient; though the fire be afterwards extinguiſhed. Alſo, it muſt be a malicious burning; otherwiſe it is only a treſpaſs; and therefore no negligence or miſchance amounts to it. But by 6 Ann. c. 31.; any ſervant, negligently ſetting fire to a houſe or out-houſe, ſhall forfeit 100 *l.* or be ſent to the houſe of correction for eighteen months; in the ſame manner as the Roman law directed: "eos, qui negligenter ignes apud ſe habuerint, fuſtibus vel flagellis cædi."

The puniſhment of arſon was death by our ancient Saxon laws. And in the reign of Edw. I., this ſentence was executed by a kind of "lex talionis;" for the incendiaries were burnt to death; as they were alſo by the Gothic conſtitutions. The ſtatute 8 Hen. VI. c. 6. made the wilful burning of houſes, under ſome ſpecial circumſtances therein mentioned, amount to the crime of high treaſon. But it was again reduced to felony, by the general acts of Edw. VI. and queen Mary; and now the puniſhment of all capital felonies is uniform, namely, by hanging. The offence of arſon was denied the benefit of clergy by 31 Hen. VIII. c. 1. but that ſtatute was repealed by 1 Edw. VI. c. 12.; and arſon was afterwards held to be ouſted of clergy, with reſpect to the principal offender, only by inference and deduction from the ſtatute 4 & 5 P. & M. c. 4., which expreſsly denied it to the acceſſory before the fact: though even it is expreſsly denied to the principal in all caſes within the ſtatute 9 Geo. I. c. 22. Blackſt. Com. vol. iv. p. 220. &c.

ARSON *Appeal of.* See APPEAL.

ARSTAD, in *Geography.* See ARAD and ROUWADDE.

ARSUF, a ſea-port town of Paleſtine, in the Mediterranean, ſix miles north-eaſt from Joppa. It is in ruins: but in its vicinity there is a ſmall iſland called *Arſuffo*.

ARSURA, in *Ancient Cuſtoms*, a term uſed for the melting of gold and ſilver, either to refine them, or to examine their value. Spelman.

The method of doing this is explained at large in the Black Book of the Exchequer, aſcribed to Gervaiſe, in the chapter De Officio Militis Argentarii, being in thoſe days of great uſe, on account of the various places and different manners in which the king's money was paid.

ARSURA is alſo uſed for the loſs or diminution of the metal in the trial. In this ſenſe a pound was ſaid *tot ardere denarios*, to loſe ſo many penny-weights.

ARSURA is alſo uſed for the duſt and ſweepings of ſilverſmiths, and others who work in ſilver, melted down. Du-Cange.

ARSURA is alſo uſed, in ſome writers, for the diſeaſe called *eryſipelas*, or *ignis ſacer*.

ARSURITA, in *Ancient Geography*, an epiſcopal ſee of Africa, in Bizacium.

ART, is defined to be a habit of the mind preſcribing rules for the due production of certain effects; or the introducing the changes of bodies from ſome fore-knowledge and deſign in a perſon endued with a principle or faculty of acting.

The word art is derived from ἀρὸς, *utility, profit;* and is found in that ſenſe in Æſchylus.

According to lord Bacon, it is a proper diſpoſition of the things of nature by human thought and experience, ſo as to make them anſwer the deſigns and uſes of mankind. Nature, according to that philoſopher, is ſometimes free, and at her own diſpoſal; and then ſhe manifeſts herſelf in a regular order; as we ſee in the heavens, plants, animals, &c.—Sometimes ſhe is irregular and diſorderly, either through ſome uncommon accident, or depravation in matter, when the reſiſtance of ſome impediment perverts her from her courſe; as in the production of monſters.—At other times ſhe is ſubdued and faſhioned by human induſtry, and made to ſerve the ſeveral purpoſes of mankind.—This laſt is what we call art.—In which ſenſe, art ſtands oppoſed to nature. Hence the knowledge of nature may be divided into the hiſtory of *generation*, of *pretergeneration*, and of *arts*.—The firſt conſiders *nature* at liberty; the ſecond, her errors; and the third, her reſtraints.

The ingenious Mr. Harris, after purſuing ſeveral regular gradations in his inquiries concerning this ſubject, deduces from it an anſwer to four different queſtions. If it be aſked, "What art is?" We have to anſwer, "It is an habitual power in man, of becoming the cauſe of ſome effect, according to a ſyſtem of various and well-approved precepts." If it be aſked, "On what ſubject art operates?" We can anſwer, "On a contingent, which is within the reach of the human powers to influence." If it be aſked, "For what reaſon, for the ſake of what, art operates?" We may reply, "For the ſake of ſome abſent good, relative to human life, and attainable by man, but ſuperior to his natural and uninſtructed faculties." Laſtly, if it be aſked, "Where it is the operations of art end?" we may ſay, "Either in ſome energy, or in ſome work." Harris's Three Treatiſes, dialogue i.

ART is alſo uſed for ſcience or knowledge, reduced into practice.

Several of the ſchoolmen hold logic and ethics to be arts; inaſmuch as they do not terminate in mere theory; but tend to practice.

In this ſenſe ſome branches of the mathematics alſo are arts; others, matters of doctrine or ſcience. Statics is wholly ſcientifical, as it comprehends the mere contemplation of motion: mechanics, on the contrary, is an art, as it reduces the doctrine of ſtatics into practice.

ART is more commonly uſed to denote a certain ſyſtem or collection of rules, precepts, and inventions or experiments, which being duly obſerved, make the things a man undertakes ſucceed, and render them advantageous and agreeable. In this ſenſe, art is oppoſed to ſcience, which is a collection of ſpeculative principles and concluſions.

The nature and origin of art, and its diſtinction from

ſcience, are conſidered more at large in the preface to this work.

Arts, according to the foregoing definition, may be divided into *active* and *effective*.—Such as leave no external effect after their operation, as dancing, fiddling, &c. are called *active* or *practical* arts: thoſe which do leave an effect behind them, as painting, &c. are called *effective* arts.

Farther, with reſpect to their ſcope and object, they may be divided into *human*, as medicine; and *divine*, as theology.

Arts, *human*, again may be ſubdivided into *civil*, as law, politics, &c.; *military*, as fortification, &c.; *phyſical*, as agriculture, chemiſtry, anatomy, &c.; *metaphyſical*, as logic, pure mathematics, &c.; *philological*, as grammar, criticiſm, &c.; *mercantile*, to which belong the mechanical arts and manufactures. See each in its place.

Arts are more properly divided into *liberal* and *mechanical*.

Arts, *liberal*, or *polite*, are thoſe that are noble and ingenious, or which are worthy of being cultivated without any immediate regard to the lucre ariſing from them. They are ſuch as depend more on the labour of the mind than on that of the hand; or that conſiſt more in ſpeculation than operation, and have a greater regard to amuſement and curioſity than neceſſity. Such are poetry, muſic, painting, grammar, rhetoric, the military art, architecture, and navigation. The liberal arts uſed formerly to be ſummed up in the following Latin verſe:

"Lingua, Tropus, Ratio, Numerus, Tonus, Angulus, Aſtra."

In the eighth century, the whole circle of ſciences was compoſed of the ſeven liberal arts, as they were called; viz. grammar, rhetoric, logic, arithmetic, muſic, geometry, and aſtronomy: the three former of which were diſtinguiſhed by the title of *trivium*, and the four latter by that of *quadrivium*.

Arts, *mechanical*, are thoſe wherein the hand and body are more concerned than the mind; and which are chiefly cultivated for the ſake of the profit attending them.—Of which kind are moſt of thoſe which furniſh us with the neceſſaries of life, and are popularly known by the name of trades and manufactures.—Such are weaving, turnery, brewing, maſonry, clock-making, carpentry, joinery, foundery, printing, &c. Theſe arts, which indeed are innumerable, were formerly compriſed under this verſe:

"Rus, Nemus, Arma, Faber, Vulnera, Lana, Rates."

The mechanical arts take their denomination from μηχανη, *machine*, as being all practiſed by means of ſome machine or inſtrument. With the liberal arts it is otherwiſe; there being ſeveral of them which may be learnt and practiſed without any inſtrument at all; as logic, eloquence, medicine properly ſo called, &c.

The arts which relate to the ſight and hearing, lord Bacon obſerves, are reputed *liberal*, beyond thoſe which regard the other ſenſes, and are chiefly employed in matters of luxury; theſe are uſually called the *fine arts*; ſuch are poetry, painting, ſculpture, muſic, gardening, and architecture.

As all arts have this common property, according to the definition above cited from Mr. Harris's dialogue, that they reſpect human life, it is evident that ſome contribute to its "neceſſities," as medicine and agriculture; and others to its "elegance," as muſic, painting, and poetry. The former ſeem to have been prior in time to the latter. Men muſt naturally have conſulted how to live and to ſupport themſelves, before they began to deliberate how to render life agreeable. Indeed this is confirmed by fact, as no nation has been known ſo barbarous and ignorant, as not in ſome degree to have cultivated the rudiments of theſe neceſſary arts; and hence poſſibly they may appear to be more excellent and worthy, as having claim to a preference derived from their ſeniority. The arts, however, of elegance are not deſtitute of pretenſions, if it be true, that nature formed us for ſomething more than mere exiſtence. Nay farther, if well-being be clearly preferable to mere being, and this, without the other, be contemptible, they may have reaſon perhaps to aſpire even to a ſuperiority. Harris, ubi ſupra, p. 54.

As the hiſtory of the origin and progreſs of the particular arts is recited under their reſpective denominations in the courſe of this work, it is unneceſſary to enlarge in this place. It may be obſerved, however, in general, that moſt of the arts that are neceſſary to the ſubſiſtence, or conducive to the convenience and comfort of mankind, have had a very early origin. Some of them may be conſidered as almoſt coeval with the human race; and others have ſprung up at different periods and in various nations, ſo remote, that the hiſtory of their riſe and of their progreſs for many ages is involved in an obſcurity which precludes any ſatisfactory inveſtigation. The want of food, raiment, and habitations, would naturally ſuggeſt a variety of inventions; and when the firſt and ſcanty demands of neceſſity were ſatisfied, mankind would proceed by further diſcoveries to improve the ordinary means of ſupply, and at length to meliorate and embelliſh the condition which providence had aſſigned them. But for a long time their real exigencies would be few, and their views and wiſhes very limited; and of courſe their progreſs in improvement would be proportionably ſlow and tedious. In a more advanced ſtate of ſociety, their neceſſities and deſires would be multiplied, and they would deviſe new methods of ſupplying and gratifying them; ſo that the arts they had already invented would be improved, and new ones would be diſcovered. At laſt, as a change of circumſtances occurred, or ſome accident ſuggeſted the hint or afforded opportunity, they would proceed from the invention of the neceſſary and mechanical arts to thoſe that contributed to elegance and ornament, as well as ſuperior accommodation. As to the inventions and diſcoveries of the early ages, nothing certain is known. Thoſe arts that may be referred to the claſs of ſuch as are moſt neceſſary and uſeful, were the productions of periods when men had little acquaintance with letters, and when they poſſeſſed no certain mode of tranſmitting an account of them to ſucceeding generations. The records of tradition are obſcure, doubtful, or fabulous; and other modes of conveyance are ſubject to corruptions and mutilations in the lapſe of many ages. To this purpoſe, it may be alleged, that many paſſages in the works of Pliny, who appears to have been induſtrious in collecting whatever he thought to be uſeful or curious, and to have been as deſirous of communicating knowledge as he was diligent in acquiring it, have ſuffered in this way to ſuch a degree, that ſome of them have not been ſatisfactorily illuſtrated even by the beſt commentators. However, it is univerſally allowed, that the arts had their riſe in the Eaſt, and that they were conveyed from thence to the Greeks, and from them to the Romans. The Romans, indeed, ſeem to have been chiefly indebted to the Greeks, by whom they were excelled in point of invention. The Romans acknowledged this ſuperiority, for they ſent their youth to Greece in order to finiſh their education; and from this circumſtance we may infer, that they conſidered that country as the ſeat of the arts and ſciences, and as a ſchool where genius would be excited by the moſt finiſhed models, and the taſte corrected and formed. Pliny and other writers have, nevertheleſs, given hints which lead

us to conclude, that the Romans poſſeſſed a more extenſive acquaintance with the arts than the moderns are perhaps willing to allow, and that ſome inventions, regarded as new, may be only old ones revived and again applied to practice. When Rome, abandoned to luxury and vice, became an eaſy prey to thoſe hordes of barbarians who overſpread the empire, her arts ſhared in the general wreck, and were either entirely loſt, or for a conſiderable time forgotten. The deplorable ſtate of ignorance in which Europe was afterwards plunged during ſeveral centuries, retarded their revival; and it was not till a late period, when favoured and protected by a few men of ſuperior genius, that they began again to be cultivated. It cannot, however, be denied, that ſeveral important diſcoveries, altogether unknown to the ancients, which muſt have had conſiderable influence on the general ſtate of ſociety, were made in ages that can hardly be exempted from the appellation of barbarous. Of this kind were the inventions of paper, painting in oil, the mariner's compaſs, gunpowder, printing, and engraving on copper; ſee the ſeveral articles. After the invention of the compaſs and printing, two grand ſources were opened for the improvement of ſcience. As navigation was extended, new objects were diſcovered to awaken the curioſity and excite the attention of the learned; and the ready means of diffuſing knowledge, afforded by the preſs, enabled the ingenious to make them publicly known. Ignorance and ſuperſtition, the formidable enemies of philoſophy in every age, began to loſe ſome of that power which they had uſurped, and different ſtates, forgetting their former blind policy, adopted improvements, which their prejudices had before condemned.

In countries, however, where civil and eccleſiaſtical tyranny prevailed, the progreſs of the uſeful and elegant arts was ſlow, and ſtruggled with many difficulties. Particular events, indeed, have occurred in all ages and nations which have roufed the exertions of genius, and furniſhed occaſion for making important and uſeful diſcoveries. The hiſtory of Greece and Rome, and even of modern Europe, will afford many obvious facts that ſeem to confirm and illuſtrate this obſervation, and they will be found in detail under the reſpective titles in this work.

It has been well noted by philoſophers, that, during the riſe and growth of ſtates, the *military* arts chiefly flouriſh; when arrived at their height, the *liberal* arts; and when in a declining ſtate, the *voluptuary* arts.

There are alſo divers particular arts; the art of *memory*, the art of *decyphering*, the art of *ſwimming*, art of *diving*, &c.

Democritus maintained, that men learnt all their arts from brutes: that the ſpider taught them weaving; the ſwallow, building; the nightingale, muſic, and ſeveral kinds of medicine.

ART, *term of*. See TERM.

ARTS, *bachelor of*. See BACHELOR.

ARTS, *maſter of*. See MASTER, DEGREE, FACULTY.

ART is alſo applied to divers imaginary, and even ſuperſtitious doctrines and inventions.—Such are Lully's art, or the *tranſcendental* art. This is an art by means of which a man may diſpute whole days on any topic in nature, without underſtanding the leaſt tittle of the thing in diſpute; thus called from its inventor Raymond Lully. It conſiſts chiefly in diſpoſing the ſeveral ſorts of beings into divers ſcales or climaxes, to be run down in a deſcending progreſſion.—Thus, whatever was propoſed as the ſubject of diſcourſe, they would ſay, firſt, it is a being, and conſequently, one true, good, perfect: then, it is either created, or uncreated. Again, every created being is either body or ſpirit, &c.

ART, *ars notoria*, is a pretended manner of acquiring ſciences by infuſion, without any other application than a little faſting, and performing a few ceremonies. It was ſolemnly condemned by the Sorbonne in 1320.

ART, *St Anſelm's*, is a ſuperſtitious manner of curing wounds, by barely touching the linen wherewith thoſe wounds had been covered. Delrio, in his Diſquiſitiones Magicæ, obſerves, that ſome Italian ſoldiers, who practiſed this art, attributed the invention thereof to St. Anſelm: but he aſſures us alſo, that it was really invented by Anſelm of Parma, a celebrated magician.

ART, *St. Paul's*, is a branch of the *ars notoria*, ſo called as being ſuppoſed to have been taught by St. Paul, after his being taken up into the third heaven.

ART *and Part*, is a phraſe uſed in the north of England, and in Scotland. When any one is charged with a crime, they ſay he is *art and part* in committing the ſame; that is, he was concerned both in the contrivance and in the execution of it.

The facts inferring *art and part* need not to be particulary laid in the libel or indictment, for theſe general words, as terms of ſtated ſignification, are ſufficient. Yet theſe facts may be ſet forth, and it is proper ſo to do, if the proſecutor chooſes to confide in the court rather than in the jury. Vide Mackenz. Crim. Law.

One may be *art and part*, 1. By giving counſel to perpetrate, without diſtinction, whether the crime would have been committed without ſuch counſel or not: this being what can never be perfectly known. But it is to be obſerved, that in the more atrocious crimes, he that gives counſel is equally puniſhed as he that commits them; but in the leſs atrocious, leſs ſeverely. And ſometimes reaſons of mitigation are taken from the age, the manner of adviſing, &c.

2. By aid and aſſiſtance, and that either previous, or concomitant, or ſubſequent, to the commiſſion of the crime.

3. By a clear and explicit mandate to commit the crime, or to do ſomewhat unlawful in itſelf, which with great probability might produce it, if executed by the hand of the mandatory, and not that of another.

ART *hermetical*. See HERMETICAL.

ART, *hyſſopic*. See HYSSOPIC.

ART, *military*, comprehends the order and arrangement which is obſerved in the conduct of an army, when it is to fight, to march, or to be encamped, uſually denominated *tactics*; and alſo the conſtruction and application of warlike machines.

ARTA, in *Geography*, a town of Swiſſerland, in the canton of Schwitz, on the ſouth border of the lake of Zug.

ARTA, a river of European Turkey, which runs into the gulf of Arta, near a town of the ſame name.

ARTA, or *Larta*, a town of European Turkey, with a Greek archbiſhop's ſee, in the province of Albania, on the river Afdhas, near a gulf to which it gives name. The cathedral is ſaid to have as many windows and doors as there are days in the year; it is ſupported by above two thouſand marble pillars, and was built by Michael Ducas Comneno, emperor of Conſtantinople. The inhabitants, who are partly Mahometans, and moſtly Chriſtians, are reckoned to be about ſeven or eight thouſand, and carry on a conſiderable trade in tobacco and ſkins. The gulf is on the eaſt ſide of the Adriatic. N. lat. 39° 28′. E. long. 21° 20′.

ARTABA, an ancient meaſure of capacity uſed by the Perſians, Medes, and Egyptians.

The

The Perſian artaba is repreſented by Herodotus as bigger than the Attic medimnus, by three Attic chœnixes; from which it appears that it was equal to $6\frac{3}{4}$ Roman modii, conſequently that it contained $166\frac{2}{3}$ pounds of wine or water; or $126\frac{2}{3}$ pounds of wheat.

The Egyptian artaba contained five Roman modii, and fell ſhort of the Attic medimnus by one modius; conſequently held $133\frac{1}{3}$ pounds of water or wine, 100 pounds of wheat, or 60 of flour.

The Babylonians allowed their god Belus twelve artabas of fine flour for his daily ſuſtenance; which will amount to 60 Roman modii, and conſequently 720 pounds of flour.

The Median artaba was of the ſame content with the Attic medimnus, and conſequently equal to ſix Roman modii, held 160 pounds of water or wine, and 120 of wheat. Beverin. de Pond. & Menſ. part ii. p. 125.

ARTABANUS, in *Ancient Hiſtory*, the common name of ſeveral kings of Parthia. The firſt died in the firſt year of his reign, in conſequence of a wound received in a battle with a tribe of Scythians, about the year before Chriſt 129. The ſecond was of the race of Arſaces, and was king of Media, when he was called to the throne of Parthia, about the year of Chriſt 16; and died much lamented by his ſubjects, about A. D. 48. The third lived in the reign of Veſpaſian or Titus, and eſpouſed the cauſe of a counterfeit Nero; he died whilſt he was meditating the invaſion of Armenia. With the death of Artabanus IV. in the year 226, the Parthian empire terminated. See Arsacidæ.

ARTABRI, in *Ancient Geography*, a people of Europe, in Spain; deriving their name from Artabrum, a promontory near which they dwelt, and correſponding to cape Finiſterre.

ARTACABANE, a town of Aſia, in Aria. According to Pliny, it was larger and more ancient than Alexandria in the ſame country.

ARTACÆON, a ſmall iſland of the Propontis, in the vicinity of Cyzicum. Pliny.

ARTACANA, a town of Aſia, ſituate in the northern part of Aria, on the confines of Parthia, according to Strabo. Q. Curtius makes it the capital of Aria.

ARTACE, the name of a colony eſtabliſhed by the Mileſians in Phrygia, in the year before Chriſt 694. Venus had a temple in this place, whence her name *Artacias*.—Alſo, a fortreſs of Aſia, in Bithynia, ſituate on the Euxine ſea.—A mountain of the peninſula of Cyzicum.—A ſmall iſland of the Propontis, over againſt the mountain of this name.—A port of Aſia, on the coaſt of the Propontis, near to, and weſt of Cyzicum.—A town of Aſia, in Armenia.

ARTACENA, a country of Aſia, in Aſſyria.

ARTACH, a town of Aſia, according to Curopalate.

ARTACII, a people placed by Dion towards Thrace, and ſaid to have been conquered by Craſſus.

ARTACINA, a town of the iſland of Crete. Ptolemy.

ARTÆA, a country of Perſia, according to Pauſanias.

ARTAGERA, a town of Aſia, in Armenia, near which C. Cæſar was dangerouſly wounded by one Addus, according to Velleius Paterculus.

ARTAGICARTA, a town of Greater Armenia, placed by Ptolemy between Arſamoſarta and Tigranocerta.

ARTAGICERTA, Ardis, a town of Aſia, in Armenia, on the weſtern branch of the Tigris, north-eaſt of Armida.

ARTAGIRA, a town of Interior Libya.

ARTAKI, in *Geography*, a town of Aſiatic Turkey, in the province of Natolia, on the ſouth coaſt of the ſea of Marmora, 76 miles ſouth-weſt of Conſtantinople. N. lat. 40° 18′. E. long. 27° 39′.

ARTAKUI, a town of European Turkey, in the province of Romania, 48 miles north-weſt of Gallipoli.

ARTAMIS, in *Ancient Geography*, a town of the Cyrenaic territory in the Pentapolis.—Alſo, a town of Aſia, in Bactriana.

ARTAMOVA, in *Geography*, a town of Siberia, 120 miles ſouth-ſouth-eaſt of Tobolſk.

ARTAN, a town of Aſiatic Turkey, in the province of Natolia, 24 miles ſouth of Akſerai.

ARTANA, or Ortana, a town of Spain, in Navarre, five leagues from Pampeluna.

ARTANES, or Artanus, a river of Aſia, in Bithynia.

ARTANICA, in *Botany*. See Cyclamen.

ARTANISSA, in *Ancient Geography*, a town of Aſia, in Iberia. Ptolemy.

ARTAS, a town of Aſia, in Syria, ſituate at the foot, and to the eaſt of one of the branches of mount Amanus.

Artas *Bay*, in *Geography*, lies in the iſland of Majorca, in the Mediterranean, S.W. from Cape la Padre, the weſtern extremity of the iſland. The town lies between two rivers, which fall into the bay from the weſt and north-weſt. Alcudi Bay is to the north-weſt from the Cape la Padre.

ARTASIA, in *Ancient Geography*, a town of Aſia, in Syria, in the neighbourhood of Antioch.

ARTATUS, a river of Illyria, mentioned by Livy.

ARTAVIVA, in *Geography*, a town of Aſia, in Mingrelia, 110 miles north-eaſt of Trebiſond.

ARTAXATA, in *Ancient Geography*, the metropolis of Armenia, and the reſidence of the Armenian kings. This city was built upon a plain, which Hannibal recommended to king Artaxes as a proper ſite for the capital of Armenia. It was ſituated upon an elbow of the river Araxes, which forms a kind of peninſula, and ſurrounded the town, except on the ſide of the iſthmus; and the iſthmus was ſecured by a rampart and a broad ditch. Lucullus, after having defeated the Armenians under their king Tigranes, would not venture to lay ſiege to Artaxata, which he conſidered as impregnable. The gates of the city were thrown open to Corbulo, the Roman general; but the city itſelf was burnt and razed. It was afterwards called *Neronia*, in compliment to Nero, who ordered Tiridates to rebuild it. The ruins of this city are ſhewn at a place called *Ardachat*.

ARTAXERXES, in *Biography*, the name of three kings of Perſia. The firſt ſurnamed *Longimanus* and Μακρο-χειρ, from the extraordinary length of his arms and hands, ſo that, on his ſtanding ſtraight, they could reach his knees; ſucceeded his father Xerxes, who was murdered by Artabanus, the captain of his guards. The traitor charged the death of Xerxes upon Darius, his eldeſt ſon, and induced the young prince to believe that it was his farther intention to get rid of him in the ſame manner. Darius was therefore, by the counſel and aſſiſtance of Artabanus, immediately aſſaſſinated, and Artaxerxes was placed upon the throne, in the year before Chriſt 464, notwithſtanding the prior claim of his ſecond brother Hyſtaſpes, who was then in Bactriana. Artabanus, having thus far ſucceeded, proceeded to the accompliſhment of the deſign which he had formed of ſecuring the crown to himſelf. But Artaxerxes being informed by Megabyzus of his conſpiracy, prevented the execution of it by the death of the traitor. Thus eſtabliſhed in the throne, notwithſtanding the treaſon of Artabanus, and the hoſtile attacks of his brother Hyſtaſpes, he purſued a much more prudent courſe than that of his father, and deſiſted from impracticable attempts to ſubdue the valiant Greeks, who were fighting for their liberty. At length a war between the Greeks and Perſians, which had been protracted for fifty-one years, was terminated, happily for both

nations, and very honourably to the former. Artaxerxes proceeded, very much to the satisfaction of his subjects, to cultivate the arts of peace, and to redress the evils which had resulted from the frantic ambition of his father. Although he was an absolute prince, he distinguished himself during a long reign by his mildness and humanity. At his court Themistocles, the illustrious Athenian, who had been an avowed enemy to the Persian government, found an asylum; and here he was treated with great distinction and hospitality. Thucydides (l. i. p. 91.) refers the retreat of Themistocles to the commencement of this reign; but other authors, as Strabo, Plutarch, and Diodorus, fix this incident under Xerxes in the preceding reign. In this latter opinion Dr. Prideaux concurs. Artaxerxes was very favourable to the Jews: and he is supposed by Prideaux and many others to have been the Ahasuerus of Scripture, who married Esther, and by whose permission Ezra restored the Jewish worship and civil government at Jerusalem. Archbishop Usher supposes that it was Darius Nothus, the son of Hystaspes, who espoused this illustrious Jewess. See DARIUS, and ESTHER. The seventy weeks of Daniel are reckoned to commence in the reign of Artaxerxes. See PROPHECY. Artaxerxes died within eight months after the beginning of the forty-first year of his reign, and was succeeded by Xerxes, his only legitimate son. Prid. Conn. vol. i. p. 360. &c. and vol. ii. p. 372. 579.

ARTAXERXES II., called *Mnemon* on account of the strength of his memory, was the eldest son of Darius Nothus by his queen Parysatis, and bore the name of Arsaces before his accession to the throne, in the year before Christ 404. It is related (see Athenæus, l. 12.) that when he was attending his father, who was on his death-bed, he desired instruction for the successful conduct of government, and that the dying king gave him this memorable advice; "That," if he expected the felicity and success which he had enjoyed, "it must be by doing in all things that which was just both towards God and man." Artaxerxes had a younger brother named Cyrus, the favourite of his mother, and whom she wished to elevate to the throne upon the following claim: the birth of Artaxerxes had happened before the accession of his father to the throne; but that Cyrus was born the son of a king; a distinction which, however frivolous it may be deemed in modern times, had engaged Darius Hystaspes to prefer Xerxes, the younger of his sons, to his elder brother Artabazanes. Cyrus formed a conspiracy against the life of his brother, for which he was sentenced to death, but pardoned by the intercession of his mother: he afterwards attempted, with the assistance of a Grecian force, to dethrone his brother; but, though victorious, he was killed in battle. His friends on this occasion were all destroyed; but the Greek army kept entire, and in spite of all the force and artifice with which they had to encounter, made their way home by a retreat, which is one of the most brilliant events in history, and is recorded by Xenophon, who was a principal actor in it. Artaxerxes is much censured for the weakness betrayed by him in delivering up to the vengeance of Parysatis all who had been instrumental in the death of Cyrus, though he himself boasted of having inflicted the mortal wound; and for suffering this female monster to murder them with attendant circumstances of the most exquisite torment. She soon after poisoned the queen Statira, by which act she excited the indignation of her son so much, that he confined her to Babylon, and vowed never to enter the city as long as she remained there. At length, however, she was recalled to court, and maintained considerable influence as long as she lived. The throne of Artaxerxes was next endangered by Agesilaus and the Spartans, in the year before Christ 396; but having adopted a more prudent policy than his ancestors, he sowed dissensions in Greece, which compelled the invaders to evacuate the Persian empire. The Athenians united with the Persians; but at length these differences were compromised by the peace of Antalcidas, in the year before Christ 363, which left the Greek cities of Asia subject to the Persian king. Artaxerxes next directed his power against Evagoras, king of Cyprus; and on this occasion the Athenians became the foes, and the Lacedæmonians the auxiliaries, of the Persians. Cyprus, after much bloodshed, became tributary. In an enterprise undertaken by the king in person, in the year B. C. 384, against the Cadusians, a hardy people who inhabited the mountains between the Euxine and Caspian seas, his army was almost wholly lost by famine; but part of it was saved by a seasonable negotiation. The sense of his disgrace on his return so much irritated his temper, which was naturally mild, that he put several of his satraps to death. His attempts for reducing his revolted subjects in Egypt proved at first successful, by the aid of some Greek mercenaries; but they ultimately failed. The close of his reign was disturbed and embittered by those domestic troubles to which eastern despots are peculiarly subject. His eldest son Darius formed a conspiracy against him; but the plot was detected, and the traitor, with all his accomplices, who were of the king's family, were cut off. Three others of the king's sons became afterwards competitors for the throne; and Ochus, the worst of them, removed the other two by poison and assassination. After a reign of 62 years, and at the advanced age of 94, according to Plutarch, but, as Diodorus says, after having reigned 43 years, Artaxerxes sunk under affliction and decay, and left the throne vacant for his successor. So great was the authority of this monarch among the republics of Greece, that the contending states made him the umpire of their various disputes and pretensions, and their deputies held a congress in his presence, that he might adjust their jarring interests. Prid. Conn. vol. ii. p. 615, &c.

ARTAXERXES III., whose name was *Ochus*, succeeded his father in the year before Christ 358. History paints him as a monster of cruelty. Having put to death all the members of the royal family within his reach, he caused his sister Ocha, who was also the mother of his wife, to be buried alive; and inclosing within a court of his palace one of his uncles, with one hundred of his sons and grandsons, he ordered his archers to shoot them all to death. His nobles in great numbers shared a similar fate. Having quelled a revolt in Phœnicia by the utter destruction of Sidon, and reduced Judæa, and carried away into captivity many of its inhabitants, he marched at the head of a great army, consisting chiefly of Greek auxiliaries, into Egypt, and totally subdued it. Here, however, a sacrilegious deed, by which he manifested his contempt of the Egyptian superstition, by killing the sacred bull Apis, and causing his men to eat the flesh, ultimately effected his ruin. Bagoas, a favourite eunuch, by birth an Egyptian, and zealously attached to the religion of his country, prevailed with the king's physician to administer poison to him instead of a medicine, which carried him off in the 21st year of his reign. The zealous devotee caused his body to be cut in small pieces, and given to the cats, and knife-handles to be made of his bones. After destroying the king's other sons, he placed Arses on the throne; but soon murdered him and his family; and thus the race of Ochus became extinct. Prid. Conn. vol. ii. p. 666—682.

ARTEA, or ARTELA, *Point*, in *Geography*, is a low-

point

point ſix leagues nearly eaſt from the river Copalita, on the ſouth-weſt coaſt of Mexico, in the north Pacific Ocean: appearing at a diſtance like a ſmall iſland.

ARTEAGA, Stephano, in *Biography*. See Steffano.

ARTEDI, Peter, born in the province of Ingormanland in Sweden, in the year 1705, received the firſt part of his education at the College of Hurneſand, whence he was removed to Upſal. He was intended for the church, but his diſpoſition leading him to the ſtudy of Natural Hiſtory, in which he was aſſiſted by Linnæus, he preferred practiſing medicine, and applied himſelf to chemiſtry, but his principal attention was turned to Ichthyology, in which he made conſiderable progreſs. In 1732, he came to England in purſuit of his favourite ſtudy, at the ſame time that his friend Linnæus ſet off to examine the natural productions of Lapland. On parting, they mutually aſſigned to each other ſuch manuſcripts as they ſhould be in poſſeſſion of treating on natural hiſtory, in caſe either of them ſhould die in their travels. This event however did not then take place, as they met together at Leyden in the year 1735. It was here that Linnæus engaged his friend to ſuperintend the printing of the third volume of Seba's Theſaurus, which treated of fiſhes. Returning one evening from Seba's houſe to his lodgings, while proſecuting this buſineſs, he fell into the canal and was drowned, being only 30 years of age. Linnæus, who got poſſeſſion of his manuſcripts, publiſhed his "Bibliotheca Ichthyologica," and his "Philoſophia Ichthyologica." in 8vo. in 1738, with the life of the author prefixed. He had before publiſhed his "Claſſification of Umbelliferous Plants from the Calyx." Gen. Biog.

ARTEDIA, in *Botany* (from P. Artedi, a ſtudent of medicine in Sweden), an umbelliferous plant, formerly called gingidium. Lin. g. 332. Schreb. 465. Juſſ. 224. Gærtn. t. 85. Claſs, *Pentandria digynia*. Nat. Ord. *Umbellatæ*. Gen. Char. *Cal. umbel univerſal*, ſpreading, flat, manifold. *Partial*, ſmall, ſimilar. *Involucre univerſal*, about ten-leaved; leaflets ovate-oblong, three-briſtled at the end, nearly the length of the umbel; *Partial*, two or three-leaved, verging outwards; leaflets linear, pinnate, longer than the umbellule. *Cor. univerſal*, difform, radiate; floſcules of the diſk abortive. *Proper of the diſk*, male; petals five, cordate-inflex, erect,—*of the ray*, hermaphrodite, with ſimilar petals, but the outermoſt largeſt. *Stam.* filaments five, capillary in all the florets; anthers ſimple, roundiſh. *Piſt. of the ray*, germ ſmall, inferior; ſtyles reflex; ſtigmas ſimple. *Per.* none; fruit roundiſh, compreſſed, leafy-ſcaled on the edge, bipartile. *Seeds*, two, oblong, roundiſh, ſpreading, ſcales about the edge.

Eſſ. Gen. Char. *Involl.* pinnatifid. *Floſc.* of the diſk, male; fruit, rough with ſcales.

Species, 1. A. *ſquamata*; ſtalks, about two feet high, ſending forth a few lateral branches, with linear multifid leaves, reſembling thoſe of dill; flowers white, in a large terminal umbel; fruit-bearing umbel converging; involucre many leaved, having the leaflets margined at the baſe; petals as in the tordylium; annual, flowering in July. Found on Mount Libanus by Rauwolf, and by Tournefort in Natolia. Introduced by Mr. Thouin in 1788.

Propagation and Culture. The ſeeds ſhould be ſown in autumn in a warm border, where the plants are to remain, for they do not bear tranſplanting. To ſecure their ſeeding, they ſhould be raiſed in a hot-bed, and kept in a greenhouſe.

Artedia *muricata*. See Daucus.

ARTEL, in *Commerce*, a name given to a commercial aſſociation, conſiſting of a certain number of labourers, who voluntarily become reſponſible, as a body, for the honeſty of each individual. The ſeparate earnings of each man are put into the common ſtock; a monthly allowance is made for his ſupport; and at the end of the year the ſurplus is equally divided. The number varies in different aſſociations from 50 to 100; and it is conſidered ſo beneficial to belong to one of theſe ſocieties, that 500, and even 1000 roubles are paid for admiſſion. Theſe ſocieties are not bound by any law of the empire, or even written agreement; nor does the merchant reſtrain them under any legal obligation; yet there has been no inſtance of their objecting to any juſt claim, or of protecting an individual whoſe conduct had brought a demand on the ſociety. Hence ariſes the denomination of *Artelſchiſks*, who are perſons employed by the Ruſſian merchants of St. Peterſburg to collect payment on bills, to receive and pay money, and alſo to ſuperintend the loading and unloading of the different cargoes. Theſe Ruſſians are moſtly natives of Archangel and the adjacent governments, of the loweſt claſs; they are frequently ſlaves, generally of the crown; and yet the merchant has no reaſon to diſtruſt their fidelity, partly from the nature of their aſſociation, and partly from the natural reluctance of the Ruſſian to betray the confidence that is repoſed in him.

ARTEMIDIS, in *Ancient Geography*, a town of Aſia, in Leſſer Armenia, called by Ptolemy, Artemidita, or Artemita.

ARTEMIDORUS, in *Biography*, a remarkable viſionary, who ſpent his whole life in attempting to ſolve the myſteries concealed, as he apprehended, in dreams. For this purpoſe he not only collected all that had been written on the ſubject, but travelled over Greece, Aſia, and Italy, to learn ſuch ſtories relating to them as were current in thoſe countries. He was born at Epheſus, in the time of Antoninus Pius, as we learn from a paſſage in his work, called "Oneirocritica," the interpretation of dreams, which, though blemiſhed by this ſtrange fancy, ſtill keeps its rank, on account of the information it contains relative to ancient rites and cuſtoms. "Rem ſi ſpectes," Gerard Voſſius ſays, "nihil eo opere vanius; ſed utilis tamen ejus lectio erit ob tam multa, quæ admiſcet de ritibus antiquis et ſtudio humanitatis." In this work he aſſumed the ſurname of "Daldianus," from Daldis, a ſmall city of Lydia, the birth-place of his mother. The Oneiro-critica was firſt edited in Greek, by Aldus, in 8vo., in 1518. Cornarius publiſhed a Latin tranſlation at Baſle, in 1537; which was reprinted with the Greek text in 4to., at Paris, in 1604, by Rigaltius. Lucian Philopatris, t. 2. p. 775. Suidas. Fabr. Bib. Græc. l. iv. c. 13. § 5. 8. t. iii. p. 402.

Artemidorus, a geographer of Epheſus, is frequently commended by Strabo, Pliny, and Steph. Byz., and flouriſhed about the 169th olympiad, or the 104th year before Chriſt. His deſcription of the earth is often cited by the ancients. Some fragments of this geographer are collected in the firſt volume of Hudſon's Leſſer Greek Geographers. Fabr. Bib. Græc. l. iv. c. 13. § 9. t. iii. p. 406.

ARTEMIS, in *Entomology*, a ſpecies of Papilio (*Nymph. Phal.* Gmel.) that inhabits Germany and ſome other parts of Europe. The wings are indented, fulvous varied with black: a row of black dots both above and beneath on the poſterior pair. Fabricius, &c.

ARTEMISIA, in *Antiquity*, yearly feſtivals obſerved in divers cities in Greece, particularly Delphi, in honour of Diana, ſurnamed Artemis.

In the artemiſia, a mullet was ſacrificed to this goddeſs, as being thought to bear ſome reſemblance to her, becauſe it is ſaid to hunt and kill the ſea-hare. Athen. lib. viii. The Syracuſans alſo celebrated the artemiſia for three days, with great joy and feſtivity.

Artemisia, in *Biography*, the name of two queens of Caria. The firſt was among the auxiliaries of Xerxes againſt the Greeks, and attended in perſon with five ſhips well equipped, brought from Halicarnaſſus. She manifeſted ſuch valour in the combat as to give occaſion for ſaying, "that his men behaved like women, and his women like men." Being the laſt who fled, ſhe was cloſely purſued by an Athenian ſhip, and, in order to ſecure her eſcape, ſhe directed her galley againſt a veſſel of an enemy, and ſunk it with its crew; the purſuer upon this conceiving that ſhe was a friend, ceaſed chaſing, and ſhe arrived in ſafety on the coaſt of Aſia, where ſhe was entruſted by Xerxes with the conveyance of his children to Epheſus. Her ſtatue was placed at Sparta among thoſe of the Perſian commanders. By pretending to ſacrifice to the mother of the gods, at Latmus, ſhe was admitted into the city, and took poſſeſſion of it. In revenge for this inſult, the goddeſs is ſaid to have excited her ardent paſſion for a young man of Abydos, whoſe eyes ſhe put out in his ſleep becauſe he refuſed to gratify her deſires; and ſhe is reported to have then precipitated herſelf from a rock. Anc. Un. Hiſt. vol. iv. p. 164, &c. Nouv. Dict. Hiſt. The ſecond Artemiſia, the ſiſter and wife of Mauſolus, is principally famous on account of her conjugal affection. See Mausoleum. Beſides erecting this monument to the memory of her huſband, ſhe is ſaid to have mingled his aſhes in her drink, and to have inſtituted a prize for the beſt eulogy on his character. She died ſoon after the rearing of this ſtructure in the year before Chriſt 351. Anc. Un. Hiſt. vol. vii. p. 72. Nouv. Dict. Hiſt.

Artemisia, in *Botany*, a genus of plants, including mugwort, ſouthernwood, wormwood, &c. (derived perhaps, from Ἀρτεμις, Diana, or named after the wife of Mauſolus, king of Caria). Lin. g. 945. Schreb. 1281. Juſſ. 184. Gærtn. t. 164. Claſs, *Syngeneſia polygamia æqualis*. Nat. Ord. *Compoſitæ. Corymbiferæ*, Juſſ. Gen. Char. *Cal.* common, roundiſh, imbricate: ſcales rounded, converging. *Cor.* compound; corollules hermaphrodite, tubular, ſeveral, in the diſk; females almoſt naked, in the circumference; proper of the hermaphrodite, funnel-ſhaped; border five-cleft. *Stam.* in the hermaphrodites; filaments capillary, very ſhort; anther cylindric, tubular, five-toothed. *Piſt.* in the hermaphrodites; germ ſmall; ſtyle filiform, the length of the ſtamens; ſtigma bifid, revolute; females, germ very ſmall; ſtyle filiform, longer than in the hermaphrodites; ſtigma ſimilar. *Per.* none. *Calyx* ſcarcely changed. *Seeds*, ſolitary, naked. *Rec.* flat or villoſe.

Eſſ. Gen. Char. *Recept.* ſubvilloſe, or almoſt naked; down none. *Cal.* imbricate, with rounded converging ſcales. *Cor.* of the ray none.

* *Shrubby, erect.*

Species, 1. A. *vermiculata*; "leaves aceroſe, crowded, very ſmall; panicle racemed; flowers ſeſſile." A ſtiff upright, ſomewhat aſh-coloured, ſhrub; leaves linear, flat, on the upper ſurface tomentoſe, beneath naked, and rather convex; panicle copious, conſiſting of racemes, formed of ſeſſile, ovate, imbricate ſpicules; flowers tomentoſe. A native of the Cape of Good Hope. 2. A. *capillaris*, Thunb. Jap. 309. "leaves ſimple, capillaceous." The ſtem is ſtriated, reddiſh, a foot high; branches ſcattered, ſubfaſtigiate, from upright ſpreading, like the ſtem; leaves many, ſmooth, half an inch long; flowers in cloſe racemes, on the extreme twigs. A native of Japan, where it flowers in October. 3. A. *Judaica*, abſinthium halepenſe, &c. Pluk. Alm. t. 73. f. 2. "Leaves obovate, obtuſe, lobed, ſmall; flowers panicled, pedicled." The ſtem ſuffruticoſe, ſubpubeſcent, aſh-coloured, a foot and a half high; leaves three or five-lobed, ſubtomentoſe, aſh-coloured, middle lobe the broadeſt; flowers roundiſh, rather depreſſed, the ſize of coriander ſeeds. A native of China, Judea, Arabia, &c. 4. A. *Æthiopica*; "leaves palmate, linear, very minute; flowers racemed, peduncled." A ſhrubby plant, one foot high, whitiſh; leaves the ſize of thoſe of heath, in cluſters, ſubtomentoſe; diviſions linear, very narrow; flowers nodding, the ſize of thoſe of wormwood; receptacle naked. A native of the Cape of Good Hope, and of Spain. 5. A. *contorta*; "leaves palmate, linear, minute; panicle racemed, flowers ſeſſile." An upright, tomentoſe, white ſhrub; leaves crowded; flowers imbricate, ſmall, in ſpikes, which ſit cloſe to the branches. Found by Lerche in Perſia. 6. A. *abrotanum*, ſouthernwood. Woodv. Med. Bot. t. 119. α Stem erect, common ſouthernwood. β Dwarf ſouthernwood. "Leaves ſetaceous, very branching." A well-known under ſhrub, common in gardens, riſing three or four feet in height; leaves alternate, petioled, multifid; leaflets linear, very narrow, pale green, tomentoſe-ſcabrous, leſs divided towards the top, where they become trifid, and even linear next the flowers, which are in upright ſpikes at the extremities of the branches; they are numerous, nodding, yellow, but rarely open in England. A native of the ſouthern parts of Europe and of Aſia. 7. A. *arborescens*, common narrow-leaved tree-wormwood. "Leaves tripinnatifid, ſilky, cinereous; leaflets linear; flowers globoſe; flower-bearing branchlets ſimple." The ſtalk is woody, ſix or ſeven feet high; leaves reſembling thoſe of common wormwood, but much whiter, and more finely divided; flowers globular, in ſpikes, terminating the branches. This is by ſome conſidered as a variety of the common wormwood. A native of Italy. 8. A. *argentea*, broad-leaved tree wormwood. "Leaves bipinnatifid, ſilky, white; leaflets lanceolate-linear; flowers globoſe; flower-bearing branchlets wand-like." The whole plant is of a ſilvery colour; receptacle villoſe. A native of Madeira, where it was diſcovered by Maſſon, and introduced here in 1777. 9. A. *aragoniæ*; "leaves linear, bipinnate, hoary; flowers racemed," ſcarcely a foot high; upper leaves ſimple, linear; racemes ſmall, axillary. 10. A. *meſſerſchmidii*; "leaves linear, multifid; racemes erect, ſlender, looſe." The ſtem is upright ſuffruticoſe; the whole plant tomentoſe. 11. A. *Tartarica*; "lower leaves bipinnate; pinnas equal; upper leaves pinnate, linear; racemes erect, looſe, many-flowered." This, like the preceding ſpecies, is a tomentoſe under-ſhrub. They were both found in Tartary by Meſſerſchmidt. See Stechm. p. 19. n. 9 & 10. 12. A. *nitroſa*, Gmel. Sib. 2. t. 50. f. 1. "Lower leaves finely multifid; upper entire, obtuſe; corymbs erect, hoary, oblong, ſpiked, ſeſſile." A native of Siberia. 13. A. *lerchiana*, Gmel. ſib. 2. t. 50. f. 2. 3. "Lower leaves pinnate, ſhort, finely divided; pinnas palmate; upper leaves linear, undivided; corymbs ſeſſile, copious, ſpiked, oblong." A ſhrubby hoary plant obſerved in Aſtracan, and on the banks of the Volga; and a variety by Gmelin between the rivers Jeniſea and Irtis. 14. A. *tenuifolia*. Abſ. ſeriph. Hiſp. Tournef. inſt. 458. "Leaves ſhort, very finely multifid; panicle ſlender, looſe, leafy; peduncles one or two-flowered." Stem woolly. A native of Spain. 15. A. *pauciflora*, Gmel. ſib. 2. t. 52. f. 1. 2. "Branches virgate, filiform; corymbs one-ranked; ſpikes ſubſeſſile." Calyx three or four flowered. A native of the banks of the Volga. 16. A. *italica*, Pluk. phyt. t. 121. f. 2. "Leaves tomentoſe, looſely pinnate; pinnas long, linear; root-leaves dotted; ſpikes denſe; flowers erect." A native of Italy. 17. A. *hiſpanica*; "leaves looſely pinnate; pinnas long, linear; ſpikes very denſe; calyces oblong;" not tomentoſe. A native of Spain. 18. A. *Gmelini*, Gmel. Sib. 2. t. 56. f. 1.

f. 1. "Leaves doubly pinnate, obtuſe, linear; corymbs green, roundiſh, nodding." The leaves are aſh-coloured underneath. Found by Gmelin near the rivers Lena and Angara. 19. A. *lobelii*, Allion. ped. n. 607. A. camphorata. Villar's Dauph. 242. "Leaves petiolate, palmate, multifid, linear; upper ones ſimple, angular." This is a ſmaller plant than common ſouthernwood, and has a ſtrong camphoraceous ſmell. The leaves are leſs hoary, and thoſe about the flowers broader, longer, and not ſo much cut. The corymbs are larger, and thinner, and the flowers of a fine yellow. A native of Piedmont, Dauphiné, &c.

** *Procumbent before flowering.*

20. A. *ſantonica*. Tartarian ſouthernwood or worm-ſeed, Med. Bot. t. 123. "Stem-leaves bipinnate, multifid; branches undivided; ſpikes one-ranked, reflex; flowers with five florets." Stem panicled, rather hoary; lower leaves pinnate, multifid, linear; branches wand-like; ſpikes alternate, recurved; flowers round, nodding, ſolitary; leaves on the branches undivided, nearly linear. A native of Tartary, and cultivated by Miller in 1768. It flowers from September till November. 21. A. *campeſtris*, field ſouthernwood, Hudſ. 357. With. 739. Eng. Bot. t. 338. Smith. 863. Abrotanum campeſtre. Ray Syn. 190. Ger. Em. 1106. "Leaves multifid, linear; ſtems procumbent, wand-like; root fuſiform." Stems proſtrate, ultimately erect, about two feet in length, virgate, panniculate, angular, ſmooth, reddiſh, leafy; leaves irregularly bipinnatifid, rather fleſhy, ſomewhat hairy underneath; radical leaves depreſſed, and with longer foot-ſtalks; thoſe on the ſtem alternate, minute, compound; flowers in racemes, drooping, ſmall, of a brownish green; ſcales of the calyx carinate, and rough at the margin; florets of the diſk about fifteen, yellow, with a purple apex; thoſe of the ray only two or three, very ſmall, ſubulate, cloſed, entire; receptacle naked, convex. It has been found in ſeveral places in Norfolk and Suffolk. This plant differs from common ſouthernwood, as its odour is ſo weak as to be ſcarcely diſcoverable. 22. A. *paluſtris*, marſh ſouthernwood, Gmel. Sib. 2. t. 55. "Leaves linear, pinnate, entire; flowers glomerate, ſubſeſſile." The leaves reſemble thoſe of buck's horn plantain, with five or ſeven ſegments; flowers yellow, receptacle naked. A native of Siberia. 23. A. *crithmifolia*, ſamphire-leaved ſouthernwood. "Leaves compound, divaricate, linear, fleſhy, ſmooth; ſtem riſing, panicled." It has the habit of the A. *campeſtris*; ſtems from half a foot to a foot in height; leaves pinnatifid and trifid. Found by Loefling on the ſandy ſhores of Portugal. Cultivated by Miller in 1768. 24. A. *vallesiaca*, downy ſouthernwood; "leaves pinnate, many-parted, filiform, tomentoſe; flowers ſeſſile, erect, ſubcolumnar, having few florets." An erect ſhrub, a foot high; leaves hoary, bipinnate; pinnas pinnate, and alſo trilobate; flowering branches tomentoſe, alternate; flowers ſolitary, with linear bractes; ſcales of the calyx concave, outer tomentoſe, inner membranaceous. No female florets. A native of Spain, Piedmont, and the Valais, flowering in Auguſt. Introduced by Drs. Pitcairn and Fothergill. 25. A. *maritima*, ſea wormwood, Hudſ. 358. With. 709. Woodv. t. 122. Smith, 864. "Leaves many-parted, tomentoſe, racemes drooping; receptacle naked; female florets three." Root woody, perennial; ſtems erect or decumbent, leafy, furrowed; lower leaves pinnate; pinnas tripartite; upper various, divided, at the top ſimple, all entire at the margin, and white on both ſides; racemes drooping; flowers ovate, nodding. There are three varieties of this ſpecies. A Britiſh plant growing on the ſea-coaſt, and flowering in Auguſt. 26. A. *glacialis*, ſilky wormwood, Jacq. Auſt. App. t. 35. "Leaves palmate, multifid, ſilky; ſtems aſcending; flowers glomerate, level-topped." Leaves ſmall, three-parted, linear, ſegments trifid, ſubfaſtigiate, ſilky white, tomentoſe, very ſhort on long footſtalks; thoſe below ſheathing the ſtems which are a ſpan high, ſimple, ſubtomentoſe, leafy; flowers globoſe, yellow, terminal, on very ſhort peduncles; receptacle hairy. Villars deſcribes it as three or four inches high, with about four terminal flowers, incloſing from forty to fifty florets. A native of the ſouth of Europe, flowering in Auguſt; cultivated by Miller in 1748. 27. A. *rupeſtris*, creeping wormwood, Flor. Dan. t. 801. "Leaves pinnate; ſtems aſcending; flowers globoſe, nodding; receptacle pappoſe;" ſtems near a foot high, ſomewhat hirſute; leaves on long footſtalks, narrow, having two or three pairs of pinnas, with an odd one; pinnas three or five-parted; flowers axillary, on long peduncles, nodding; receptacle hairy. A native of Alpine ſituations, cultivated by Miller in 1748; flowers in Auguſt. 28. A. *ſpicata*, ſpiked wormwood. Jacq. Auſt. 5. App. t. 34. "Root-leaves biternate; ſtem aſcending, ſpiked; flowers erect." Linnæus made this a variety of the rupeſtris, but Haller ſays, though it has the ſame habit, the leaves in this caſe are much broader and each pinna trifid, and the nerve is very broad; on the ſtem the leaves are ſeſſile, ſemipinnate, with four pairs, the laſt largeſt, ſhortly trifid; ſtems not branching, ſcarcely a ſpan high; peduncles one-flowered; leaflets of the calyx ovate, dark coloured, and hence called *Genipi noir*. A native of the Alps of Swiſſerland, Auſtria, Piedmont, and Dauphiné.

*** *Erect herbaceous, with compound leaves.*

29. A. *anethifolia*, dill-leaved wormwood, Gmel. Sib. 2. t. 54. "Leaves multifid, very ſlenderly divided; corymbs roundiſh, nodding, one-ranked, looſely ſpiked;" the ſtem is herbaceous; florets reddiſh; calyces large, green, and ſtreaked with white. A native of Siberia. 30. A. *pontica*, Roman wormwood. Jacq. Auſt. 1. t. 99. "Leaves many-parted, tomentoſe beneath; flowers roundiſh, nodding; receptacle naked." Stems in their natural ſtate ſhort, of two feet high, but when cultivated in gardens, four; upright, reddiſh, ſmooth, hoary, branched. Stem-leaves bipinnate, tomentoſe, with ſharp linear ſegments, uppermoſt entire, ſimple, thoſe at the bottom of the branches and top of the ſtem are ſimple pinnates; flowers in racemes, nodding, hoary; diſk yellow; florets 24, thoſe in the circumference about ſix, female, apetalous, and of a greeniſh yellow; the others hermaphrodite; ſeeds naked; receptacle conical, naked. A native of Germany, Piedmont, &c. flowering in September. Cultivated here in 1683. 31. A. *auſtriaca*, Auſtrian wormwood. Jacq. Auſt. 1. t. 100. "Leaves many-parted, tomentoſe, hoary; flowers oblong, nodding, receptacles naked." Stems from ſix inches to a foot and a half in height; branches numerous, ſending forth ſimple ſhort twigs, which are one-flowered on the ſhorter ſtems, but on the greater many-flowered; leaves on the twigs are firſt entire, then trifid, and ſo on, increaſing the diviſions till they become ſubtriplicate-pinnate; hermaphrodite florets about eight, females from four to ſeven, apetalous. It differs from the maritima in the leaves, being leſs tomentoſe and hoary, roundiſh, and not oblong. A native of Auſtria. 32. A. *annua*, annual wormwood, Gmel. Sib. 2. n. 108. "Leaves three-fold pinnate, ſmooth on both ſides; flowers ſubgloboſe, nodding; receptacle ſmooth, conical." An annual, with an erect, ſmooth, ſtreaked ſtem, riſing to eight feet in height, though ſeldom higher than two in our climate; flowers yellow on axillary racemes; peduncles long, with lanceolate entire bractes; all the florets hermaphrodite. A native of Siberia and China; cultivated by Miller in 1759. It flowers in Auguſt. 33. A. *tanacetifolia*, tanſey-leaved

leaved wormwood, Allion. Ped. n. 608. t. 70. f. 2. Gmel. Sib. 2. t. 58. "Leaves bipinnate, underneath tomentoſe, ſhining; pinnas tranſverſe; racemes ſimple." Stems numerous, ſimple, from ſix inches to a foot high; root-leaves ſheathing, petioled, ovate-pointed, aſh-coloured, having from five to eight pinnas; pinnules three-toothed; pinnules of the ſtem-leaves ſimple; upper oval, lanceolate; ſpikes terminal, compound, with racemes riſing from all the axils; in the terminal ſpike there is a ſtipule to each peduncle, which is one-flowered; flowers nodding, in pairs, all towards the ſame ſide; receptacle naked; perennial. A native of Dauphiné, Piedmont, and Siberia. In high ſituations it is ſometimes entirely tomentoſe. 34. A. *abſinthium*, common wormwood. Hudſ. 358. With. 710. Woodv. Med. Bot. t. 120. "Leaves multifid, of a ſilky white; flowers hemiſpherical, pendulous; receptacle hairy." Root woody, branched; ſtems rather erect, branched, angular, panicled at the top; lower-leaves, bipinnatifid; upper, pinnatifid, or digitate; diviſions elliptic-oblong, obtuſe, entire; racemes erect; flowers nodding, yellow; florets of the diſk numerous, of the ray very few; receptacle very hairy. It grows wild among rubbiſh, rocks, and on road ſides. 35. A. *vulgaris*, mugwort, Hudſ. 359. With. 710. Med. Bot. t. 121. "Leaves pinnatifid, flat, gaſhed, tomentoſe underneath; racemes ſimple; flowers ovate; receptacle naked;" root woody; ſtems four feet high, erect, branched, panicled, furrowed, ſmooth, leafy, purpliſh. Leaves alternate, petiolate, pinnatifid, gaſhed above and ſmooth, of a dark green, underneath tomentoſe, very white; racemes ſomewhat erect, ſimple, leafy; flowers ſeſſile, erect, ovate, woolly; receptacle naked; florets of the ray five. It affects ſimilar ſituations as the preceding ſpecies, and like it flowers in Auguſt. 36. A. *pectinata*. "Leaves pinnate, pectinate, ſmooth, ſeſſile; flowers axillary, ſolitary, ſeſſile, having four florets;" a fragrant annual having a ſtem about eight inches high. It is eaſily to be diſtinguiſhed by its ſimply pinnate leaves; pinnas ſetaceous, parallel, pectinated; flowers ſolitary, from the axils along the ſtems. Found by Pallas in the dry lands of Dauria.

**** *Leaves ſimple.*

37. A. *integrifolia*, entire-leaved mugwort, Gmel. Sib. 2. t. 48. f. 1. "Leaves lanceolate, tomentoſe underneath, entire or with one or two teeth; female florets five." Stems ſimple, about two feet high; leaves narrow, cut into acute ſegments at their edges, ſomewhat like thoſe of buck's horn plantain; flowers axillary, in ſmall looſe ſpikes, large, of a pale yellow. A native of Siberia. 38. A. *japonica*, Japaneſe mugwort, Thunb. Jap. 110. "Leaves on the branches ſmooth, lanceolate-entire, on the ſtem oblong, trifid; flowers racemed, nodding." An underſhrub with an erect angular, ſtreaked, wand-like, ſmooth, ſtem, branched at the top, and above two feet high; leaves on the ſtem alternate; ſeſſile, attenuated, and entire towards the baſe, but towards the top cut, ſerrate, ſpreading; thoſe on the twigs ſimilar, but very ſmall; flowers pointing in the ſame direction, on capillary reflex peduncles. It differs from the cæruleſcens in having ſmooth leaves. A native of Japan. 39. A. *cæruleſcens*, bluiſh mugwort, Hudſ. 359. With. 711. Smith, 866. Gmel. Sib. 2. 131. t. 64. f. 1. Abſ. maritimum lavandulæ folio. Bauh. pin. Ray Hiſt. &c. "Leaves hoary; on the ſtem lanceolate, entire; lower leaves multifid; flowers cylindrical; receptacle naked." Root perennial fibrous; ſtems nearly erect, round, channelled, pubeſcent, leafy panicled; leaves alternate, petioled, hoary on both ſides; racemes erect, ſimple; flowers ovate-cylindrical, ſmall, woolly; florets of the ray three. A native of the ſouthern parts of Europe, on the ſea-coaſt; and found in Lincolnſhire. Cultivated by Tradeſcant, jun. in 1658. 40. A. *dracunculus*, Tarragon. Scop. Carn. n. 1032. Gmel. Sib. 2. t. 59 & 60. f. 1. Draco herba, Ger. Emac. 249. Park. Raii Hiſt. "Leaves lanceolate, ſmooth, quite entire." Stem ſtiff, ſmooth, branched, from one to two feet high; leaves petioled, green on both ſides; flowers yellow, in a kind of ſpike all directed the ſame way; hermaphrodite florets twelve, female ſix; receptacle flat, glutinous, naked. A native of Siberia and Tartary. Cultivated in 1596, by Gerard; flowers appear in Auguſt. Tarragon is frequently uſed in ſalads, eſpecially by the French, to correct the coldneſs of other herbs. The leaves make an excellent pickle, they have a fragrant ſmell, and aromatic taſte. 41. A. *chinenſis*, Chineſe Mugwort. Gmel. Sib. 2. 61. f. 1. 2. Lour. 492. "Leaves ſimple, tomentoſe, obtuſe, lanceolate; below wedge-ſhaped, three-lobed." Stem herbaceous, ſimple, cottony, branched, between two and three feet high; lower leaves obtuſe, three-lobed; upper lanceolate-linear, entire, tomentoſe on both ſides, ſeſſile crowded, ſcattered; flowers ſmall, on terminating erect racemes. A native of China and Siberia. In China the moxa is prepared from this ſpecies. See Med. Prop. 42. A. *maderaſpatana*, Madras Wormwood. Jacq. Hort. 3. t. 88. called by him Tanacetum Ægypt. "Leaves ſimple, lyrate ſinuate; ſtems procumbent; flowers pedunculate, ſolitary, globoſe, oppoſite to the leaves;" an annual, growing cloſe to the ground; branches alternate, ſtreaked, pubeſcent; leaves ſoft, widening outwards; peduncles one-flowered, naked, ſtreaked, villoſe; flowers large, yellow, with a convex diſk. A native of the Eaſt Indies. Introduced in 1780, by M. Thouin. 43. A. *minima*, leaſt wormwood. Burm. Ind. i. t. 58. f. 3. centipeda orbicularis. Lour. 493. "Leaves wedge-ſhaped, repand; ſtem procumbent; flowers axillary ſeſſile." This is a very minute annual; leaves ſmooth; flowers very ſmall, axillary, ſolitary, with ſix or ſeven florets. A native of China, where it was found by Lagerſtrom, and alſo of Japan; introduced here by M. Thouin in 1788. 44. A. *littoralis*, Retz. Obſ. 5—28. n. 77. "Procumbent, ſtrigoſe; leaves ſpatulate, ſerrate-toothed; calyces naked, pedicelled." This reſembles the forty-ſecond ſpecies, but the whole plant except the calyces is covered with a downy or cottony ſubſtance. Gathered by Koenig in the Eaſt Indies, on the coaſt.

Medical Properties. Many of the ſpecies of artemiſia poſſeſs ſimilar ſenſible and medicinal qualities; but thoſe ſpecies which now have a place in the Materia Medica, are ſouthernwood, common wormwood, mugwort, ſea wormwood, and Tartarian ſouthernwood or wormſeed. The firſt has been eſteemed as a ſtomachic, carminative, and deobſtruent, and uſed more eſpecially for removing obſtructions in the uterine ſyſtem. But it is now rarely preſcribed unleſs as an ingredient in fomentations. Common wormwood is intenſely bitter, and is the moſt powerful medicine of the whole genus. Its qualities are ſtated by Bergius to be antiſeptic, antacid, anthelmintic, reſolvent, tonic, and ſtomachic. Though it is now chiefly employed in the two laſt mentioned characters, yet we are told of its good effects in a great variety of diſorders, as intermittent fevers, hypochondriacal affections, viſceral obſtructions, gout, gravel, ſcurvy, dropſy, worms, &c. With ſome it is ſaid to have a narcotic power, and to occaſion head-ache. It may be given in powder, but it is more commonly preferred in infuſion. The Edinburgh college directs a tincture of the flowers. Externally wormwood is uſed in diſcutient and antiſeptic fomentations. Mugwort was by the ancients thought to be very efficacious in promoting the uterine evacuation, and relieving hyſterical complaints, but it is now ſo little valued that

it has been expunged from the Materia Medica by the London college. A ſubſtance called *moxa* is prepared in Japan, from the dried tops and leaves of mugwort, by beating and rubbing them between the hands till only the fine lanuginous fibres remain, which are then combed and formed into little cones. Theſe uſed as cauteries, are greatly celebrated in eaſtern countries for preventing and curing many diſorders; but chronic rheumatiſms, gouty and ſome other painful local affections, ſeem to be the chief complaints for which the moxa can be rationally employed. Sea wormwood, by being leſs powerfully bitter, muſt be conſidered in a proportionate degree a leſs efficient medicine than the common; but as it is leſs diſagreeable to the ſtomach, it is more generally preſcribed; and a conſerve of the tops of this plant is directed in the London Pharmacopœia. Wormſeed is ſo called from the power of theſe ſeeds in deſtroying worms, for which their character has been long eſtabliſhed. The doſe is from one to two drams for an adult, twice a day. See Woodv. Med. Bot.

Propagation and Culture. Moſt of the plants of this numerous genus are hardy perennials, and may be increaſed without much difficulty by ſeeds, parting the roots, ſlips, or cuttings. The firſt ſpecies and a few others that are natives of very warm climates, and of courſe rather tender, muſt be placed in a green-houſe with myrtles, and other hardy exotics, which require a large ſhare of free air, in mild weather, when they ſhould be frequently watered. They love a light freſh ſoil, and may be propagated by ſlips, or cuttings. In general they will ſucceed in a ſhady border, defended from the froſt. See Martyn's Miller's Dict.

ARTEMISIUM, in *Ancient Geography*, a promontory of Eubœa, on the northern ſide of the iſland, above the town of Hiſtria, and oppoſite to the ancient Olyzon, and the Pegaſæan gulf. It had a temple conſecrated to Diana; and it was famous for the firſt victory gained by the Greeks over the fleet of Xerxes. This naval engagement happened on the ſame day with the glorious action at Thermopylæ. The Grecian fleet, conſiſting of 271 ſail, was ſtationed in the harbour; but that of the Perſians, which was much more numerous, had anchored in the road that extends between the city of Caſtanæa, and the promontory of Sepias on the coaſt of Theſſaly. The firſt line of their fleet was ſheltered by the coaſt of Theſſaly; but the ſhips of the other ſeven lines rode at anchor, with their prows turned towards the ſea. On the morning of the ſecond day after their arrival on the coaſt, and after their arrangement was made, there aroſe a dreadful ſtorm, which raged for three days, and which deſtroyed 400 of their galleys, beſides a great number of ſtore-ſhips and tranſports. However, 800 ſhips of war, together with many veſſels of burden, ſailed into the Pegaſæan bay, and anchored in the road of Apheté, which, at the diſtance of a few miles, lies directly oppoſite to the harbour of Artemiſium. The Grecians, who had poſted centinels on the heights of Eubœa, to watch the effects of the ſtorm and the motions of the enemy, upon receiving information of the diſaſter that had befallen the Perſian fleet, poured out a joyous libation, and ſacrificed with devout gratitude to "Neptune the Deliverer." The Perſians, notwithſtanding their loſs, were ſtill confident of victory; and detached 200 of their beſt-ſailing veſſels round the iſland of Eubœa, for the purpoſe of encompaſſing the Grecian fleet, and of preventing any of them from eſcaping through the narrow Euripus. After ſun-ſet the Grecian fleet approached in a line, and were met by the Perſians. At the firſt ſignal, the Greeks formed into a circle; and at the ſecond, began the engagement. Surrounded as they were by the enemy, and crouded into a narrow ſpace, they ſoon took 30 of their ſhips, and ſunk many more. When night came on, with a violent ſtorm of rain and thunder, the Greeks retired into the harbour of Artemiſium, and the enemy were driven to the coaſt of Theſſaly. The greateſt part of the Perſians fortunately eſcaped immediate deſtruction, and gained the Pegaſæan bay; but the ſhips that had been ordered to ſail round the iſland, were overtaken by the ſtorm at a conſiderable diſtance from the ſhore; and, unable to direct their courſe, they were under a neceſſity of contending with the ſtorm during the greateſt part of the night, and they were all wrecked amidſt the ſhoals and rocks of an unknown coaſt. With the dawn of morning the Perſians perceived the extent of their misfortunes: but the Greeks were ſeaſonably reinforced with a fleet of fifty-three Athenian ſhips. Thus aided and encouraged, they ſeized the advantage of the enſuing duſk of the evening, to renew their attack; and, at the appointed time, availing themſelves of their ſkill in fighting, and their knowledge of the coaſt, they ſailed towards the road of Aphete; and having cut off the Cilician ſquadron from the reſt, totally deſtroyed it; and at night returned to Artemiſium. The Perſians, enraged by the diſaſters and diſappointment they had experienced, and dreading the reſentment of their ſovereign, determined to make one other vigorous effort. As the Greeks had availed themſelves of the night, they determined to chooſe the time of action. Accordingly, on the third day at noon, they ſailed forth in the form of a creſcent, which they conceived to be ſtill of ſufficient extent to encloſe the Grecian line. The Greeks, emboldened by ſucceſs, were too confident to decline any offer of battle, though their admirals, and particularly Themiſtocles, would probably have preferred delaying it to a more favourable opportunity. The deficiency of ſkill and courage on the part of the barbarians was ſupplied by the impetuoſity and violence of indignation. The battle was protracted, and remained for a longer time doubtful than on any former occaſion: many Grecian veſſels were deſtroyed, five were taken by the Egyptians, who, on the ſide of the Perſians, diſtinguiſhed themſelves as much as the Athenians did on that of the Greeks. The perſevering valour of the latter at length prevailed; the enemy retired, and acknowledged their ſuperiority, by leaving them in poſſeſſion of the dead and the wrecks. However, the victory was dearly purchaſed; as their veſſels, and eſpecially thoſe of the Athenians, were much ſhattered; and their great inferiority in the number and ſize of their ſhips, made them more ſenſibly feel every diminution of ſtrength. The engagement at Artemiſium, though it was not abſolutely deciſive, contributed greatly to encourage the Athenians, who were now convinced, that the enemies, notwithſtanding their immenſe number, were not invincible. Gillies's Hiſt. of Greece. See ATHENS.

ARTEMISIUM, a town of Caria, ſituate in the eaſtern part of the gulf of Glaucus.—Alſo, a place in the iſland of Delos, Herodotus.—A place in the Peloponneſus, Polybius.—A town of Italy, in Magna Græcia, belonging to the Oenotrians; now *St.* AGATHA.—An iſland of Greece, between that of Eubœa and the promontory Sunium, Arrian.—A mountain of Peloponneſus, in Arcadia, near the river Ladon. Pauſanias mentions a mountain of this name, to which he refers the ſource of the river Inachus, and where was a temple of Diana.—A place of Sicily, where was the camp of Sextus Pompeius, Dion & Appian.—A fort of Greece, built by Juſtinian, at the mouth of the river Rechius or Regius.—A town on the eaſtern ſide of Spain, called alſo Dianium, and now Denia, on the ſea-coaſt of Valencia.

ARTEMISIUS, in *Ancient Chronology*, the name of a Grecian month, the ſeventh of the year among the Macedonians,

nians, in Aſia, at Epheſus, Pergamus, &c. among the Syro-macedonians, Tyrians, Sydonians, and Lycians. Among the Lacedæmonians and Corcyreans it was the ſecond month of the year, and correſponded nearly to our February.

ARTEMITA, in *Ancient Geography*, a ſmall iſle of the Ionian ſea, oppoſite to the mouth of the river Achelous.—Alſo, a large town of Aſia, in Meſopotamia, according to Pliny, but placed by Strabo in Babylonia, 500 ſtadia eaſt of Seleucia, on the banks of the lake Arſiſſa.—A town of Aſia, in the Greater Armenia.—A town of Aſia, in Arabia Deſerta. Ptolemy.

ARTEMIUS, a mountain of Peloponneſus. Pliny.

ARTEMON, or ARTEMAS, in *Biography*, the leader of an ancient ſect among the Chriſtians, and ſuppoſed by Tillemont to have ariſen about the year 200. Euſebius (E. H. l. v. c. 27, 28.), early in the fourth century, ſpeaks of him as the propagator of a hereſy, which Paul of Samoſata endeavoured to revive in his time. Artemas and his aſſociates, according to Theodoret, concurred with other Chriſtians in acknowledging the ſupreme deity, and owning him to be the creator of the univerſe. But they maintained, that Chriſt was a mere man, born of a virgin, and ſuperior in virtue to the prophets. This, he ſaid, was the doctrine of the apoſtles; and they alleged, that all the ancients, as well as the apoſtles themſelves, received and taught the ſame things which they now held; and that the truth of the goſpel had been preſerved till the time of Victor, the thirteenth biſhop of Rome; but by his ſucceſſor, Zephyrinus, the truth had been corrupted. They are accuſed, however, in a work cited by Euſebius, with corrupting the ſcriptures, and tranſcribing them with variations, which they called emendations, but which their enemies denominated corruptions. They are ſaid to have proceeded ſo far as to have rejected the law and the prophets. It was alſo charged upon Artemon and his followers, that they neglected the holy ſcriptures, ſtudied geometry, and admired Ariſtotle, and Theophraſtus, and Galen. From this account it appears, that whatever might be their error, they were men of inquiry and learning; and Dr. Lardner conjectures, they might join with the ſtudy of the ſcriptures that of mathematics and philoſophy. He alſo imagines, that the alterations or corruptions, which were the ſubjects of complaint, related merely to ſome Greek copies of the old teſtament, probably the ſeventy; and though he does not wholly excuſe theſe men, he thinks this conſideration may ſerve to leſſen the injury of their conduct. Lardner's Works, vol. ii. p. 379, and vol. ix. p. 465, &c. The followers of Artemon were called *Artemonites*.

ARTEMUS, in *Geography*, a cape of Spain, in Valencia, called alſo the "Cape of St. Martin," and the "Emperor's point."

ARTENA, in *Ancient Geography*, a town of Italy, in Etruria, in the teritory of the Ceritæ, mentioned by Livy, as deſtroyed by the kings of Rome.—Alſo, a town of Italy, in Latium, in the country of the Volſci; which was taken, ſays Livy, about the year of Rome 351, and totally raſed.

ARTENAY, in *Geography*, a town of France, in the department of the Loiret, and chief place of a canton in the diſtrict of Neuville, 11 miles north of Orleans.

ARTENNA, or AVIS DIOMEDEA, in *Ornithology*, a name given by Ray, Willughby, and other old writers, to the bird called by Linnæus PROCELLARIA PUFFINUS; which ſee.

ARTERN, in *Geography*, a town of Germany, in the circle of Upper Saxony, and county of Mansfeld, 29 miles N. N. E. of Erfurt. N. lat. 51° 17'. E. long. 11° 8'.

ARTERIA ASPERA, in *Anatomy*, the tube by which the air paſſes into and out of the lungs in reſpiration. It is alſo called the trachæa, and windpipe. See LUNGS.

ARTERIA *Venoſa*, a name given by the ancients to what we call the pulmonary vein, or that veſſel whereby the blood is conveyed from the lungs to the left ventricle of the heart. Gor. Def. Med. p. 54.

ARTERIACS, ARTERIACA, medicines proper for diſorders of the *trachæa*, and the voice. This term, ſays Dr. Cullen (Mat. Med. vol. i. p. 172.), conveys no preciſe meaning, and is therefore improper.

Arteriacs are reduced by Galen into three kinds: 1. Such as are void of all acrimony, ſerving to mollify the aſperities of the part; to which kind belong, gum tragacanth, *aſter famias*, *amylum*, or ſtarch, milk, &c. 2. Thoſe of an acrimonious quality, whereby they ſtimulate even the ſound parts; ſuch are honey, turpentines, bitter almonds, iris root, &c. 3. Thoſe of an intermediate kind, ſoft and mild, yet detergent; ſuch are butter, and divers preparations made of almonds, milk, honey, &c.

ARTERIOSA *Vena*, or *arterial vein*, a denomination given to the pulmonary artery, or that veſſel whereby the blood is conveyed from the right ventricle of the heart to the lungs.

ARTERIOSUS *Canalis* is the continuation of the trunk of the pulmonary artery of the fœtus into the aorta. See FOETUS, *Peculiarities in the Structure of*.

ARTERIOTOMY is a ſurgical operation, ſo denominated from αρτηρια, an artery, and τεμνω, I cut. It therefore ſignifies, the artificial ſection, or opening of an artery, for the purpoſe of evacuating blood. The advantages and diſadvantages of this operation, as well as the manner of performing it, are conſidered under the head of BLEEDING: where the ſubject of PHLEBOTOMY is likewiſe diſcuſſed at ſome length.

END OF VOL. II.

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